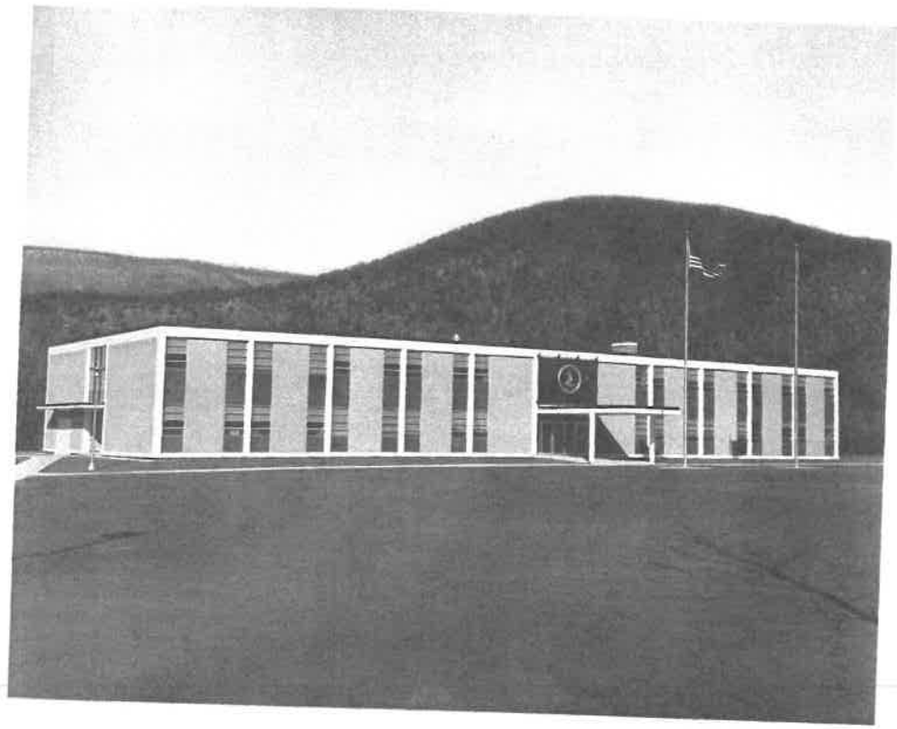
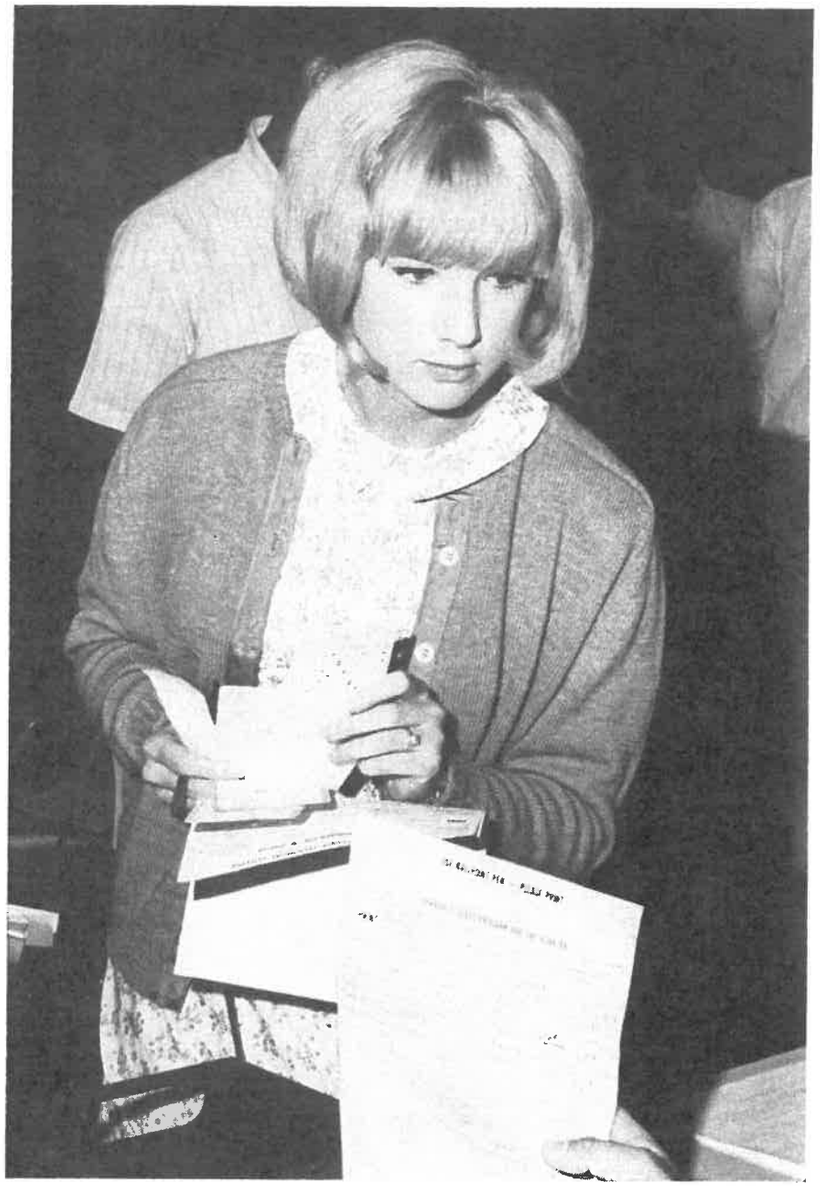


DABNEY S. LANCASTER COMMUNITY COLLEGE

VIRGINIA COMMUNITY COLLEGE SYSTEM
VIRGINIA
VCC
DIVISION

CATALOG 1967-1968

CONTENTS



GENERAL INFORMATION

LOCATION AND FACILITIES

Dabney S. Lancaster Community College is located near U. S. Route 60 and Interstate 64 approximately one mile west of downtown Clifton Forge. The College serves the cities of Buena Vista, Clifton Forge, Covington and Lexington and the counties of Alleghany, Bath, Rockbridge and Highland as well as northern portion of Botetourt County.

The principle structure at the College is a new building containing modern laboratories, classrooms, offices, and library. It is located on a 167-acre tract bounded on three sides by the Jackson River. Present facilities will accommodate approximately 300 full-time students.

HISTORY

In September of 1964 students were admitted for the first time to the Clifton Forge-Covington Division of the Virginia Polytechnic Institute. This Branch College offered work in the first two years of programs offered at the parent institution as well as a certificate program in Secretarial Science. Later, in 1965, a pre-college foundations program was added and, in 1966, was expanded into the General Community College Program.

Beginning with the summer quarter, 1967, all programs of this Community College came under the control of the Virginia Department of Community Colleges. The College itself was redesignated Dabney S. Lancaster Community College, honoring the prominent Virginia educator and long-time resident of the area served by the College.

PURPOSE

Dabney S. Lancaster Community College is dedicated to the belief that each individual should be given a continuing opportunity for the development and extension of his skills and

knowledge along with an opportunity to increase in awareness of his role and responsibility in society. The College is devoted to serving the educational needs of the local community and assumes a responsibility to help meet the requirements for trained manpower in its region through a cooperative effort with local industry, business, professions and government.

A variety of educational opportunities is provided for post-high school age youth and adults. This includes high quality instructional programs at the associate degree level and at the preparatory or foundations level. A strong guidance and counseling program along with a number of other student services is also provided to help each student make sound decisions regarding his occupational, educational, and personal-social plans.

PROGRAMS

Dabney S. Lancaster Community College is a comprehensive institution of higher education, offering programs of instruction generally extending not more than two years beyond the high school level. Programs include:

1. **Occupational-Technical Education.** The occupational and technical education programs are designed to meet the increasing demand for technicians, semiprofessional workers, and skilled craftsmen for employment in industry, business, the professions, and government. The curriculums are planned primarily to meet the needs for workers in the region being served by the College.

2. **University Parallel-College Transfer Education.** The university parallel-college transfer program includes college freshman and sophomore courses in arts and sciences and pre-professional programs meeting standards acceptable for transfer to baccalaureate degree programs in four-year colleges and universities.

3. **General Education.** The programs in general education encompass the common knowledge, skills, and attitudes needed by each individual to be effective as a person, a worker, a consumer, and a citizen.

4. **Continuing Adult Education.** Adult education programs are offered to enable the adults in the region to continue their learning. This work includes both degree credit and non-degree credit work offered during the day and evening hours.

5. **Special Training Programs.** Special training may be provided where specific job opportunities are available for new or expanding industries. This special training shall be coordinated with Virginia's economic expansion efforts and with the needs of employers.

6. **Preparatory Foundation Programs.** Foundations and developmental programs are offered to help prepare individuals for admission to an occupational-technical curriculum or to a university parallel-college transfer curriculum in the Community College. These programs are designed to help the individual develop the basic skills and understandings necessary to succeed in other Community College programs.

7. **Specialized Regional and Community Services.** The facilities and personnel of the College are available to provide specialized services to help meet the cultural and educational needs of the region served by the community colleges. This service includes the non-classroom and non-credit programs, cultural events, workshops, meetings, lectures, conferences, seminars, and special community projects which are designed to provide needed cultural and educational opportunities for the citizens of the region.

RECOGNITION

The College is a division of the Virginia Community College System and is approved by the State Board for Community Colleges and by the State Department of Community Colleges in Virginia. The associate degree curriculums of the College have also been approved by the State Council of Higher Education for Virginia. The College has established contact with the Southern Association of Colleges and Schools and has declared its intention to work closely with the association in pursuit of full accreditation and membership at the earliest possible date.

The College is an institutional member of the American Association of Junior Colleges.

FALL QUARTER—1967

New Student orientation	September 27
Registration	September 28-29
Classes begin, 8 a.m.	October 2
Last day to register, add a course or change from audit to credit	October 6
Last day to drop course or change from credit to audit	October 20
Mid-term grade reports	November 7
Thanksgiving holiday begins	November 23
Thanksgiving holiday ends, classes start at 8 a.m.	November 27
Last day of classes	December 13
Examinations begin	December 14
Examinations, quarter ends	December 16

WINTER QUARTER—1968

New Student orientation	January 3
Registration	January 4-5
Classes begin, 8 a.m.	January 8
Last day to register, add a course, or change from audit to credit	January 12
Last day to drop course or change from credit to audit	January 26
Mid-term grade reports	February 13
Washington's Birthday—holiday	February 22
Last day of classes	March 19
Examinations begin	March 20
Examinations, quarter ends	March 22

SPRING QUARTER—1968

New Students orientation	March 27
Registration	March 28-29
Classes begin, 8 a.m.	April 1
Last day to register, add a course, or change from audit to credit	April 5
Last day to drop course, or change from credit to audit	April 19
Mid-term grade reports	May 7
Final deadline to apply for June Graduation	May 10
Memorial Day—holiday	May 30
Last day of classes	June 10
Examinations begin	June 11
Examinations, quarter ends	June 13
Graduation	June 15

COLLEGE CALENDAR

SUMMER QUARTER—1968—FIRST SESSION

New Student orientation	June 17
Registration	June 18
Classes begin, 8 a.m.	June 19
Last day to register, add a course, or change from audit to credit	June 21
Last day to drop course, or change from credit to audit	June 28
Independence Day—holiday	July 4
Mid-term grade reports	July 9
Last day of classes	July 24
Final Examinations	July 25-26

SUMMER QUARTER—1968—SECOND SESSION

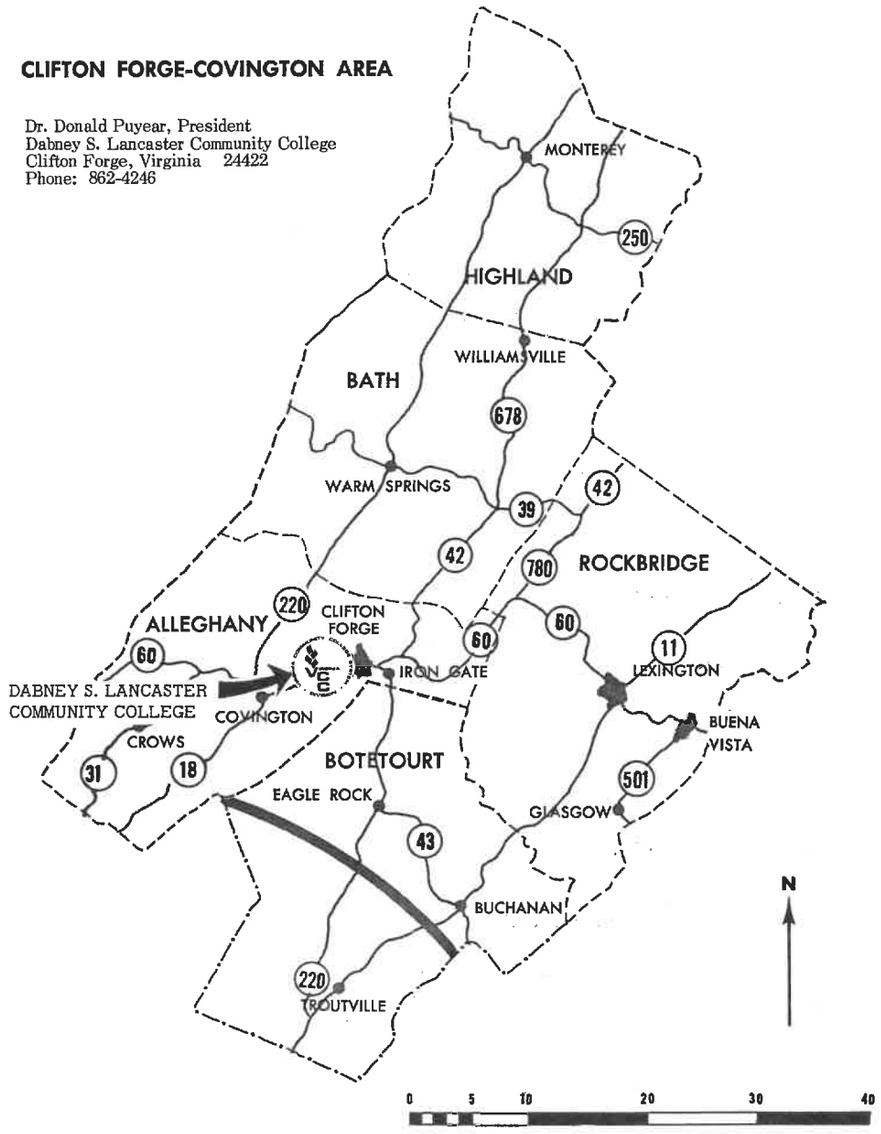
New Student orientation	July 29
Registration	July 30
Classes begin, 8 a.m.	July 31
Last day to register, add a course, or change from audit to credit	August 2
Last day to drop course, or change from credit to audit	August 9
Mid-term grade reports	August 19
Labor Day—holiday	Sept. 2
Last day of classes	September 4
Final Examinations	September 5-6

FALL QUARTER—1968

New Student orientation	September 25
Registration	September 26-27
Classes begin, 8 a.m.	September 30
Last day to register, add a course, or change from audit to credit	October 4
Last day to drop a course or change from credit to audit	October 18
Mid-term grade reports	November 5
Thanksgiving Holiday begins	November 28
Thanksgiving Holiday ends, classes start at 8 a.m.	December 2
Last day of classes	December 11
Examinations begin	December 12
Examinations, quarter ends	December 14

CLIFTON FORGE-COVINGTON AREA

Dr. Donald Puyear, President
Dabney S. Lancaster Community College
Clifton Forge, Virginia 24422
Phone: 862-4246



GOVERNING BOARD—COMMONWEALTH OF VIRGINIA

STATE BOARD FOR COMMUNITY COLLEGES

Eugene B. Sydnor, Jr., Chairman
Thomas R. Glass, Vice Chairman

Mrs. Mary Anne Franklin
Mrs. John Galleher
William S. Hoofnagle
William P. Kanto
Thomas J. Lennon
Daniel C. Lewis
S. E. Liles, Jr.
John D. Meade
Benjamin W. Mears, Jr.
W. Wirt Shapard
D. Boyd Thomas
Henry W. Tulloch
Gordon C. Willis

STATE DEPARTMENT OF COMMUNITY COLLEGES

Dana B. Hamel, Director

DABNEY S. LANCASTER COMMUNITY COLLEGE

ADVISORY BOARD

The organization of the Advisory Board is not complete at this time.

PRESIDENT

Donald E. Puyear

FACULTY

Balazs, Mary W. — Assistant Professor of English
B.A., University of Akron, 1960
M.A., Pennsylvania State, 1962
Ph.D., Pennsylvania State, 1965

Biggs, Machel C. — Instructor of Mathematics
B.S., Emory and Henry, 1959
M.S., Radford College, 1967

Bloom, Edgar B. — Professor of Chemistry
A.B., Hiram, 1923
M.S., Ohio State, 1926
Ph.D., Ohio State, 1928

Eads, James Harold — Instructor of History
B.A., King College, 1963
M.A., University of Virginia, 1967

Fischer, Mary M. — Instructor of Chemistry
B.S., Virginia Polytechnic Institute, 1948

Guth, James E. — Director of Student Services and Assistant Professor
B.A., Union College, 1961
M.A., Western Michigan University, 1964

Hamer, Joseph W. — Guidance Counselor and Instructor
B.A., Lambuth College, 1966
M.A., Memphis State, 1967

Jordan, Thomas E. — Assistant Professor of Electronics
B.S., Northwestern State College, 1960
M.S., Northwestern State College, 1962

Keyser, William V. — Instructor of Speech and Drama
B.A., Emory and Henry, 1965
M.F.A., Richmond Professional Institute, 1967

Knobloch, Fred F. — Guidance Counselor and Assistant Professor
B.S., University of Virginia, 1935
M.S., Virginia Polytechnic Institute, 1952

Lawless, Marie C. — Instructor of English
B.S., Radford, 1952
M.Ed., University of Virginia, 1958

Manner, Jean H. — Instructor of Secretarial Science and Business Education
B.S., Madison College, 1948

Moon, Camellia A. — Assistant Instructor of French
B.A., Middleburg College, 1961

Moon, David P. — Instructor of Engineering Technology
B.A., Middleburg College, 1962

Nichols, Lucy G. — Library Assistant
B.S., Radford College, 1965

Olson, Bruce D. — Instructor of Physical Education
A.B., Elon College, 1964
M.A., Appalachian State Teachers, 1965

Puyear, Donald E. — President
B.S., Missouri School of Mines and Metallurgy, 1954
M.Sc., Missouri School of Mines and Metallurgy, 1958
Ph.D., Virginia Polytechnic Institute, 1965

Scott, Elizabeth A. — Coordinator of Library Services
B.S., George Peabody, 1935
B.S. in L.S., George Peabody, 1936

Smith, David R. — Instructor of Business Administration
B.S., Virginia Polytechnic Institute, 1963
M.S., Virginia Polytechnic Institute, 1967

Stutz, Charles A., Jr. — Instructor of Biology
B.S., Michigan State University, 1963
M.S., Virginia Polytechnic Institute, 1967

Thayer, Mary A. — Professor of English and Coordinator of Humanities and Social Sciences
B.A., Trinity College, 1925
M.A., Boston University, 1926
Ph.D., Boston College, 1939

Tuholsky, Joseph M. — Instructor of Drafting and Design
A.A., Paducah, 1958
B.S., Murray State University, 1961
M.A., Murray State University, 1965

Vaughan, George B. — Director of Instruction and Assistant Professor
B.A., Emory and Henry, 1959
M.S., Radford, 1965

Vaughan, Peggy A. — Instructor of English
B.A., Radford College, 1962
M.A., University of Tennessee, 1967

Williamson, Frank D. — Instructor of Business Education
B.S., West Virginia University, 1955
M.S., Virginia Polytechnic Institute, 1967

ADMINISTRATIVE INFORMATION

ADMISSION REQUIREMENTS

General Admission to the College

Any person who has a high school diploma or the equivalent, or is 18 years of age, and in any case is able to benefit from a program at Dabney S. Lancaster Community College may be admitted to the College when the following items have been received by the Office of Admissions.

For all regular students, the following items are required:

1. A completed "Application for Admission as a Regular Student:" (NOTE: Social Security Number is required).
2. A $5.00 application fee (non-refundable unless the requested program is not offered).
3. Official transcripts from high schools, colleges, and universities attended.

For all special students, the following item is required:

1. A completed "Application for Admission as a Special Student."

After a person has been admitted to the College as a regular student, he will be required to meet with one of the College counselors (a) to discuss the applicant's educational interests, (b) to determine what additional tests he may need, and (c) to plan his application for admission to a specific curriculum or program at the College. He will also be required to submit a health certificate (form to be furnished by the College).

Admission to Specific Curriculums

In addition to the General admission requirements listed above, specific requirements are usually prescribed for each curriculum of the College. Among the items generally considered in determining the eligibility of a student for admission

to a curriculum in the College are his educational and occupational interests, high school achievements and grades, test results, recommendations from persons who have known the applicant, previous occupational experiences, and other reasonable standards to insure that the student possesses the potential to meet the program requirements.

The specific requirements for each curriculum in the College are listed in the Curriculum Offerings section of the College catalog. Persons who do not meet the requirements for a specific curriculum or course may be eligible to enter the curriculum or course after they have completed preparatory course work.

All regular students entering the College will be required to take the ACT test battery of the American College Testing Program as part of the orientation program at the College prior to registration.

Persons applying to enter one of the associate degree (Associate in Science, Associate in Arts, or Associate in Applied Science) programs shall be a high school graduate or the equivalent or have completed an approved preparatory program.

In addition, all students who plan to transfer to a four-year college or university after completing their program at the Community College will be required to submit their scores on the Scholastic Aptitude Test of the College Entrance Examination Board (SAT).

Special Admission Requirements for Foreign Students

In addition to the general admission requirements of the College, all foreign students must demonstrate proficiency in both written and oral English.

Residence Requirements

Applicants will be required to submit a residence affidavit to determine state residency eligibility for tuition purposes.

When enrollments must be limited for any curriculum or course, first priority must be given to all qualified students who are residents of the political sub-divisions supporting the College, provided such students apply for admission to the program a reasonable length of time prior to registration. The priority list is as follows: (1) residents of the political subdivisions supporting the College, (2) other Virginia residents, (3) out-of-state and foreign students.

Students Transferring from Other Colleges

Usually, a student transferring from another college who is eligible for reentrance at the last college shall also be eligible for admission to the Community College.

It is the role of the community college to help each student succeed in a program from which he can benefit. If a transfer student is ineligible to return to a particular curriculum in a previous college, generally he will not be allowed to enroll in the same curriculum in the community college until two quarters elapse or until he completes an approved preparatory program at the community college. The Admissions Committee of the College shall decide on each case and usually shall impose special conditions for the admittance of such students, including placement on probation.

Each student transferring from another college should consult the Director of Student Services at the Community College for an assessment of credits in order to determine his standing before registering for classes. Generally no credit will be given for subjects with a grade lower than "C," although such grades earned by transfer students at other colleges may be given special consideration. A transfer student may be advised to repeat courses if it is clearly to his advantage to do so in order to make satisfactory progress in his curriculum.

Students Applying for Credit or Waiver of Requirements

Students who have reason to believe that previous educational studies, training programs, or work experience may en-

title them to an adjustment in the course work required in a particular program should contact the Director of Student Services at the College to determine procedures before registering for classes.

Auditing

A student may audit a course to learn about the subject without having to take the course examination. No credit is given for auditing a course. If a person wishes to change his status in a course from audit to credit, he must do this within the first week of the class. In all cases, permission of the instructor and the Director of Student Services is required to audit a class.

CLASSIFICATION OF STUDENTS

All students are classified according to the following catagories:

Regular Student. A student is designated as regular when his file in the Admissions Office contains all of the information required for general admission to the College as a regular student and when he has been admitted to one of the curriculums of the College. A regular student is one of the following:

1) A full-time or part-time student working toward completion of an associate degree, diploma, or certificate program;
2) A full-time or part-time student taking credit courses for transfer to another college or university.

Special Student. A special student is one who is permitted to register under special conditions including the following:

1) A part-time student taking a course(s) for no credit;
2) A high school senior who, with the permission of his high school principal, is concurrently enrolled in a college course(s);

3) A part-time student not enrolled in an associate degree, diploma, or certificate program who may be taking courses for credit (such students may later apply to the College for admission to a program as a regular student);
4) A person who has not yet fulfilled all of the requirements as a regular student but who is admitted under special consideration by the Admissions Committee of the College.

Full-time Student. A student is considered a full-time student if he is carrying 12 or more credits of course work.

Part-time Student. A student is considered a part-time student if he is carrying less than 12 credits of course work.

Freshman. A student is classified as a freshman until he has completed 45 credits of work in his designated curriculum.

Sophomore. A student is considered a sophomore after he has completed 45 or more credits of course work in his designated curriculum. Transferred credits are included providing they apply toward meeting the requirements of the student's curriculum.

EXPENSES

Application Fee

An application fee of $5.00 must accompany the application for admission to the College for each regular student. This fee is not applicable to tuition, nor refundable unless the requested program is not offered.

Tuition

Full-time Student (12 or more credits):	
Virginia Resident	$ 45.00 per quarter
Out-of-State Resident	150.00 per quarter
Part-time Student:	
Virginia Resident	$ 4.00 per credit (or equivalent)
Out-of-State Resident	12.50 per credit (or equivalent)

A Virginia resident is one who has been domiciled in, and is and has been an actual bona fide legal resident of Virginia, for a period of at least one year prior to the commencement of the term or quarter for which he is enrolling.

Payment of tuition also enables the student to obtain a student identification card making him eligible to use the library, bookstore, parking lot, student lounge, and other facilities of the College. There are no special laboratory or library fees but students are expected to pay charges for any school property (such as laboratory or shop equipment, supplies, library books and materials) that they damage or lose.

Books and Materials

Students are expected to obtain their own books, supplies and consumable materials needed in their studies. It has been estimated that the cost for these items will average approximately $35-$50 per quarter for the average full-time student.

Refunds

Authorized refunds will be as follows for students withdrawing from the College: (a) within first 15 class days of a quarter, refund will be 2/3 of tuition; (b) within first 16-35 class days of a quarter, refund will be 1/3 of tuition; (c) after 35 class days of a quarter have elapsed, no refund will be made. If a course is cancelled, there will be an automatic refund of tuition for that course. No refunds for tuition will be

made after the first week of classes for individual course changes or for an individual class which is dropped. For part-time students, refunds will be pro-rated on the above schedule.

Official resignation for a student shall be as of the date on which written notification of intent to resign is given to the Registrar and is not the date of the last class attended, unless the two dates coincide.

CREDITS

A credit is equivalent to one collegiate quarter hour credit or two-thirds of a collegiate semester hour credit. Usually, one credit for a course is given for approximately three hours of work **weekly** by each student as follows:

a) One hour of lecture plus an average of two hours of out-of-class study, or

b) Two hours of laboratory or shop work plus an average of one hour of out-of-class study, or

c) Three hours of laboratory or shop work with no out-of-class assignments.

GRADING SYSTEM

A = Excellent = Four grade points per credit
B = Good = Three grade points per credit
C = Average = Two grade points per credit
D = Poor = One grade point per credit
F = Failure = 0 grade points
S = Satisfactory = No grade point credit (applies only to specialized courses and seminars)
U = Unsatisfactory = No grade point credit (applies only to specialized courses and seminars)
W = Withdrawal = No credit (a grade of withdrawal implies that the student was making satisfactory progress in the

course at the time of his withdrawal or that the withdrawal was officially made before the deadline date published in the College calendar)

I Incomplete—No credit (a grade of incomplete is assigned only in cases of student absence from a limited number of class sessions near the end of a term or grading period and when the absence was for a verifiable unavoidable reason; i.e., sickness verified by medical statement, accident verified by police records, etc., or absence from final examination for a verifiable and unavoidable reason. An "incomplete" must be made up during the next term following its issuance unless special permission for an extension of time is given by the Admissions Committee)

X Audit—No credit (permission of the instructor and the Dean of Instruction is required to audit a class)

The grade point average (G.P.A.) is determined by dividing the total number of grade points earned in courses in the student's curriculum by the total number of credits attempted in the student's curriculum.

DEGREES, DIPLOMAS AND CERTIFICATES

Dabney S. Lancaster Community College offers the following degrees, diplomas or certificates for students who successfully complete approved programs at the College.

1) **Associate in Arts degree (A.A.)** is awarded to students majoring in the liberal arts and who may plan to transfer to a four-year college or university after completing their community college program.

2) **Associate in Science degree (A.S.)** is awarded to students majoring in specialized curriculums such as business administration, teacher education, pre-engineering, and other pre-professional programs and who may plan to

transfer to a four-year college or university after completing their community college program.

3) **Associate in Applied Science degree (A.A.S.)** is awarded to students majoring in one of the occupational-technical curriculums and who may plan to obtain a full-time job immediately upon graduation from the Community College.

4) **Diploma** is awarded to students who complete one of the two-year diploma occupational curriculums.

5) **Certificate** is awarded to students who complete one of the approved curriculums that are less than two years in length.

GRADUATION REQUIREMENTS

Associate Degree Requirements

To be eligible for graduation with an Associate Degree from the College a student must:

1) Have fulfilled all of the course requirements of his particular curriculum as outlined in the College catalog;
2) Have been recommended for graduation by the major department in his curriculum.
3) Have completed at least 97 credits of which 45 must be acquired at the College;
4) Have completed the general education requirements course work in English, psychology, economics, government and orientation;
5) Have earned a grade point average of at least 2.0 on all work attempted and which is applicable toward graduation in his particular curriculum;
6) Have filed an application for graduation in the Office of Admissions and Records;
7) Have resolved all financial obligations to the College and returned all materials including library books.

SCHOLASTIC REGULATIONS

Attendance

Punctual and regular attendance is expected of all students, in all course activities. Any class session missed, regardless of cause, reduces the opportunity for learning and frequently adversely affects the grade the student achieves in a course.

When absence does occur, the student is to present his excuse, verbally or in writing, to the instructors whose classes he misses. When absence from a class becomes excessive, a warning report is sent to the student's home. Any further absence will make the student liable for suspension from the class.

It will be the decision of the instructor as to whether or not the student should be permitted to make up the work missed, and in the case of excessive absences the instructor may recommend to the Director of Student Services that the student be suspended from class. Should suspension result, the student's readmission to class will be on the recommendation of the instructor in consultation with the Director of Student Services.

Change of Registration

In all cases, students should follow established procedures for making any change in their programs after registration. Failure to do so could place their college record in jeopardy.

1) Withdrawal from a class:

Withdrawal from a class without penalty may be made within the first three weeks after the beginning of a quarter. If the student's work has been passing up to that time, he will receive a grade of "W" for withdrawal. After that time the student must accept a failing grade of "F" if his work has been unsatisfactory up to the time of withdrawal. In all cases the word "Withdrawn" will be written on his permanent academic record.

2) Addition of a course:

In most cases a student may not enter a new class after the first week of a quarter. Any request for entry after that period must be approved by the instructor concerned and the Director of Student Services.

3) Withdrawal from the College:

A student who wishes to withdraw from the College should contact a counselor to determine the appropriate procedure. Failure to follow established procedures could place the student's college record in doubt and prejudice his return to this or another college.

Student Conduct

Each student will be expected to conduct himself as a mature adult on campus and in the community, and he will be held responsible for his acts as a student citizen. The College places responsibility for student conduct largely with the students. Rules and regulations governing student conduct usually are developed by representatives of the students, faculty, counseling staff, and administration.

Cleanliness and appropriate dress are ways in which a student gives evidence of his self-esteem and concern for others. Any student who appears in bazarre attire or consistently violates accepted standards of appearance is subject to disciplinary action.

Failure to meet standards of conduct acceptable to the College may result in disciplinary probation or dismissal, depending upon the nature of the offense. A disciplinary probation period, unless otherwise specified, is for the duration of one quarter. A student who is dismissed must reapply to the College and will normally be required to appear before a special committee before admission can be granted. The statement "Disciplinary Probation" or "Disciplinary Dismissal" will appear on the student's permanent record unless recommendation for removal is made by the committee.

Academic Warning

Any student who fails to make a grade point average of 2.0 or higher for any one quarter, or who fails any course, will receive an Academic Warning.

Academic Probation

Any student who fails to maintain a cumulative grade point average of 1.5 will be placed on academic probation. The statement "Placed on Academic Probation" will be placed on the student's permanent record.

A student on academic probation is required to consult with his counselor and may be required to take less than the normal academic load in his next quarter following this action.

Academic Suspension

The student on academic probation who fails to make a grade point average of 1.5 for the next quarter that he is in attendance will be subject to academic suspension. Academic suspension normally will be for two quarters unless the student reapplies, and is accepted, for readmission to another curriculum of the College. The statement, "Placed on Academic Suspension" will be placed on the student's permanent record. The student must apply for readmission under all circumstances of academic suspension.

Academic Dismissal

A student who does not maintain at least a 2.0 average for the quarter following reinstatement to the College after having been on academic suspension will be academically dismissed from that curriculum. Academic dismissal normally is permanent unless with good cause the student reapplies, and is accepted under special consideration, for readmission by the Admissions Committee of the College. The statement "Placed on Academic Dismissal" will be placed on the student's permanent record.

Examinations

All students are expected to take their examinations at the regularly scheduled times. No exceptions will be made without the permission of the Director of Instruction and the instructor of the class.

Normal Academic Load

The normal academic load for students is 15-17 credits. The minimum full-time load is 12 credits and the normal maximum full-time load is 18 credits. A student wishing to carry an academic load of more than 18 credits must have a "B" average or higher and must have the approval of the Director of Student Services and the student's faculty advisor or counselor.

STUDENT SERVICES

COUNSELING

As a service to students and to the community, the College maintains a staff of professional counselors, in addition to a system of faculty advisors in each instructional program.

The counseling department functions to assist students in making intelligent decisions regarding their vocational, educational, and personal-social plans. As a part of this assistance, students have available appropriate tests, inventories, occupational and educational information, and information regarding financial assistance or employment.

The counseling service provides individual attention and supplementation to the instructional program of the College.

TESTING

A well-planned testing program for all students is coordinated by the Counseling Department. The ACT test battery of the American College Testing Program is required for all new students planning to enter one of the associate degree, diploma, or certificate programs. This ACT test battery is administered at the College prior to registration. In addition, all students who plan to transfer to a four-year college or university will be required to submit their scores on the Scholastic Aptitude Test of the College Entrance Examination Board (SAT).

Tests for students interested in one of the occupational-technical programs are available to provide special information for helping students determine their future occupational and educational plans. In addition, other special tests and interest inventories are available at the Counseling Center. Instructors in each curriculum of the College also have tests established for their courses and programs.

ORIENTATION

A three-stage orientation program has been established to acquaint new students with the purposes and programs

of the College. The orientation program begins weeks before registration when the student is asked to meet with a counselor at the College for an interview to discuss the student's educational interests, to determine what additional tests he may need, and to plan the student's application for admission to a specific curriculum at the College. The student will also meet with a faculty advisor in his major curriculum to plan his program and course of studies.

An orientation day is scheduled for all new students just prior to the registration period for group orientation to the College and a discussion of student services and activities.

In addition, an orientation class is provided for the first quarter for all students to aid them in their personal and academic adjustment.

FINANCIAL AIDS

It is the desire of the College that no qualified student be denied the privilege of attendance because of financial need. The Student Financial Aids Committee—composed of representatives of the administrative, counseling, and instructional staffs—is appointed by the President of the College for the purpose of providing information concerning aid programs, administering funds granted by donors, determining need, assessing applications, and granting awards.

Students wishing to apply for financial aid may secure application blanks from the office of the Counseling Department.

Grants-in-Aid

A number of financial grants-in-aid have been made available through the generosity of certain individuals and organizations. Grants-in-aid are granted on the basis of demonstrated academic ability and financial need.

Part-time Employment

A placement office operates throughout the year to assist students in securing part-time employment. An effort is made to place students in job fields which relate to their college programs. Students who work more than 20 hours per week are advised to adjust their course loads accordingly.

Work-Study Program

Numerous jobs on campus are available each year under the Work-Study Program. Full-time students between the ages of 15 and 21 years who are in financial need may qualify for participation in this program. Application forms are available in the office of the Counseling Department.

Student Loans

Students who need student loans should contact the Counselling Department for information.

Students who are residents of Virginia are eligible to apply for loans under the State Education Assistance Authority Plan. Loans are made through commercial banks at favorable interest rates and are repayable in monthly installments beginning six months after the student graduates or after he leaves college. For details about the program or a list of participating banks, contact the College or write to State Education Assistance Authority, 1010 State-Planters Bldg., Richmond, Virginia 23219.

Other financial aid plans may be added throughout the year. Interested students may inquire through the Counseling Department.

PLACEMENT SERVICE

The College maintains a placement service in the Counseling Department for students who wish to secure part-time or full-time employment while attending college, during vacations, or after graduation. Occupational information on job

requirements and opportunities is provided in the Counseling Department. The College maintains continuous contact with the state employment service, business, industry, the professions, and government for the latest information about jobs.

Students who seek part-time work are encouraged to do so with a view to their future career plans. The experience gained will assist them in finding permanent and satisfying positions.

SNACK BAR

The snack bar contains vending machines for soft-drinks, candy, pastry, sandwiches, milk, and coffee.

PARKING

Ample parking space is provided for the students attending the Dabney S. Lancaster Community College. Students are not to park in the spaces reserved for faculty and visitors.

STUDENT ACTIVITIES

The student activities program is designed to provide a variety of meaningful educational, cultural, and social experiences.

Clubs and organizations are operated under the jurisdiction of the Student Government to provide an opportunity for student participation in areas of special interest and service.

Clubs will be organized to provide educational and recreational opportunities for students. Each club will have an active faculty sponsor. All full-time students are eligible to belong to such clubs and organizations but students on academic probation may not hold office.

STUDENT HANDBOOK

A student handbook will be available to provide additional information of interest to students. The handbook will describe student activities and organizations and will also list the College rules and regulations.

CURRICULUM OFFERINGS

LIBERAL ARTS

Degree: Associate in Arts

Length: Six-quarter (two-year) program

Purpose: The Associate in Arts degree program in Liberal Arts is designed for persons who plan to transfer to a four-year college or university to complete a baccalaureate degree program, usuallly the Bachelor of Arts degree, in the liberal arts or social sciences. Students in this program may wish to major in the following fields:

Economics	Journalism
Education	Library Science
English	Literature
Foreign Language	Philosophy
Government (Political Science)	Pre-Law
History	Psychology
Humanities	Sociology

Admission Requirements: In addition to the admission requirements established for the College (as listed in the section on admission requirements in Part II of this catalog), entry into the Associate in Arts degree program in Liberal Arts requires the satisfactory completion of the following high school units or equivalent as a minimum.

4 units of English
2 units of algebra
1 unit of geometry
1 unit of laboratory science
1 unit of history

The remaining units are elective subjects, but at least two units of a foreign language are recommended. Students who do not meet these requirements may be permitted to correct their deficiencies in the Preparatory Foundations Program before entering the Liberal Arts curriculum.

Program Requirements: This curriculum consists of courses in the humanities including a foreign language, natural sciences, and social sciences, usually required in the first two years of a baccalaureate liberal arts curriculum. A minimum of 97 credits is required for the Liberal Arts major in the Associate In Arts degree program. **Each student is urged to acquaint himself with the requirements of the major department in the college or university to which transfer is contemplated and also to consult with the Counseling Department of the Community College in planning his program and selecting his electives.** In order to help prepare for upper division (junior class) standing at a four-year college or university, the student usually must complete a program at the community college that is comparable in length and courses to the first two years of the program at a four-year college or university. Upon completion of the six-quarter program listed below, the student will be awarded the Associate in Arts degree with a major in the Liberal Arts.

ASSOCIATE IN ARTS DEGREE CURRICULUM

LIBERAL ARTS

		First Year			Second Year			Total
		I	II	III	I	II	III	
ECON	Economics*	—	—	—	5	—	—	5
ENGL 114-115	English Comp I-II	5	4	—	—	—	—	9
ENGL	Literature*	—	—	3	—	3	3	9
GENL 100	Orientation	1	—	—	—	—	—	1
GOVT	Government*	—	—	—	—	5	—	5
HIST	History*	—	3	3	3	—	—	9
MATH 164-165	College Math I-II	5	4	—	—	—	—	9
PHED	Physical Ed or Health*	1	1	1	—	—	—	3
PSYC	Psychology*	—	—	—	—	—	5	5
	Natural Science with Lab*	—	—	—	6	6	—	12
	Foreign Language**	5	4	5	4	—	—	18
	Humanities Elective*	—	—	3	—	3	3	9
	Elective*	—	—	—	—	—	3	3
		17	16	15	18	17	14	97

*The student must consult with the Counseling Department of the Community College in the selection of electives and appropriate courses in the subject matter field indicated.

**Students who have satisfactorily completed two years of a foreign language in high school may petition for advanced placement into the second year of the foreign language at the college level.

BUSINESS ADMINISTRATION

Degree: Associate in Science.

Length: Six-quarter (two-year) program.

Purpose: With the rapid development in business and industry in Virginia, there is a great demand for qualified personnel in business adminstration to help provde leadership for this economic growth.

The Associate in Science degree program in Business Administration is designed for persons who plan to transfer to a four-year college or university to complete a baccalaureate degree program in business administraton.

Admission Requirements: In addition to the admission requirements established for the College (as listed in the section on admission requirements in Part II of this catalog), entry into the Associate in Science degree program in Business Administration requires the satisfactory completion of the following high school units or equivalent as a minimum:

4 units of English
2 units of algebra
1 unit of geometry
1 unit of laboratory science
1 unit of social studies

Students who do not meet these requirements may be permitted to correct their deficiences in the Preparatory Foundations Program before entering the Business Administration curriculum.

Program Requirements: The modern business world demands knowledge in fields over and beyond every-day business technology. Thus, this curriculum requires courses in the humanities, natural sciences, and social sciences in addition to the principles of economics and principles of accounting usually required in the first two years of a baccalaureate business administration curriculum. **Each student is urged to acquaint himself with the requirements of the major department in the college or university to which transfer is contemplated and also to consult with the Counseling Department of the Community College in planning his program and selecting his electives.** In order to help prepare for upper division (junior class) standing at a four-year college or university, the student usually must complete a program at the Community College that is comparable in length and courses to the first two years of the program at a four-year college or university. Upon completion of the six-quarter program listed below, the student will be awarded the Associate in Science degree with a major in Business Administration.

ASSOCIATE IN SCIENCE DEGREE CURRICULUM

BUSINESS ADMINISTRATION

		First Year			Second Year			Total
		I	II	III	I	II	III	
BUAD 211-212-213	Prin. of Account. I-II-III	—	—	—	4	4	4	12
ECON 214-215	Prin. of Economics I-II	—	—	—	—	5	4	9
ENGL 114-115	English Comp I-II	5	4	—	—	—	—	9
ENGL	Literature*	—	—	3	3	—	—	6
ENGL	Literature or Speech*	—	—	—	—	—	3	3
GENL 100	Orientation	1	—	—	—	—	—	1
GOVT	Government*	—	—	—	—	5	—	5
HIST	History*	3	3	3	—	—	—	9
MATH 164-165	College Math I-II	5	4	—	—	—	—	9
PHED	Physical Ed or Health*	1	—	—	1	—	1	3
PSYC	Psychology*	—	—	5	—	—	—	5
	Natural Science with Lab*	—	6	6	—	—	—	12
	Humanities Elective*	—	—	—	5	—	—	5
	Other Elective*	—	—	—	3	3	3	9
		15	17	17	16	17	15	97

*The student must consult with the Counseling Department of the College in the selection of electives and appropriate courses in the subject-matter fields indicated.

PRE-ENGINEERING

Degree: Associate in Science

Length: Six-quarter (two-year) program

Purpose: The demand for technically trained people is increasing rapidly in Virginia as well as throughout the world. The engineer is a most important member of the technical team, which includes the scientist, technician, and skilled craftsman. Opportunities are unlimited for men and women in the field of engineering. Science is so diversified now that one may enter almost any special field and find employment. The preparation for the engineering profession is based on a vigorous program, especially in mathematics and science.

The Associate in Science degree program in Pre-Engineering is designed for persons who plan to transfer to a four-year college or university to complete a baccalaureate degree program in one of the following engineering fields:

Aerospace Engineering
Agricultural Engineering
Architectural Engineering
Ceramic Engineering
Chemical Engineering
Civil Engineering
Electrical Engineering
Engineering Mechanics
Industrial Engineering
Mechanical Engineering
Metallurgical Engineering
Mining Engineering
Nuclear Engineering

Admission Requirements: In addition to the admission requirements established for the College (as listed in the section on admission requirements in Part II of this catalog), entry into the Associate in Science degree curriculum in Pre-Engineering requires the satisfactory completion of the following high school units or equivalent as a minimum:

4 units of English

4 units of mathematics (2 units of algebra, 1 unit of plane geometry, 1 unit of advanced math or trigonometry and solid geometry)

1 unit of a laboratory science

1 unit of social studies

Students who do not have an adequate foundation in English grammar and composition to enroll in ENGL 115 (the beginning English course for pre-engineering majors), as indicated by high school grades and test scores, may first have to complete ENGL 114. Students who do not meet the requirements listed above may be permitted to correct their deficiencies in the Preparatory Foundations Program before entering the Pre-Engineering curriculum.

Program Requirements: This program includes the English and humanities, mathematics, science, social science, and introductory engineering courses usually required in the first two years of a baccalaureate engineering curriculum. **Each student is urged to acquaint himself with the requirements of the major department in the college or university to which he expects to transfer and also to consult with the Counseling Department of the Community College in planning his program and selecting his electives.** In order to help prepare for upper division (junior class) standing at a four-year college or university, the student usually must complete a program at the Community College that is comparable in length and courses to the first two years of the program at the four-year college or university. Upon completion of the six-quarter curriculum listed on the next page, the student will be awarded the Associate in Science degree with a major in Pre-Engineering.

ASSOCIATE IN SCIENCE DEGREE CURRICULUM

PRE-ENGINEERING

		First Year			Second Year			Total
		I	II	III	I	II	III	
CHEM 114-115	Gen Inorganic Chem I-II	6	6	—	—	—	—	12
ECON 214	Prin of Economics I	—	—	—	—	—	5	5
ENGL 115	English Composition II**	4	—	—	—	—	—	4
ENGL	Literature*	—	—	3	—	3	—	6
ENGR 100	Introd to Engineering	—	1	—	—	—	—	1
ENGR 121-122	Engineering Graphics I-II	2	2	—	—	—	—	4
ENGR 123	Descriptive Geometry	—	—	3	—	—	—	3
ENGR 251	Statics	—	—	—	4	—	—	4
ENGR 252	Dynamics	—	—	—	—	5	—	5
ENGR 253	Mechanics of Solids	—	—	—	—	—	4	4
GENL 100	Orientation	1	—	—	—	—	—	1
GOVT	Government*	—	—	3	—	—	—	3
HIST	History*	—	3	3	—	—	—	6
MATH 141-142-143	Math Analysis I-II-III	5	5	5	—	—	—	15
MATH 241-242-243	Adv Math Anal I-II-III	—	—	—	4	4	4	12
PHED	Physical Ed or Health*	—	—	1	1	—	1	3
PHYS 224-225	College Physics I-II	—	—	—	6	6	—	12
PSYC	Psychology*	—	—	—	—	—	3	3
	Humanities Elective*	—	—	—	3	—	—	3
		18	17	18	18	18	17	106

*The student must consult with the Counseling Department of the college in the selection of electives and appropriate courses in the subject matter fields indicated.

**Entering freshmen without adequate foundations in English grammar and composition to enroll in ENGL 115 as indicated by high school grades and test scores may first have to take ENGL 114.

SCIENCE

Degree: Associate in Science

Length: Six-quarter (two-year) program

Purpose: With the tremendous emphasis on scientific discoveries and technological developments in today's society, there is a great demand for scientists and scientifically-oriented persons in business, government, industry, and the professions.

The Associate in Science degree program with a major in Science is designed for persons who are interested in a pre-professional or scientific program and who plan to transfer to a four-year college or university to complete a baccalaureate degree program with a major in one of the following fields:

Agriculture	Forestry	Nursing
Biology	Home Economics	Pharmacy
Chemistry	Mathematics	Physics
Dentistry	Medicine	

Admission Requirements: In addition to the requirements established for the College (as listed in the section on admission requirements in Part II of this catalog), entry into the Associate in Science Degree program with a major in Science requires the satisfactory completion of the following high school units or equivalent as a minimum:

4 units of English
2 units of algebra
1 unit of geometry
1 unit of laboratory science
1 unit of social studies

Students who do not meet these requirements may be permitted to correct their deficiencies in the Preparatory Foundations Program before entering this science curriculum.

Program Requirements: Although the major emphasis in this curriculum is on mathematics, the biological sciences, and the physical sciences, the curriculum also includes courses in the humanities and social sciences. Numerous electives are provided so that the student can select the appropriate courses for his pre-professional or scientific program as required in the first two years of the four-year college or university. **Each student is urged to acquaint himself with the requirements of the major department in the college or university to which transfer is contemplated and also to consult with the Counseling Department of the Community College in planning his program and selecting his electives.** In order to help prepare for upper division (junior class) standing at a four-year college or university, the student usually must complete a program at the Community College that is comparable in length and courses to the first two years of the program at the four-year college or university. Upon completion of the six-quarter program listed below, the student will be awarded the Associate in Science degree with a major in Science.

ASSOCIATE IN SCIENCE DEGREE CURRICULUM

SCIENCE

		First Year			Second Year			Total
		I	II	III	I	II	III	
ECON	Economics*	—	—	—	—	—	5	5
ENGL 114-115	English Composition I-II	5	4	—	—	—	—	9
ENGL	Literature*	—	—	—	3	3	—	6
ENGL	Literature or Speech*	—	—	—	—	—	3	3
GENL 100	Orientation	1	—	—	—	—	—	1
GOVT	Government*	—	—	—	—	5	—	5
HIST	History*	3	3	—	—	—	—	6
MATH	Mathematics*	—	5	4	—	—	—	9
MATH	Adv. Math or Elective*	—	—	—	5	4	—	9
PHED	Physical Ed. or Health*	1	—	1	1	—	—	3
PSYC	Psychology*	—	—	5	—	—	—	5
	Natural Sci with Lab*	—	6	6	—	—	—	12
	Adv. Nat. Sci. with Lab*	—	—	—	6	6	—	12
	Humanities Elective*	—	—	—	—	—	3	3
	Other electives*	6	—	—	—	—	3	9
		16	18	16	15	18	14	97

*The student must consult with the Counseling Department of the College in the selection of electives and appropriate courses in the subject-matter fields indicated.

PRE-TEACHER EDUCATION

Degree: Associate in Science

Length: Six-quarter (two-year) program

Purpose: With the rapid development and emphasis on education in Virginia there is a great demand for qualified teachers and other educational specialists to help provide leadership for the schools.

The Associate in Science degree program in Pre-Teacher Education is designed for persons who plan to transfer to a four-year college or university to complete a baccalureate degree program in Teacher Education.

Admission Requirements: In addition to the admission requirements established for the College (as listed in the section on admission requirements in Part II of this catalog), entry into the Associate in Science degree program in Pre-Teacher Education requires the satisfactory completion of the following high school units; or equivalent, as a minimum:

4 units of English
2 units of algebra
1 unit of geometry
1 unit of laboratory science
1 unit of social studies

Students who do not meet these requirements may be permitted to correct their deficiencies in the Preparatory Foundations Program before entering the Pre-Teacher Education curriculum.

Program Requirements: The modern education world demands that its teachers and staff be knowledgeable both in the subjects they plan to teach and in general education. Thus, this curriculum requires courses in the humanities, natural sciences, and mathematics, social sciences, and health and physical education in addition to general psychology usually required in the first two years of a baccalaureate teacher education curriculum. The Pre-Teacher Education curriculum is designed

to lead the student toward meeting the state teacher certification requirements for a Collegiate Professional Certificate. Eligible students may also qualify for the State Teachers' Scholarships. **Each student is urged to acquaint himself with the requirements of the major department in the college or university to which transfer is contemplated and also, to consult with the Counseling Department of the Community College in planning his program and selecting his electives.** In order to help prepare for upper division (junior class) standing at a four-year college or university, the student usually must complete a program at the Community College that is comparable in length and courses to the first two years of the program at the four-year college or university. Upon completion of the six-quarter program listed below, the student will be awarded the Associate in Science degree with a major in Pre-Teacher Education.

ASSOCIATE IN SCIENCE DEGREE CURRICULUM

PRE-TEACHER EDUCATION

		First Year			Second Year			Total
		I	II	III	I	II	III	
ECON	Economics*	—	—	—	—	5	—	5
ENGL 114-115	English Composition	5	4	—	—	—	—	9
ENGL	Literature*	—	—	—	—	3	3	6
GENL 100	Orientation	1	—	—	—	—	—	1
GOVT	Government*	—	—	—	5	—	—	5
HIST 111-112-113	American History I-II-III	3	3	3	—	—	—	9
MATH 164-165	College Mathematics I-II	5	4	—	—	—	—	9
PHED	Physical Ed or Health*	1	—	1	1	—	—	3
PSYC 204-205	General Psychology I-II	—	—	—	5	4	—	9
	Naturel Sci with Lab*	—	6	6	—	—	—	12
	Humanities Elective*	—	—	—	—	—	5	5
	Electives*	—	—	6	6	3	9	24
		15	17	16	17	15	17	97

*The student must consult with the Counseling Department of the College in the selection of electives and appropriate courses in the subject-matter fields indicated.

ACCOUNTING

Degree: Associate in Applied Science

Length: Six-quarter (two-year) program

Purpose: With the rapid development of business and industry in Virginia there is a great demand for qualified personnel to assist business management in this economic growth. The Associate in Applied Science Degree program in Accounting is designed primarily for persons who seek full-time employment in the accounting field immediately upon completion of the community college program. Both persons who are seeking their first employment in an accounting position or those presently in accounting who are seeking a promotion may benefit from this program.

Occupational Objectives:

Banking	Comptroller Aide
Bookkeeper	Junior Accountant

Admission Requirements: In addition to the admission requirements established for the College (as listed in the section on admission requirements in Part II of this catalog), entry into the Associate in Applied Science degree program in Accounting requires proficiency in high school English and high school mathematics. Students who are not proficient in English and mathematics will be required to correct their deficiencies in the Preparatory (Foundations) Program before entering the Accounting Curriculum.

Program Requirements: The first three quarters (first year) of the Associate in Applied Science degree program in Accounting is similar to the program in Business Management. However, in the second year each student will pursue his specialty in accounting and will be required to complete BUAD 214, 215, 216, 217 and 218. Approximately one-half of the curriculum will include courses in accounting with the remaining courses in related subjects, general education, and electives. Instruction will include both the theoretical concepts and practical applications needed for future success in accounting. Each student is urged to consult with the Counseling Department and his faculty advisor in planning his program and selecting his electives. Upon completion of the six-quarter program listed below, the student will be awarded the Associate in Applied Science degree with a major in Accounting.

ASSOCIATE IN APPLIED SCIENCE DEGREE CURRICULUM

ACOUNTING

		First Year			Second Year			Total
		I	II	III	I	II	III	
BUAD 100	Intro to Business	3	—	—	—	—	—	3
BUAD 111-112-113	Accounting I-II-III	4	4	4	—	—	—	12
BUAD 156	Office Machines	2	—	—	—	—	—	2
BUAD 170	Bus Orgn & Management	—	3	—	—	—	—	3
BUAD 214-215	Inter Accounting I-II	—	—	—	4	4	—	8
BUAD 220	Cost Accounting	—	—	—	—	—	3	3
BUAD 227	Auditing	—	—	—	—	3	—	3
BUAD 240	Business Finance	—	—	—	—	3	—	3
BUAD 246	Money and Banking	—	—	—	—	—	3	3
BUAD 248	Business Taxes	—	—	—	—	—	3	3
BUAD 294	Intro to Bus Statistics	—	—	—	3	—	—	3
BUAD 299	BUAD Seminar & Project	—	—	—	—	—	2	2
BUAD	BUAD Electives*	—	—	—	3	—	—	3
DAPR 100	Intro to Data Processing	—	—	—	4	—	—	4
ECON 160	American Economics	—	3	—	—	—	—	3
ENGL 101-102	Communication Skills I-II	—	3	3	—	—	—	6
ENGL 136	Speech Communications	—	—	3	—	—	—	3
ENGL 280	Business English	—	—	—	—	3	—	3
GENL 100	Orientation	1	—	—	—	—	—	1
GOVT 180	American Const. Govt	—	—	—	—	—	3	3
MATH 151-152	Business Mathematics	3	3	—	—	—	—	6
PHED	Phys Ed or Health*	1	—	1	1	—	—	3
PSYC 128	Human Relations	—	—	3	—	—	—	3
SECR 111	Typewriting I**	3	—	—	—	—	—	3
	Electives*	—	—	2	—	3	3	8
		17	16	16	15	16	17	97

*The student must consult with the Counseling Department of the College in the selection of electives and appropriate courses in the subject-matter fields indicated.

**Students having completed one year of high school typewriting with a "C" average or demonstrating equivalent skill in typewriting may substitute an elective for SECR 111.

BUSINESS MANAGEMENT

Degree: Associate in Applied Science

Length: Six-quarter (two-year) program

Purpose: With the rapid development of business and industry in Virginia there is a great demand for qualified personnel to assist business management. The Associate in Applied Science degree program in Business Management is designed primarily for persons who seek full-time employment in business management immediately upon completion of the community college program. Both persons who are seeking their first employment in a managerial position or those presently in management who are seeking a promotion may benefit from this program.

Occupational Objectives:

Administrative Assistant	Manager of Small Business
Junior Executive	Office Assistant
Manager of Business Office	Supervisor

Admission Requirements: In addition to the admission requirements established for the college (as listed in the section on admission requirements in Part II of this catalog), entry into the Associate in Applied Science degree program in Business Management requires proficiency in high school English and high school mathematics. Students who are not proficient in English and mathematics will be required to correct their deficiencies in the Preparatory Foundations Program before entering the Business Management curriculum.

Program Requirements: The first three quarters (first year) of the Associate in Applied Science degree program in Business Management is similar to the program in Accounting. However, in the second year each student will pursue his specialty. Approximately one-half of the curriculum will include courses in business management with the remaining courses in related subjects, general education, and electives. Instruction will include both the theoretical concepts and practical applications

needed for future success. Each student is urged to consult with the Counseling Department and his faculty advisor in planning his program and selecting his electives. Upon completion of the six-quarter program listed below, the student will be awarded the Associate in Applied Science degree with a major in Business Management.

ASSOCIATE IN APPLIED SCIENCE DEGREE CURRICULUM

BUSINESS MANAGEMENT

		First Year			Second Year			Total
		I	II	III	I	II	III	
BUAD 100	Intro to Business	3	—	—	—	—	—	3
BUAD 106	Office Procedures	—	—	2	—	—	—	2
BUAD 111-112-113	Accounting I-II-III	4	4	4	—	—	—	12
BUAD 156	Office Machines	2	—	—	—	—	—	2
BUAD 170	Bus Orgn & Management	—	3	—	—	—	—	3
BUAD 240	Business Finance	—	—	—	—	3	—	3
BUAD 241-242	Business Law I-II	—	—	—	—	3	3	6
BUAD 246	Money and Banking	—	—	—	—	—	3	3
BUAD 286	Personnel Management	—	—	—	—	—	2	2
BUAD 294	Intro to Bus Statistics	—	—	—	3	—	—	3
BUAD 299	BUAD Seminar & Project	—	—	—	—	—	2	2
DAPR 100	Intro to Data Processing	—	—	—	4	—	—	4
ECON 160	American Economics	—	3	—	—	—	—	3
ECON	ECON Elective *	—	—	—	—	3	—	3
ENGL 101-102	Communication Skills I-II	—	3	3	—	—	—	6
ENGL 136	Speech Communication	—	—	3	—	—	—	3
ENGL 280	Business English	—	—	—	3	—	—	3
GENL 100	Orientation	1	—	—	—	—	—	1
GOVT 180	American Const Govt	—	—	—	—	—	3	3
MATH 151-152	Business Mathematics	3	3	—	—	—	—	6
PHED	Phys Ed or Health*	1	—	1	1	—	—	3
PSYC 128	Human Relations	—	—	3	—	—	—	3
SECR 111	Typewriting I**	3	—	—	—	—	—	3
	Electives*	—	—	—	6	6	3	15
		17	16	16	17	15	16	97

*The student must consult with the Counseling Department of the College in the selection of electives and appropriate courses in the subject-matter fields indicated.

**Students having completed one year of high school typewriting with a "C" average or demonstrating equivalent skill in typewriting may substitute an elective for SECR 111.

DRAFTING AND DESIGN TECHNOLOGY

Degree: Associate in Applied Science

Length: Six-quarter (two-year) program

Purpose: There is a need for qualified draftsmen to work with engineers, industry, and civil service agencies. The Associate in Applied Science degree curriculum in Drafting and Design Technology is designed to train persons for full-time employment immediately upon completion of the community college program. A student who completes the program is capable of skilled, neat, rapid lettering and line work, as well as making the complete and accurate detail and assembly drawings expected of a beginning draftsman.

Occupational Objectives:

Drafting Supervisor	Fixture Design Draftsman
Draftsman	Machine Design Draftsman

Admission Requirements: In addition to the admission requirements established for the College (as listed in the section on admission requirements in Part II of this catalog), entry into the Associate in Applied Science degree program in Drafting and Design Technology requires proficiency in high school English and high school mathematics. Students who are not proficient in English and mathematics will be required to correct their deficiencies in the Preparatory (Foundations) Program before entering the Drafting and Design curriculum.

Program Requirements: Approximately one-half of the curriculum will include courses in drafting and design technology with the remaining courses in related subjects, general education, and electives. Instruction will include both theoretical concepts and practical applications needed for future success in drafting and design technology. Each student is advised to consult with his faculty advisor and the Counseling Department

in planning his program and selecting his electives. Upon completion of the six-quarter curriculum listed below, the student will be awarded the Associate in Applied Science degree with a major in Drafting and Design Technology.

ASSOCIATE IN APPLIED SCIENCE DEGREE CURRICULUM

DRAFTING AND DESIGN TECHNOLOGY

		First Year			Second Year			Total
		I	II	III	I	II	III	
DRFT 111-112-113	Drafting I-II-III	2	2	2	—	—	—	6
DRFT 211-212-213	Adv. Drafting IV-V-VI	—	—	—	3	3	3	9
DRFT	Drafting Elective*	—	—	—	2	—	—	2
ECON 160	American Economics	—	—	—	—	3	—	3
ENGL 101-102	Communication Skills I-II	3	3	—	—	—	—	6
ENGL 136	Speech Communications	—	—	3	—	—	—	3
ENGR 151	Mechanics I (Statics)	—	—	—	—	3	—	3
ENGR 152	Mechanics II (Strength of Materials)	—	—	—	—	—	4	4
GENL 100	Orientation	1	—	—	—	—	—	1
GOVT 180	American Const. Govt.	—	—	—	—	—	3	3
INDT 111-112	Mat. & Proc. of Industry I-II	—	3	3	—	—	—	6
INDT 176	Plant Safety	—	—	—	2	—	—	2
INDT 226	Plant Layout	—	—	—	—	—	3	3
INDT 299	Seminar & Project Drafting & Design Technology	—	—	—	—	—	2	2
MATH 111-112-113	Tech. Math I-II-III	3	3	3	—	—	—	9
MATH 211	Adv. Tech. Math I	—	—	—	3	—	—	3
MECH 218	Jig & Fixture Design	—	—	—	—	3	—	3
PHED	Physical Ed Elective*	1	1	1	—	—	—	3
PHYS 111-112-113	Technical Physics I-II-III	4	4	4	—	—	—	12
PSYC 128	Human Relations	3	—	—	—	—	—	3
	Approved Electives*	—	—	—	6	5	0	11
		17	16	16	17	17	15	97

*Student must consult with the Counseling Department of the Community College in the selection of his electives.

ELECTRONICS TECHNOLOGY

Degree: Associate in Applied Science

Length: Six-quarter (two-year) program

Purpose: With the rapid growth of the electronics and manufacturing industries in Virginia, and steady demand for qualified electronic technicians in the local area, there is a need for trained personnel to meet these requirements. The Associate in Applied Science degree curriculum in Electronics Technology is designed to train persons for full-time employment immediately upon completion of the Community College curriculum offering.

Occupational Objectives:

Communications Technician

Electronics Technician

Industrial Electronics Technician

Instrument Technician

Radio and Television Technician

Laboratory Technician

Admission Requirements: In addition to the admission requirements established for the College (as listed in the section on admissions requirements in Part II of this catalog), entry into the Associate in Applied Science curriculum in Electronic Technology requires proficiency in high school English, mathematics and science including one unit of algebra and one unit of geometry or equivalent. It is also recommended that two units of algebra and one unit of high school physics be completed. Students who are not proficient in these subject areas will be required to correct their deficiencies in a Preparatory (Foundations) program before entering the curriculum.

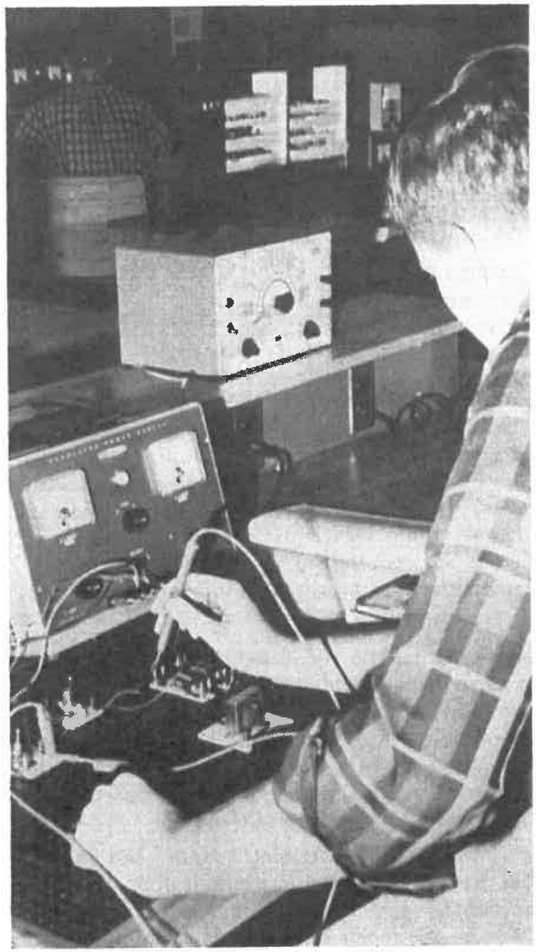
Curriculum Requirements: The curriculum in Electronics is a two-year curriculum combining instruction in the many subject areas required for competence as a Technician in industry. The first year of the Electronics Technology curriculum is designed to establish a general base in mathematics and electronic circuits and networks. The second year develops this base in a number of important areas of electronics; such as computers, control circuits, measurements, and communications. The graduate should have sufficient background, both in depth and diversity, to allow him employment in any area of the electronics field as a technician. Approximately one-half of the curriculum will include courses in electronics technology with the remaining courses in related subjects, general education, and electives. Instruction will include both the theoretical concepts and practical applications needed for future success in Electronics Technology. Students are permitted a choice of electives in the second year. These electives should be carefully chosen to develop further skill and competence in either communication networks or specialized Industrial Controls. Each student is advised to consult with his faculty advisor and the Counseling Department in planning his program and selecting his electives. Upon completion of the six-quarter curriculum listed on the next page, the student will be awarded the Associate in Applied Science degree with a major in Electronics Technology.

56 **ASSOCIATE IN APPLIED SCIENCE DEGREE CURRICULUM**

ELECTRONICS TECHNOLOGY

		First Year			Second Year			Total
		I	II	III	I	II	III	
DAPR 100	Intro to Data Processing	—	—	—	—	4	—	4
DRFT 256	Electronics Drafting	—	—	—	2	—	—	2
ECON 160	American Economics	—	—	—	—	3	—	3
ELEC 114	Fund of Direct Current	4	—	—	—	—	—	4
ELEC 115	Fund of Alternating Current	—	4	—	—	—	—	4
ELEC 116	Circuit Analysis	—	—	4	—	—	—	4
ELEC 120	Tubes & Transistors	4	—	—	—	—	—	4
ELEC 121	Electronics	—	4	—	—	—	—	4
ELEC 126	Amplifiers	—	—	4	—	—	—	4
ELEC 227	Pulse & Switching Circuits	—	—	—	3	—	—	3
ELEC 241-242	Communications I-II	—	—	—	4	4	—	8
ELEC 276	Instruments & Measurements	—	—	—	4	—	—	4
ELEC 287	Advanced Circ & New Devices	—	—	—	—	—	2	2
ELEC 299	Seminar & Proj in Elec Tech	—	—	—	—	—	2	2
ELEC	Electronic Elective*	—	—	2	—	—	—	2
ENGL 101-102	Communications Skills I-II	3	3	—	—	—	—	6
ENGL 136	Speech Communications	—	—	—	—	—	3	3
GENL 100	Orientation	1	—	—	—	—	—	1
GOVT 180	American Const Govt	—	—	—	—	—	3	3
MATH 111-112-113	Technical Math I-II-III	3	3	3	—	—	—	9
PHED	Phys Education Elective*	1	1	1	—	—	—	3
PHYS 111-112-113	Tech Physics I-II-III	—	—	—	4	4	4	12
PSYC 128	Human Relations	—	—	3	—	—	—	3
	Approved Electives*	—	—	—	—	—	3	3
		16	15	17	17	15	17	97

*The student must consult with the Counseling Department of the Community College in the selection of electives.



SECRETARIAL SCIENCE

Degree: Associate in Applied Science

Length: Six-quarter (two-year) program

Purpose: There is a steady demand for qualified secretaries, stenographers, typists, and office machine operators in our region. The Associate in Applied Science degree curriculum in Secretarial Science is designed to train persons for full-time employment immediately upon completion of the Community College curriculum offerings.

Occupational Objectives:

Executive Secretary
General Secretary
Office Machine Operator
Stenographer

Admission Requirements: In addition to the admission requirements established for the College (as listed in the section on admissions requirements in Part II of this catalog), entry into the Associate in Applied Science curriculum in Secretarial Science requires proficiency in high school English and mathematics, shorthand and typewriting. Students who are not proficient in these subject areas are required to correct their deficiencies in a Preparatory (Foundations) program before entering the curriculum.

Curriculum Requirements: The curriculum in Secretarial Science is a two-year curriculum combining instruction in the many subject areas required for competence as a secretary in business, government, industry, law offices, and other organizations. Approximately one-half of the curriculum will include courses in secretarial science with the remaining courses in related subjects, general education, and electives.

Students who have had some training in shorthand and typewriting may be granted advanced placement upon acceptance into the department. The student's achievement record in the prior courses will be the major basis which advanced standing

may be granted. Students who receive a grade below "C" in any shorthand or typewriting class will be required to repeat the course and to earn a grade of "C" or higher before registering for the next course in the sequence.

ASSOCIATE IN APPLIED SCIENCE DEGREE CURRICULUM

SECRETARIAL SCIENCE

		First Year			Second Year			Total
		I	II	III	I	II	III	
BUAD 100	Introduction to Business	3	—	—	—	—	—	3
BUAD 121-122	Record Keeping	3	3	—	—	—	—	6
BUAD 156	Office Machines	2	—	—	—	—	—	2
BUAD 170	Business Org. & Mgt.	—	3	—	—	—	—	3
BUAD 241-242	Business Law	—	—	—	—	3	3	6
ECON 160	American Economics	—	—	—	—	3	—	3
ENGL 101-102	Communication Skills I-II	3	3	—	—	—	—	6
ENGL 136	Speech Communication	—	—	3	—	—	—	3
GENL 100	Orientation	1	—	—	—	—	—	1
GOVT 180	American Const. Govt.	—	—	—	3	—	—	3
MATH 151-152	Business Mathematics I-II	3	3	—	—	—	—	6
PHED	Physical Ed. or Health*	1	1	1	—	—	—	3
PSYC 128	Human Relations	—	—	—	3	—	—	3
SECR 113	Typewriting III	—	—	3	—	—	—	3
SECR 123	Shorthand III	—	—	4	—	—	—	4
SECR 136	Filing and Record Mgt.	—	2	—	—	—	—	2
SECR 156	Personal Development**	—	—	3	—	—	—	3
SECR 216	Executive Typewriting	—	—	—	2	—	—	2
SECR 217	Typewriting Skill Building	—	—	—	—	—	2	2
SECR 221-222-223	Shorthand Tran. I-II-III	—	—	—	3	3	3	9
SECR 241-242-243	Secretarial Proce. I-II-III	—	—	—	3	3	3	9
SECR 266	Machine Transcription	—	—	—	—	3	—	3
SECR 299	Seminar & Pro. in Sec. Sci.	—	—	—	—	—	2	2
	Electives*	—	—	3	3	—	4	10
		16	15	17	17	15	17	97

*The student must consult with the Counseling Department of the College in the selection of electives and appropriate courses in the subject-matter fields indicated.

**SECR 156 is for female students; male students may have a free elective.

MECHANICAL DRAFTING

Certificate: Certificate in Mechanical Drafting

Length: Four quarter (one-year) program

Purpose: With the rapid growth of industry in Virginia, and the steady demand for qualified draftsmen in the local area, there is a need for training personnel to meet these requirements. The curriculum in Mechanical Drafting is designed to train persons for full-time employment immediately upon completion of the Community College curriculum offering.

Occupational Objectives: Draftsmen

Admission Requirements: Admission to the program, in addition to the requirements for general admission to the College, require that the student show satisfactory aptitude for drawing as measured by appropriate tests administered by the College counseling department.

Program Requirements: The Mechanical Drafting Program is designed to prepare students to work as mechanical draftsmen and to provide the student with an introduction to the basic problems associated with design and manufacturing of mechanical devices. The curriculum includes basic courses in the humanities (English, government, and psychology) to assist the student in social and business communications and to prepare the student to meet the obligations of the citizen in our democratic society.

Students successfully completing the three-quarter sequence in Mechanical Drafting receive a Certificate of Completion. Job opportunities for mechanical draftsmen exist in many areas, primarily in the manufacturing industries.

CERTIFICATE CURRICULUM

MECHANICAL DRAFTING

		I	II	III	IV	Total
DRFT 126	Introduction to Graphic Presentation	3	—	—	—	3
DRFT 131-132-133	Mechanical Drafting I-II-III	—	5	5	5	15
ECON 060	Basic American Economics	—	—	—	3	3
ENGL 001-002-003	Verbal Studies Laboratory*	5	5	5	—	15
GENL 100	Orientation	1	—	—	—	1
GOVT 080	Basic American Government	—	—	—	3	3
MATH 001-002-003	Developmental Mathematics**	5	5	5	—	15
INDT 111-112	Materials and Processes of Indt. I-II	—	—	3	3	6
NASC 126	Science in Industry	—	3	—	—	3
PSYC 010	Basic Applied Psych	3	—	—	—	3
		17	18	18	14	67

*ENGL 101-102-103 Communication Skills I-II-III (3 cr) (3 cr) (3 cr) may be substituted for the entire ENGL 001-002-003 sequence.

**MATH 111-112-113 Technical Mathematics I-II-III (3 cr) (3 cr) (3 cr) may be substituted for the entire MATH 001-002-003 sequence.

STENO-CLERICAL ARTS

Certificate: Certificate in Steno-Clerical Arts

Length: Three-quarter (one-year) program

Purpose: The program in steno-clerical arts is a one-year course of study and practice to provide training in the art and skills of clerical and stenographic practice.

Occupational Objectives:
Clerk-Stenographer
Clerk-Typist
File Clerk

Admissions Requirements: Applicant must meet the general requirements for admission to the College.

Program Requirements: This curriculum requires the student to take English, mathematics, and speech, in addition to required courses needed by qualified stenographers. Upon completion of the three-quarter program listed on the next page the student will be awarded a Certificate in Steno-Clerical Arts.

CERTIFICATE CURRICULUM

STENO-CLERICAL ARTS

		I	II	III	Total
BUAD 156	Office Machines	2	—	—	2
ECON 060	Basic American Economics	—	3	—	3
ENGL 101-102	Communication Skills I-II	3	3	—	6
GENL 100	Orientation	1	—	—	1
GOVT 080	Basic American Govt.	—	—	3	3
MATH 151-152	Business Mathematics	3	3	—	6
PSYC 010	Basic Applied Psychology	—	—	3	3
SECR 111-112-113	Typewriting I-II-III*	3	3	3	9
SECR 121-122-123	Shorthand I-II-III*	4	4	4	12
SECR 136	Filing & Record Management	—	—	2	2
SECR 156	Personal Development***	—	—	3	3
		16	16	18	50

*Students having completed one year of high school typewriting with a "C" average or demonstrating equivalent skill in typewriting may substitute an elective for SECR 111

**Students having completed one year of high school Gregg shorthand with a "C" average or demonstrating equivalent knowledge and skill in shorthand may substitute an elective for SECR 121.

***SECR 156 is limited to female students. Male students in this curriculum will substitute an approved elective for this course.

CO-OPERATIVE NURSING PROGRAM

The Dabney S. Lancaster Community College cooperates with the Chesapeake and Ohio Hospital School of Nursing.

Students at the School of Nursing take one year of basic sciences and humanities at the college.

Students interested in nursing should contact the Associate Director, School of Nursing, Chesapeake and Ohio Hospital, Clifton Forge, Virginia 24422.

PREPARATORY (FOUNDATIONS) PROGRAM

Foundations and developmental programs are offered to help prepare individuals for admission to the occupational-technical program and to the university parallel-college transfer program in the Community College. These programs are designed to help the individual develop the basic skills and understandings necessary to succeed in other programs of the community colleges.

The foundations program provides an opportunity to obtain needed knowledges and skills for an individual who is not fully prepared for entry into an associate degree program. Perhaps he has not had an opportunity to complete an appropriate educational course or program, or he has low achievement in his previous education. A student is placed in the foundations program after a close analysis of his high school transcript, ACT scores, and other data available on his achievement level.

Through the use of specialized teaching methods and modern equipment with an extensive concentration upon laboratory experiences, the student may, through concentrated effort in the areas of his weakness, progress at his own rate. The student will be tested frequently for the purpose of showing him the progress he is making.

The student may use either of two approaches to improve his knowledge and skills in the foundations program. In one approach, he may enroll in the regular foundations courses sched-

uled each quarter at the Community College. In the other approach the student may utilize the materials and equipment in the Learning Laboratory for individual study of appropriate units or course materials in the areas of his deficiencies. Personnel in the Learning Laboratory or other faculty members of the College would be availabe to provide individualized assistance for the student. Progressing at his own rate, the student may complete the unit of study at any time that he demonstrates sufficient mastery of the subject to meet the minimum requirements for the unit or course.

A student in the foundations program may be taking all of his work at the foundation level or he may be taking some associate degree level courses for which he is qualified in addition to one or more foundations courses. Many of the foundations courses will provide credit applicable to the requirements of a diploma or certificate program. In addition, if the student takes any associate degree courses, the credit earned in these courses may be transferred to an associate degree curriculum when the student is admitted to that curriculum and if the courses are applicable to it.

The student is urged to consult with the Counseling Department of the Community College in planning his program and selecting his courses.

DESCRIPTION OF COURSES

Course Numbers

Courses numbered 000-099 are freshman level courses for the preparatory foundations program and for the occupational progams. The credits earned in these courses are applicable toward diploma and certificate programs but are not applicable toward an associate degree.

Courses numbered 100-199 are freshman level courses applicable toward an associate degree.

Courses numbered 200-299 are sophomore level courses applicable toward an associate degree.

Course Credits

The credit for each course is indicated after the title in the course description. One credit is equivalent to one collegiate quarter hour credit or two-thirds of a collegiate semester hour credit.

Course Hours

The number of lecture hours in class each week (including lecture, seminar, and discussion hours) and/or the number of laboratory hours in class each week (including laboratory, shop, supervised practice, and cooperative work experiences) are indicated for each course in the course description. The number of lecture and laboratory hours in class each week are also called "contact" hours because the time is spent under the direct supervision of a faculty member. In addition to the lecture and laboratory hours in class each week as listed in the course description, each student also must spend some time on out-of-class assignments under his own direction. Usually each credit per course requires an average of three hours of in-class and out-of-class work each week.

Prerequisites

If any prerequisites are required before enrolling in a course, these prerequisites will be identified in the course description. Courses in special sequences (usually identified by the numerals I-II-III) require that prior courses or their equivalent be completed before enrolling in the advanced courses in the sequence. When corequisites are required for a course, usually the corequisites must be taken at the same time. The prerequisites or their equivalent must be completed satisfactorily before enrolling in a course unless special permission is obtained from the Director of Student Services and the instructor of the course.

ARTS AND CRAFTS

ARTS 111-112-113 HISTORY AND APPRECIATION OF ART I-II-III (3 cr.) (3 cr.) (3 cr.)—The history and interpretation of architecture, sculpture and painting. The course begins with prehistoric art and follows the main stream of western civilization to the present. Lectures 3 hours per week.

BIOLOGY

BIOL 104-105 GENERAL BIOLOGY I-II (6 cr.) (6 cr.)—Fundamental characteristics of living matter from the molecular level to the ecological community, with emphasis on general biological principals. Diversity of plant and animal life; evolution processes; adaptation of organisms to their environments. Lectures 5 hours, Laboratory 3 hours, Total 8 hours per week.

BIOL 154-155 HUMAN ANATOMY AND PHYSIOLOGY I-II (4 cr.) (4 cr.)—Structure and functioning of the normal human body, as a basis for understanding nursing theory and practice. Lectures 3 hours, Laboratory 3 hours, Total 6 hours per week.

BIOL 166 MICROBIOLOGY (3 cr.)—The characteristics and activities of microorganisms, showing their essential relation to diagnosis, treatment and prevention of disease. Fundamentals of bacteriology, mycology and parasitology, emphasizing relationship to individual and community health. Lectures 2 hours, Laboratory 3 hours, Total 5 hours per week.

BIOL 204-205 GENERAL BIOLOGY III-IV (6 cr.) (6 cr.)—Prerequisite BIOL 105 or equivalent—Physiological aspects of living systems with emphasis on relationship of form and function; principles of physiology and anatomy. Lectures 5 hours, Laboratory 3 hours, Total 8 hours per week.

BUSINESS ADMINISTRATION

BUAD 100 INTRODUCTION TO BUSINESS (3 cr.)—Prerequisite ENGL 101 must have been taken previously or must be taken concurrently. An orientation course designed to give the student a general acquaintance with all types of business, organization, structure, legal aspects, and management operations. The various phases of business are studied from an operational point of view. Lectures 3 hours per week.

BUAD 106 OFFICE PROCEDURES (2 cr.)—This course is designed to enable the student to understand general office routines such as work flow, time scheduling, filing, and communications. Lectures 2 hours per week.

BUAD 110 ACCOUNTING FOR NON-ACCOUNTANTS (3 cr.)—Helps develop breadth of perspective and sharpens technical skills needed to make accounting policy decisions in everyday business. Integrates key cost factors into a unified managerial approach to cost reductions. Lectures 3 hours per week.

BUAD 111-112-113 ACCOUNTING I-II-III (4 cr.) (4 cr.) (4 cr.)—A course designed to provide an understanding of the fundamentals of accounting. Content includes the accounting cycle, journals, ledgers, working papers, and the preparation of financial statements under the various forms of business ownership. Lectures 3 hours, Laboratory 2 hours, Total 5 hours per week.

BUAD 121-122 RECORD KEEPING I-II (3 cr.) (3 cr.)—A course designed to concentrate on the keeping of financial, personnel, inventory, and other records in the office. Lectures 2 hours, Laboratory 2 hours, Total 4 hours per week.

BUAD 130 MARKETING PRINCIPLES AND PRACTICES (3 cr.)—A course in the principles, methods, and problems involved in the distribution and marketing of goods and services. It includes a study of the various marketing agents: wholesaler, broker, agent, cooperative, and trade association. Discussions of present day problems and policies connected with the distribution and sale of commodities, pricing, advertising and promotion, and buyer motivation. Lectures 3 hours per week.

BUAD 156 OFFICE MACHINES (2 cr.)—A course to develop proficiency in the use of office machines such as calculators and adding machines. Lecture 1 hour, Laboratory 2 hours, Total 3 hours per week.

BUAD 160 SURVEY OF INSURANCE (3 cr.)—A course in insurance principles and practices. Includes an examination of risks and applications in the principal fields of insurance, including life, accident and health, fire, liability, surety, and property. Lectures 3 hours per week.

BUAD 170 BUSINESS ORGANIZATION AND MANAGEMENT (3 cr.)—Prerequisite BUAD 100. This course deals with the basis of management and the management functions: planning, organizing, staffing, directing, and controlling. Management is examined as both a science and an art, with emphasis on both the formal body of knowledge and the personal abilities required of the successful manager. Lectures 3 hours per week.

BUAD 211-212-213 PRINCIPLES OF ACCOUNTING I-II-III (4 cr.) (4 cr.) (4 cr.)—The fundamental principles and elements of accounting. Lectures 3 hours, Laboratory 2 hours, Total 5 hours per week.

BUAD 214-215 INTERMEDIATE ACCOUNTING I-II (4 cr.) (4 cr.)—Prerequisite BUAD 111-112-113. Extensive analysis of the principal elements of accounting systems and statements. Lectures 4 hours per week.

BUAD 218 PAYROLL ACCOUNTING (3 cr.)—Basic payroll systems and accounting methods used in computing wages. Lectures 3 hours per week.

BUAD 219 MANAGERIAL ACCOUNTING (3 cr.)—Prerequisite BUAD 215. Preparation, analysis, and interpretation of accounting and financial data for managerial purposes. Lectures 2 hours, Laboratory 3 hours, Total 5 hours per week.

BUAD 220 COST ACCOUNTING (3 cr.)—Prerequisite BUAD 111-112-113. Studies in accounting systems, methods and statements involved in process and job cost accounting, with attention to the use of sandards and cost controls. Lectures 3 hours per week.

BUAD 221-222-223 COST ACCOUNTING (3 cr.) (3 cr.) (3 cr.)—Covers both procedures and principles of cost accounting. Lectures 2 hours, Laboratory 3 hours, Total 5 hours per week.

BUAD 227 AUDITING (3 cr.)—Prerequisite BUAD 111-112-113. Purposes of audit, relationships of auditor and client, kinds of audits, working papers, internal controls and examination of accounting systems, audit reports. Lectures 3 hours per week.

BUAD 240 BUSINESS FINANCE (3 cr.)—An introduction to the problems involved in the acquisition and use of funds necessary to the conduct of business. The course covers sources and instruments of capital and finance, financial organization, and financing of operations and adjustments. Lectures 3 hours per week.

BUAD 241-242-243 BUSINESS LAW I-II-III (3 cr.) (3 cr.) (3 cr.)—The application of rules of law to the operation of a business. It covers the legal aspects of the principal instruments of business activity, rights and liabilities of business principals and agents, formation and dissolution of ownership forms, and the legal aspects of negotiable instruments and securities. Lectures 3 hours per week.

BUAD 246 MONEY AND BANKING (3 cr.)—A review of the history of American banking institutions; banking theories, principles and practices; emphasis is placed on relationship of finances to business structure, operation and organization; present day financial structures, agents, problems and institutions are examined in depth. Lectures 3 hours per week.

BUAD 248 BUSINESS TAXES (3 cr.)—A study of applicable federal, state, and local taxes and their implications in terms of business ownership, policy, and operations. Lectures 3 hours per week.

BUAD 266 REAL ESTATE (3 cr.)—Practical application of real estate management principles. Includes a study of contracts, deeds, mortgages, bonds, leases, search, real property leasing and appraisal. Lectures 3 hours per week.

BUAD 277 PURCHASING AND MATERIALS MANAGEMENT (3 cr.)—A study of the principles of purchasing and management of industrial inventories, including determination of requirements, pricing, source selection, and inventory policy and control. Lectures 3 hours per week.

BUAD 278 PRODUCTION PLANNING (3 cr.)—A study of the fundamentals of production planning and control. It covers plant layout, manpower, equipment and inventory planning, production forecasting, scheduling and control and statistical quality control. Lectures 3 hours per week.

BUAD 286 PERSONNEL MANAGEMENT (2 cr.)—A course in the problems and issues involved in the administration of personnel actions. Includes organization and tasks of personnel development, significant personnel considerations, and an appraisal of the position of labor in business today. Lectures 2 hours per week.

BUAD 294 INTRODUCTION TO BUSINESS STATISTICS I (3 cr.)—This course covers the collection, tabulation, and graphic presentation of data concerning business activity, economic trends and cycles, and similar fields, and the application of these techniques in solving practical business problems. Lectures 3 hours per week.

BUAD 295 BUSINESS STATISTICS II (3 cr.)—Prerequisite BUAD 294. A study of statistical and probability techniques and their use. Specific topics include the principal statistical concepts and techniques and their practical applications, including analysis, and the use of graphic presentation and solutions. Lectures 3 hours per week.

BUAD 299 BUSINESS ADMINISTRATION SEMINAR AND PROJECT (2 cr.)—A selection and completion of an individual project related to the student's occupational objective and designed to combine theoretical concepts with practical applications by cooperative arrangements with business and industry. Also includes discussions of professional topics in general and a study of approaches to selection and pursuit of employment and career opportunities in business administration.

CHEMISTRY

CHEM 050 BASIC HEALTH SCIENCE CHEMISTRY (4 cr.)—An introduction to the basic principle of organic and inorganic chemistry with

emphasis on application in the health sciences. Lectures 3 hours, Laboratory 3 hours, Total 6 hours per week.

CHEM 100 INTRODUCTION TO CHEMISTRY (4 cr.)—An introductory survey of chemistry for students not intending to specialize in chemistry. Lectures will emphasize basic principles of inorganic chemistry; laboratory will be illustrative of the principles considered. Lectures 3 hours, Laboratory 2 hours, Total 5 hours per week.

CHEM 114-115 GENERAL INORGANIC CHEMISTRY I-II (6 cr.) (6 cr.)—Fundamental principles and laws underlying chemical action with special emphasis on the non-metals and their compounds, and theories and problems concerning them. The laboratory work for the first half of the course deals chiefly with the non-metallic elements and their compounds. The second half deals with the theories of qualitative analysis. Lectures 5 hours, Learning Laboratory 2 hours, Laboratory 3 hours, Total 10 hours per week.

CHEM 241-242-243 ORGANIC CHEMISTRY I-II-III (4 cr.) (4 cr.) (4 cr.)—Prerequisite CHEM 115 or equivalent. A year course in the fundamentals of organic chemistry. The structure, physical properties, synthesis, and typical reactions of the various series of aliphatic, alicyclic, and aromatic compounds are studied with attention to reaction mechanisms. In the laboratory representative carbon compounds are synthesized with emphasis on basic laboratory techniques. Lectures 3 hours, Laboratory 3 hours, Total 6 hours per week.

DATA PROCESSING TECHNOLOGY

DAPR 100 INTRODUCTION TO DATA PROCESSING (4 cr.)—Prerequisite one year of high school algebra. An introduction to basic methods, techniques, and systems of manual, mechanical, and electronic data processing. Covers the history and development of punch card data processing, and electronic or automatic data processing. Monitors and controls digital computers to process predefined business or other data according to operating instructions. Lectures 3 hours, Laboratory 2 hours, Total 5 hours per week.

DRAFTING AND DESIGN

DRFT 071 BASIC BLUEPRINT READING I (2 cr.)—Reading and interpreting various kinds of blueprints and working drawings. Making simple sketches, two and three dimensional. Lectures 1 hour, Laboratory 3 hours, Total 4 hours per week.

DRFT 072 BASIC BLUEPRINT READING II (2 cr.)—Prerequisite DRFT 071. A continuation of the previous course of blueprint reading with additional work in scaling, dimensions, holes, fillets, radii, title block information and specifications, bill of materials alterations, revision, and procedures. Lecture 1 hour, Laboratory 3 hours, Total 4 hours per week.

DRFT 073 BASIC BLUEPRINT READING III (2 cr.)—Prerequisite DRFT 072. Further practice in the interpretation of blueprints as they are used in industry. Prints will be supplied by industries and plans of operations will be made. Freehand sketching will be introduced as a means of passing on ideas, information and processes. Lectures 1 hour, Laboratory 3 hours, Total 4 hours per week.

DRFT 111 DRAFTING I (2 cr.)—Introduction to the techniques and instruments required for success as a draftsman in industry. Content will include use of instruments, orthographic projection, auxiliary views, lettering, dimensions, tolerance, conventions and symbols, simple descriptive and analytic geometry principles as applied to drafting; preparation of simple drawings, progression to complicated drawings. Lecture 1 hour, Laboratory 3 hours, Total 4 hours per week.

DRFT 112 DRAFTING II (2 cr.)—Prerequisite DRFT 111. New materials introduced will include sections and conventions, fasteners, freehand sketching as required; introduces principles of isometrics; additional drawing skill is developed through more complicated drawings. Lecture 1 hour, Laboratory 3 hours, Total 4 hours per week.

DRFT 113 DRAFTING III (2 cr.)—Prerequisite DRFT 112. Special emphasis on assembly drawings, working from the simple to the complex. Lecture 1 hour, Laboratory 3 hours, Total 4 hours per week.

DRFT 126 INTRODUCTION TO GRAPHIC PRESENTATION (3 cr.)—Basic course in drawing, introduction to the use of instruments, lettering, sketching, and elementary drawing conventions. The importance of neat, legible drawings and the value of visual presentations in technology are discussed. Lectures 2 hours, Laboratory 3 hours, Total 5 hours per week.

DRFT 131 MECHANICAL DRAFTING I (5 cr.)—An introduction to Mechanical Engineering Drawing with heavy emphasis on industrial drafting practices. Course content includes: geometric construction, principles of orthographic projection, sections, theory and application of dimensioning and tolerancing. Lettering practice and technical sketching are also covered. Lectures 2 hours, Laboratory 12 hours, Total 14 hours per week.

DRFT 132 MECHANICAL DRAFTING II (5 cr.)—Prerequisite DRFT 131. Class activities include fasteners, preparation of assembly drawings and

working drawings, shop practices and inspection procedures as they relate to the working drawing. Continued emphasis is placed on lettering skill and free-hand sketching. Lecture 2 hours, Laboratory 12 hours, Total 14 hours per week.

DRFT 133 MECHANICAL DRAFTING III (5 cr.)—Prerequisite DRFT 132. This course is designed to focus the knowledge and skills acquired on practical industrial drawing problems. True position dimensioning, electrical drawings, piping and reproduction methods are discussed. Flat pattern layout, gearing, and design layout drawings are presented with emphasis on communication through graphic language. Lectures 2 hours, Laboratory 12 hours, Total 14 hours per week.

DRFT 171 BLUEPRINT READING I (2 cr.)—This course will include the purpose of blueprints, designing of the product and its production, review and application of basic principles, visualization, orthographic projection, detail of drafting shop process and terminology, assembly drawings, and exploded views. Lecture 1 hours, Laboratory 3 hours, Total 4 hours per week.

DRFT 172 BLUEPRINT READING II (2 cr.)—Prerequisite DRFT 171. This course will include dimensioning, review and application techniques, changes and corrections, classes of fits, tolerances and allowances, sections, and convention in blueprint reading, auxiliary views, pictorial drawings, and simplified drafting procedures and practices. Lecture 1 hour, Laboratory 3 hours, Total 4 hours per week.

DRFT 173 BLUEPRINT READING III (2 cr.)—Prerequisite DRFT 172. Industrial prints will be used in this course. The difference between production drawings or operation sheets and tools drawing will be presented. Assembly drawings as the piece fits into place will be broken down into each detail print required. Lecture 1 hour, Laboratory 3 hours, Total 4 hours per week.

DRFT 211 DRAFTING IV (3 cr.)—Prerequisite DRFT 113. Use of drafting machines, and emphasis is placed on knowledge and skill required in typical industrial drawing. Content is introduced to acquaint the student with electrical and electronic symbols and drawings, piping, complicated gearing drawings, sections, and layout; skill in lettering of all types is developed. Lecture 1 hour, Laboratory 6 hours, Total 7 hours per week.

DRFT 212 DRAFTING V (3 cr.)—Prerequisite DRFT 211. Emphasis on electronic and electromechanical drawings, sheet metal fabrication, radii, fillets, and tolerances. Additional skill is developed in the use of ink in lettering and ruling. Lecture 1 hour, Laboratory 6 hours, Total 7 hours per week.

DRFT 213 DRAFTING VI (3 cr.)—Prerequisite DRFT 212. Emphasis on design drafting in all aspects, and with use of drafting as a means of communication. Lecture 1 hour, Laboratory 6 hours, Total 7 hours per week.

DRFT 256 ELECTRONICS DRAFTING (2 cr.)—Fundamental principles, practices, and methods of presenting electromechanical information through the graphic language. Principles of projection, fastening, materials and finishes, chassis design and fabrication, electronic symbology, diagrammatic drawings, printed circuit drawings, and checking of electronic drawings. Lecture 1 hour, Laboratory 3 hours, Total 4 hours per week.

DRFT 299 SEMINAR AND PROJECT IN DRAFTING AND DESIGN TECHNOLOGY (2 cr.)—A selection and completion of an individual project related to the student's occupational objective and designed to combine theoretical concepts with practical applications by cooperative arrangements with industry. Also includes discussions of professional topics in general and a study of approaches to selection and pursuit of employment and career opportunities in drafting and design technology.

DRAMA

DRAM 106 INTRODUCTION TO THE THEATRE (3 cr.)—The basic principles of theatre. The background of modern drama, play analysis, types of theatrical production, and a comparison of the stage with motion pictures, radio and television as dramatic media. Lectures 3 hours per week.

DRAM 108 HISTORY OF THE THEATRE (3 cr.)—The history of the theatre as an art form in relation to the development of Western culture from ancient times to the present. Lectures 3 hours per week.

DRAM 117 FUNDAMENTALS OF PLAY PRODUCTION (3 cr.)—The materials and techniques of play production with particular reference to the stage, but including a consideration of the methods of dramatic production involved in motion pictures, radio, and television. Lectures 3 hours per week.

ECONOMICS

ECON 060 BASIC AMERICAN ECONOMICS (3 cr.)—A survey of the American economic system designed primarily to familiarize the student entering an occupation with the history, general principles, and basic policies of the American economic systems. Lectures 3 hours per week.

ECON 160 AMERICAN ECONOMICS (3 cr.)—A survey of the history, principles, and policies of the American economic system. Some

comparison with alternative economic system. Lectures 3 hours per week.

ECON 214-215 PRINCIPLES OF ECONOMICS I-II (5 cr.) (4 cr.)—An introductory course covering the structure, organization, and operation of the United States economy. Analysis, problems, and issues relating to organization of business, labor, and government institutions, and economic stability and growth. Measurements of economic activity. Private enterprise, economic growth and stabilization policies, monetary and fiscal policy. International economic relationships, alternative economic systems. Lectures 5 hours per week in ECON 214 and Lectures 4 hours per week in ECON 215.

EDUCATION

EDUC 206 FOUNDATIONS OF EDUCATION (5 cr.)—The aims, organization, and procedures of public school education with the objective of giving students a common integrating background of information and understanding relative to the total problem of public school education. Lectures 5 hours per week.

ELECTRICAL ENGINEERING TECHNOLOGY

ELEC 011-012-013 BASIC ELECTRICITY (4 cr.) (4 cr.) (4 cr.)—This is a three-quarter course which assumes no background in DC or AC theory. Principles of electricity are taught covering resistance, current, and voltage in both DC and AC states. An elementary knowledge of algebra is assumed. The course is designed to lead into the Basic Electronics course ELEC 021, 022, 023. Laboratory experiments will be performed to supplement the classroom work. Lectures 3 hours, Laboratory 3 hours, Total 6 hours per week.

ELEC 021-022-023 BASIC ELECTRONICS (4 cr.) (4 cr.) (4 cr.)—This course builds on the background of the basic electricity course and covers an introduction to vacuum tube and semiconductor principles and circuitry. Lectures 3 hours, Laboratory 3 hours, Total 6 hours per week.

ELEC 114 FUNDAMENTALS OF DIRECT CURRENT (4 cr.)—MATH 111 must have been taken previously or must be taken concurrently. A study of current flow and direct current circuits. The course presents work with magnetic circuits. This course utilizes mathematical tools as they are developed in the mathematics course. Lectures 3 hours, Laboratory 3 hours, Total 6 hours per week.

ELEC 115 FUNDAMENTALS OF ALTERNATING CURRENT (4 cr.)—Prerequisite ELEC 114, MATH 112 must have been taken previously or must be taken concurrently. The study of time varying currents. The student will use complex numbers and vector concepts in dealing with A.C. impedances. Lectures 3 hours, Laboratory 3 hours, Total 6 hours per week.

ELEC 116 CIRCUIT ANALYSIS (4 cr.)—Prerequisites ELEC 115, MATH 113. A course emphasizing A.C. circuit theory and both A.C. and D.C. network theorems. , Course provides a continuation of study of background information needed to analyze networks with both active and passive elements present. Lectures 3 hours, Laboratory 3 hours, Total 6 hours per week.

ELEC 120 INTRODUCTION TO TUBES AND TRANSISTORS (4 cr.)—Prerequisites ELEC 114 and MATH 111 must have been taken previously or must be taken concurrently. A course concerned with how electronic devices work and the characteristics of these devices. Both tube and solid state device characteristics are covered. This course utilizes the mathematical tools as they become available and the ideas of electronic flow and circuit analysis as they are developed in the fundamentals of electricity course. Lectures 3 hours, Laboratory 3 hours, Total 6 hours per week.

ELEC 121 ELECTRONICS (4 cr.)—Theory and application of transistors; transistor construction, germanium characteristics, transistor types, point contact, junction P-N-P, N-P-N, symmetrical; circuit properties; application to electronics. Lectures 3 hours, Laboratory 3 hours, Total 6 hours per week.

ELEC 124 ELECTRONICS I (5 cr.)—Prerequisites ELEC 114 and ELEC 120. A course dealing with special electronic devices and power supplies. Lectures 4 hours, Laboratory 3 hours, Total 7 hours per week.

ELEC 126 AMPLIFIERS (4 cr.)—Prerequisites ELEC 115 and ELEC 124. A continuation of electronic devices, in that many of the devices previously studied are used in forming amplifier circuits. Amplifiers, both transistor and tube types, are covered with emphasis on methods of analysis and design procedures. Lectures 3 hours, Laboratory 3 hours, Total 6 hours per week.

ELEC 127 AMPLIFIERS AND OSCILLATORS (4 cr.)—Study of applied circuits such as clippers, clampers, pulse formers, multi-vibrators, blocking, oscillators, logic circuits, sweep circuits. Lectures 3 hours, Laboratory 3 hours, Total 6 hours per week.

ELEC 227 PULSE AND SWITCHING CIRCUITS (3 cr.)—Prerequisites ELEC 116, ELEC 126, MATH 112. A course dealing with both linear and non-linear wave shaping. This course supplies a base for further study in the areas of computers and automatic controls. Lectures 2 hours, Laboratory 3 hours, Total 5 hours per week.

ELEC 241 COMMUNICATIONS I (4 cr.)—Prerequisites ELEC 116, ELEC 126. An introduction to modulation and power in modulated waves. Topics included are sinusoidal oscillations and oscillators, RF amplifiers and detectors, and AM receivers. Lectures 3 hours, Laboratory 3 hours, Total 6 hours per week.

ELEC 242 COMMUNICATIONS II (4 cr.)—Prerequisite ELEC 241. A study of transmitters and receivers. Topics included are FM receivers, RF power amplification, AM, SSB, and FM transmitters, and an introduction to transmission lines and antennas. Lectures 3 hours, Laboratory 3 hours, Total 6 hours per week.

ELEC 276 INSTRUMENTS AND MEASUREMENTS (4 cr.)—Prerequisite ELEC 116 and ELEC 126. A study of basic circuits used in electronic measurements and application of these circuits in test instruments such as oscilloscopes, vacuum tube voltmeters, and bridges. Further study concerned with the accuracy of measurements, how instruments work, proper use of instruments, and calibration technique. Lectures 3 hours, Laboratory 3 hours, Total 6 hours per week.

ELEC 287 ADVANCED CIRCUITS AND NEW DEVICES (2 cr.)—This is a unique course, since it depends so heavily on the judgment of the teaching staff. It is composed of lectures and demonstrations concerned with the latest developments in electronics. Lectures 2 hours per week.

ELEC 299 SEMINAR AND PROJECT IN ELECTRICAL ENGINEERING TECHNOLOGY (2 cr.)—A selection and completion of an individual project related to the student's occupational objective and designed to combine theoretical concepts with practical applications by cooperative arrangements with industry. Also includes discussions of professional topics in general and a study of approaches to selection and pursuit of employment and career opportunities in electrical and electronics technology.

ENGINEERING TECHNOLOGY

ENGR 009 REVIEW FOR ENGINEERING EXAMS (3 cr.)—Registration laws, procedures, review of engineering fundamentals, preparatory to public examination for the engineering training part of the Professional Engineers examination. Lectures 3 hours per week.

ENGR 100 INTRODUCTION TO ENGINEERING (1 cr.)—Professional fields of engineering; the work of the engineer, requirements of training and character, professional ethics, the division of industrial practice and competition. Pure and simple problems from the various schools of engineering are used with slide-rule applications. Laboratory 3 hours per week.

ENGR 121 ENGINEERING GRAPHICS I (2 cr.)—A basic course in drawing and theories of projection. Multiview drawings, pictorial drawings and sketching, geometrical construction, sectioning, lettering, dimensioning, auxiliary views, revolutions, assembly drawings. Lecture 1 hour, Laboratory 3 hours, Total 4 hours per week.

ENGR 122 ENGINEERING GRAPHICS II (2 cr.)—Prerequisite ENGR 121, MATH 141. Graphical methods used in engineering design, layout and calculation. Properties and types of graphs for engineering and scientific purposes. Lecture 1 hour, Laboratory 3 hours, Total 4 hours per week.

ENGR 123 DESCRIPTIVE GEOMETRY (3 cr.)—Prerequisite ENGR 122. A study of the analysis and graphic presentation of the space relationship of fundamental geometric figures: point, line, plane, curved surfaces, development and vectors. Lectures 2 hours, Laboratory 3 hours, Total 5 hours per week.

ENGR 151 MECHANICS I (STATICS) (3 cr.)—Prerequisite MATH 122 or MATH 112. Subject matter includes principles and applications of free body diagrams for force systems, shear and moment diagrams, deflection of beams by numerical integration, and determination of section properties. Lectures 3 hours per week.

ENGR 152 MECHANICS II (STRENGTH OF MATERIALS) (4 cr.)—Prerequisite ENGR 151, MATH 123 or MATH 113. A discussion of strength of material concepts with laboratory demonstrations and experiments. Subject matter includes stress and strain analysis, both elastic and plastic, with emphasis on elastic analysis of axially loaded members, connectors, beams, and columns. Lectures 3 hours, Laboratory 3 hours, Total 6 hours per week.

ENGR 153 MECHANICS III (3 cr.)—Prerequisite ENGR 152 and MATH 123 or equivalent. Additional topics in the study of rigid body mechanics, including kinetics, kinematics, and advanced strength of materials. Lectures 2 hours, Laboratory 3 hours, Total 5 hours per week.
ENGR 251 ENGINEERING MECHANICS I (STATICS) (4 cr.)—Prerequisites ENGR 123, MATH 143. Corequisites MATH 241 and PHYS 221. Vector treatment of concepts of force, mass, space, and time, gravitational systems of measurements, forces, moments and vector quantities; the analysis of discrete and distributed force systems and their application to bodies in external equilibrium including cranes, trusses, etc.; principles of dry friction; centroids and fluid statics. Lectures 4 hours per week.

ENGR 252 ENGINEERING MECHANICS II (DYNAMICS) (5 cr.)—Prerequisite ENGR 251. Corequisites MATH 242, PHYS 222. Vector treatment of coplanar and three-dimensional kinematics and kinetics

of particles and rigid bodies, including relative motion, mass moments of inertia, Newton's laws, work and energy, impulse and momentum, vibration, and balancing. Lectures 5 hours per week.

ENGR 253 ENGINEERING MECHANICS III (MECHANICS OF SOLIDS) (4 cr.)—Prerequisite ENGR 251. Corequisites MATH 243, PHYS 223. Introductory mechanics of continuous media; concepts of stress and deformation due to longitudinal loads, torsion and bending; plane stress. Lectures 4 hours per week.

ENGLISH

ENGL 001 VERBAL STUDIES LABORATORY I (5 cr.)—An intensive course in the minimum essentials of vocabulary, spelling, grammar, standard usage, and writing skills. Emphasis on words, phrases, and effective sentences. Individual and group instruction. Lectures 5 hours, Laboratory variable.

ENGL 002 VERBAL STUDIES LABORATORY II (5 cr.)—An intensive course in English grammar and composition with major emphasis on exercises in the basic structure of the English language and in the writing of paragraphs and themes. Individual and group instruction. Lectures 5 hours, Laboratory variable.

ENGL 003 VERBAL STUDIES LABORATORY III (5 cr.)—A more advanced course in the study of types of expository writing with weekly exercises based on students' needs. Lectures 5 hours, Laboratory variable.

ENGL 041-042 READING IMPROVEMENT I-II (5 cr.) (5 cr.)— Designed to improve speed and comprehensive capacity of the student in reading. Where special reading problems are discovered, an opportunity for special work will be offered. Lectures 4 hours, Laboratory 3 hours, Total 7 hours per week.

ENGL 046 DEVELOPMENTAL READING (5 cr.)—A basic course for the development of good reading habits and skills with emphasis on improved reading comprehension. Lectures 4 hours, Laboratory 3 hours, Total 7 hours per week.

ENGL 101 COMMUNICATION SKILLS I (3 cr.)—Prerequisite satisfactory score on English Expression portion of American College Test or ENGL 003 or equivalent. An introductory course in using the English language appropriately and precisely. Designed to improve the student's ability to write effectively. Emphasis on vocabulary, spelling, and reading comprehension. Lectures 3 hours per week.

ENGL 102 COMMUNICATION SKILLS II (3 cr.)—Prerequisite ENGL 101. Designed to help students increase their competence in thinking critically, expressing their thoughts clearly, writing effectively, and appreciating the creative activity of others, by considering selected examples of communication in all mediums. Literature serves as both model and subject for students in achieving these goals. Includes basic research methods, outlining, and technical report writing. Lectures 3 hours per week.

ENGL 103 COMMUNICATION SKILLS III (3 cr.)—Prerequisite ENGL 102. This course puts into practice the skills learned in ENGL 101-102. The student will do research, outline, and some creative and technical writing. Lectures 3 hours per week.

ENGL 114-115 ENGLISH COMPOSITION I-II (5 cr.) (4 cr.)—Prerequisite successful completion of 4 units of high school English and a satisfactory score on the English Expression portion of the American College Test or ENGL 003 or equivalent. English as a means of communication and expression. Analysis of style and structure of expository prose and argumentation to increase the student's ability to use the language clearly and effectively. Attention also given to fiction and poetry to provide a foundation for critical examination of literary works. Frequent themes. Lectures 5 hours per week in ENGL 114, Lectures 4 hours per week in ENGL 115.

ENGL 136 SPEECH COMMUNICATIONS (3 cr.)—Prerequisite ENGL 102 or equivalent. Proficiency in oral communication is developed through the learning of the basic forms, uses, and techniques of speech. Emphasis on the practical aspects of speech writing, listening, and oral presentation. Includes advanced basic research techniques and technical report writing. Lectures 2 hours, Laboratory 2 hours, Total 4 hours per week.

ENGL 137 PUBLIC SPEAKING (3 cr.)—Development of skill in speech-making, with emphasis upon expository speaking for an introduction to persuasive speaking. Logical analysis and the use of evidence; organization and phrasing of the speech; development of effective control of voice and action. Lectures 2 hours, Laboratory 3 hours, Total 5 hours per week.

ENGL 138 PERSUASIVE SPEAKING (3 cr.)—Prerequisite ENGL 137. A continuation of ENGL 137 with emphasis upon persuasive speaking. Logical and psychological factors in speech organization and composition; methods of audience analysis; forms of public discussions; discussion groups; the debate; analysis of contemporary speeches. Continued practice in speaking before the class. Lectures 3 hours per week.

ENGL 139 ORAL COMMUNICATION (3 cr.)—The principles and techniques of oral communication in the light of classical and modern rhetorical theory. Analysis of a variety of prose and poetry types for comprehension of the author's content and attitude. Special attention to improvement of vocabulary. Some emphasis on vividness and directness. An interpretation of meaning in a variety of live audience situations. Lectures 3 hours per week.

ENGL 171-172-173 INTRODUCTION TO WORLD LITERATURE I-II-III (4 cr.) (4 cr.) (4 cr.) A first course in a one-year sequence designed to develop an historical survey of world literature including all types and forms; used to complement the sequence of English Composition I, II, through selected examples and analysis, and theme writing; emphasis will be placed on development of more critical judgment and development of taste in selecting and reading good literature; development of values in selecting, appreciating, and analyzing literature. Lectures 4 hours per week.

ENGL 254-255 AMERICAN LITERATURE I-II (3 cr.) (3 cr.)—Prerequisite ENGL 115. The first quarter covers American literature from the beginning to approximately 1870, including the writings of Mark Twain; the second quarter deals with American writers from 1870 to the present. Parallel reading and original critical essays are required. Lectures 3 hours per week.

ENGL 261-262-263 ENGLISH LITERATURE I-II-III (3 cr.) (3 cr.) (3 cr.)—Prerequisite ENGL 115. Historical survey of English literature, to include the novel, tragedy, drama, comedy, and poetry. Emphasis upon development of critical judgment and taste in reading superior literature with appreciation, and in writing about it. Lectures 3 hours per week.

ENGL 280 BUSINESS ENGLISH (3 cr.)—Prerequisites ENGL 102 and 136. An intensive study of the qualities and techniques required in the preparation of business correspondence, reports, articles, and memoranda. A practical course in the reading and writing of business-related materials with emphasis on comprehension, analysis, and organization of ideas in a logical pattern. Lectures 3 hours per week.

FRENCH

FREN 104-105 ELEMENTARY FRENCH I-II (5 cr.) (4 cr.)—Introductory training in the speaking, understanding, reading, and writing of French. Lectures 4 hours, Laboratory 3 hours, Total 7 hours per week in FREN 104; Lectures 3 hours, Laboratory 3 hours, Total 6 hours per week in FREN 105.

FREN 204-205 INTERMEDIATE FRENCH III-IV (5 cr.) (4 cr.)—Prerequisite FREN 105 or successful completion of 2 years of high school French. Continued study of the language to develop further facility in understanding and speaking idiomatic French. Carefully selected examples of French literature are read and reviewed. Lectures 4 hours, Laboratory 3 hours, Total 7 hours per week in FREN 204; Lectures 3 hours, Laboratory 3 hours, Total 6 hours per week in FREN 205.

FREN 231-232-233 INTRODUCTION TO FRENCH CIVILIZATION AND LITERATURE I-II-III (3 cr.) (3 cr.) (3 cr.)—Prerequisite FREN 205 or equivalent. An introduction to the background of French life and culture and to the outstanding contributions of France to world civilization from medieval times to the present. Reading is in the original French and French is used in the classroom. Lectures 3 hours per week.

GENERAL

GENL 100 ORIENTATION (1 cr.) This course, required of all beginning college students, is designed essentially as an instrument of group guidance and deals with such problems as adjustment to college, purposes and functions of the college planning for the future, and making the most of the college years and what the college has to offer. Particular emphasis is placed on experiences designed to improve study habits and skills such as reading, listening, and library activities. Lectures 1 hour, Laboratory or seminar 1 hour, Total of 2 hours per week.

GOVERNMENT

GOVT 080 BASIC AMERICAN GOVERNMENT (3 cr.)—A survey of the American governmental system designed primarily to familiarize the student with the general principles and basic policies of our constitutional system at the local, state, and national levels. Lectures 3 hours per week.

GOVT 180 AMERICAN CONSTITUTIONAL GOVERNMENT (3 cr.)—An introductory course in American government, including fundamental concepts and principles of our constitutional system at the national, state, and local levels. Lectures 3 hours per week.

GOVT 284-285 UNITED STATES GOVERNMENT I-II (5 cr.) (4 cr.)—Elements of political science; powers, organization, and functions of the legislative, executive and judicial branches of the national, state, and local governments in the United States; Democracy, federalism, the Constitution, and civil liberties. Lectures 5 hours per week in GOVT 284 and Lectures 4 hours per week in GOVT 285.

GOVT 296 SEMINAR IN PUBLIC AFFAIRS (2 cr.)—Prerequisites GOVT 180 or equivalent. Seminar in current public affairs concerning domestic and foreign policy of the United States. Purpose is to develop the ability to analyze and critically evaluate, present problems as they relate to the functioning of the United States. Lecures and Seminars 2 hours per week.

HEALTH

HLTH 100 CONCEPTS OF HEALTH AND ILLNESS (2 cr.)—Emphasizes the maintenance of health and prevention of illness at the personal and community level. It is designed to acquaint students with the causes of illness, the body's response to illness and some methods of diagnosis, treatment and prevention of illness. Some principles of care common to all patients will be introduced. Lectures 2 hours per week.

HLTH 110 PERSONAL AND COMMUNITY HEALTH (2 cr.)—An introductory course in personal hygiene with emphasis upon social principles. Lectures 2 hours per week.

HLTH 154 FIRST AID I (2 cr.)—A standard first aid course with the principles and techniques of safety and first aid. Lecture 1 hour, Laboratory 2 hours, Total 3 hours per week.

HLTH 155 FIRST AID II (2 cr.)—Prerequisite HLTH 154. An advanced first aid course on the principles and techniques of safety and first aid. Safety projects and problems. Lecture 1 hour, Laboratory 2 hours, Total 3 hours per week.

HLTH 226 ELEMENTS OF NUTRITION (3 cr.)—Elements of nutrition and practice influencing the ability of the individual and the family to secure and maintain good nutritional status. Lectures 3 hours per week.

HISTORY

HIST 101-102-103 HISTORY OF WESTERN CIVILIZATION I-II-III (3 cr.) (3 cr.) (3 cr.) The development of western civilization from ancient times to the present. The last two quarters deal with a survey of the period since the close of the Reformation. Lectures 3 hours per week.

HIST 111-112-113 AMERICAN HISTORY I-II-III (3 cr.) (3 cr.) (3 cr.)—A survey of United States history from its beginning in early colonial times to the present. Lectures 3 hours per week.

HIST 221-222 AMERICAN ECONOMIC HISTORY I-II (3 cr.) (3 cr.)—First quarter deals with economic history of the 19th and early 20th centuries in the United States. The second quarter deals with the remainder of the 20th century with special emphasis on the 1920's and 1930's. Lectures 3 hours per week.

HIST 251-252-253 HISTORY OF MODERN EUROPE I-II-III (3 cr.) (3 cr.) (3 cr.)— The political, social, and economic developments in Europe from 1500 to the present. Lectures 3 hours per week.

HUMANITIES

HUMN 204-205 SURVEY OF WESTERN CULTURE I-II (5 cr.) (4 cr.)—A survey of the Western world which correlates the art, music and literature of the following periods: Greek and Roman, Middle Ages, Renaissance, Elizabethan, Neo-Classical, and Modern. Lectures 5 hours per week in GOVT 204; Lectures 4 hours per week in GOVT 205. 5 hours per week; 205: Lectures 4 hours per week.

INDUSTRIAL TECHNOLOGY

INDT 111-112 MATERIALS AND PROCESSES OF INDUSTRY I-II (3 cr.) (3 cr.)—The objective of this course is to familiarize the student with the materials and processes of modern industry from the drafting and design point of view. The physical properties of industrial materials such as ferrous, non-ferrous metals, woods, plastics and clay products will be studied in terms of design application, processing and fabricating methods. Students will be introduced to cutting, cold forming, hot working, welding, foundry and chipless manufacturing processes which are widely employed in contemporary industry. In addition, the science of precision measurement as applied to inspection practices will be studied. Lectures 3 hours per week.

INDT 141 METHODS OF MANUFACTURE I (3 cr.)—An introduction to an understanding of the processes and equipment used in the manufacture of metal parts, plastic materials; information includes design cost and material and tool forms involved in selecting a method of manufacture. Lectures 3 hours per week.

INDT 142 METHODS OF MANUFACTURE II (3 cr.)—Prerequisite INDT 141. Emphasis on the understanding of production techniques, production tools; includes discussions of lathes, millers, shapers, jig borer; machine controls and inspection techniques. Lectures 3 hours per week.

INDT 176 PLANT SAFETY (2 cr.)—Principles and practices of accident prevention, analysis of accident causes, mechanical safeguards, fire prevention, housekeeping, occupational diseases, first aid, safety organization, protection equipment and general safety principles and promotion of same. Lectures 2 hours per week.

INDT 226 PLANT LAYOUT (3 cr.)—Arrangement and layout of physical facilities for maximum efficiency of production, including stock ar-

rangement, machines, layout of aisles, use of space and techniques of model construction. Lectures 2 hours, Laboratory 2 hours, Total of 4 hours per week.

INDT 270 INDUSTRIAL MANAGEMENT (3 cr.)—Detailed study of organizational structure; operational, financial, accounting and marketing activities; management responsibilities; planning, control, personnel, safety, labor relationships, and factors essential to effective management. Lectures 3 hours per week.

INDT 299 SEMINAR AND PROJECT IN INDUSTRIAL TECHNOLOGY (2 cr.)—A selection and completion of an individual project related to the student's occupational objective and designed to combine theoretical concepts with practical applications by cooperative arrangements with industry. Also includes discussions of professional topics in general and a study of approaches to selection and pursuit of employment and career opportunities in industrial technology.

MATHEMATICS

MATH 001-002-003 DEVELOPMENTAL MATHEMATICS I-II-III (5 cr.) (5 cr.) (5 cr.)—This practical course bridges the gap between a weak mathematical foundation and the knowledge necessary for the study of advanced mathematical courses in technical and professional programs. It presupposes little or poor background of secondary school mathematics. Arithmetic, algebra, and geometry will be covered. Lectures 5 hours, Laboratory variable.

MATH 006 FOUNDATIONS OF MATHEMATICS (2 cr.)—A continuing course in foundations of mathematics using programmed learning materials. Available in this continuing series are algebra, plane geometry, solid geometry, and trigonometry. Certificate of completion given at the successful conclusion of each programmed course. Lecture 1 hour, Individual Learning Laboratory 2 hours, Total 3 hours per week.

MATH 016 HEALTH SCIENCE MATHEMATICS (2 cr.)—A review of arithmetic and algebra with special emphasis on calculations involving dosages of drugs and concentration of solutions. Lectures 2 hours per week.

MATH 031-032 BASIC ALGEBRA I-II (5 cr.) (5 cr.)—Fundamentals of algebraic calculations for students who want a basic review of the principles of algebra. The first course (MATH 031) reviews introductory algebra and the second course (MATH 032) reviews the second year of high school algebra. The course will provide the necessary proficiency in algebra required for entry into an associate degree program. Lectures 5 hours per week.

MATH 036 BASIC PLANE GEOMETRY (5 cr.)—Fundamentals of plane geometry for students who want an introductory review of plane geometry. The course will provide the necessary proficiency in plane geometry required for entry in an associate degree program. Lectures 5 hours per week.

MATH 038 BASIC TRIGONOMETRY (5 cr.)—Fundamentals of trigonometry for students who want an introductory review of trigonometry. Lectures 5 hours per week.

MATH 111 TECHNICAL MATHEMATICS I (3 cr.)—Prerequisite satisfactory mathematics score on the ACT test and one unit of high school algebra and one unit of geometry or MATH 003 or equivalent. Designed for the technical student. Slide rule and review of geometry, basic algebra and analytic geometry of the straight line, advanced algebra and logarithms. Lectures 3 hours per week.

MATH 112 TECHNICAL MATHEMATICS II (3 cr.)—Prerequisite MATH 111. Curve sketching, non-linear empirical equations, numerical trigonometry of the right triangle, and introduction to analytical trigonometry. Lectures 3 hours per week.

MATH 113 TECHNICAL MATHEMATICS III (3 cr.)—Prerequisite MATH 112. Oblique triangles and applications of numerical trigonometry, analytical trigonometry, introduction to calculus. The intention of the calculus at this point is to introduce those techniques of calculus which will be useful to the engineering student in the pursuit of his major subjects. Lectures 3 hours per week.

MATH 141-142-143 INTRODUCTORY MATHEMATICAL ANALYSIS I-II-III (5 cr.) (5 cr.) (5 cr.)—Prerequisite satisfactory mathematics score on the ACT test and four units of high school mathematics including two units of algebra, one unit of geometry, and one-half unit of trigonometry, or MATH 036 and MATH 038 or equivalent. A modern unified course in algebra, trigonometry, analytic geometry, and calculus designed primarily for engineering and science students. Lectures 5 hours per week.

MATH 151-152 BUSINESS MATHEMATICS I-II (3 cr.) (3 cr.)—Prerequisite a strong background in the basic arithmetic operation or MATH 001 or equivalent. Instruction, review and drill in percentage, cash and trade discounts, markup, payroll, sales, property and other taxes, simple and compound interest, bank discounts, interest, investments and annuities. Lectures 3 hours per week.

MATH 164-165 COLLEGE MATHEMATICS I-II (5 cr.) (4 cr.)—Prerequisite a satisfactory mathematics score on the ACT test and three units of high school mathematics including two units of algebra and one unit of geometry or MATH 032 and MATH 036 or equivalent. A modern

unified course in algebra, trigonometry, analytic geometry, and calculus for students other than those in engineering and science. Lectures 5 hours per week in MATH 164 and Lectures 4 hours per week in MATH 165.

MATH 211 ADVANCED TECHNICAL MATHEMATICS I (3 cr.) Prerequisite MATH 113. Calculus. The derivative and its applications, derivatives of trigonometric functions, integration of basic forms, the definite integral, application of the integral, integration techniques. Lectures 3 hours per week.

MATH 241-242-243 ADVANCED MATHEMATICAL ANALYSIS I-II-III (4 cr.) (4 cr.) (4 cr.)—(For students in Engineering and Science Curricula). Prerequisite MATH 143. A modern course including vectors, matrices, partial differentiation, multiple integrals, infinite series, and differential equations. Lectures 4 hours per week.

MATH 264-265 ADVANCED COLLEGE MATHEMATICS I-II (5 cr.) (4 cr.) —Prerequisite MATH 163 or MATH 165 or equivalent. A continuation of the unified course in algebra, trigonometry, analytic geometry and calculus for students other than those in engineering and science. Lectures 5 hours per week in MATH 264 and Lectures 4 hours per week in MATH 265.

MECHANICAL ENGINEERING TECHNOLOGY

MECH 020 MACHINE SHOP PRACTICE (2 cr.)—An introductory exploration of machine shop operations with practice on the various basic machines. Laboratory 6 hours per week.

MECH 021 BASIC MACHINE SHOP OPERATIONS I (9 cr.)—Instruction in bench work, lathe operations, lathe cutting tools, methods of locating centers, drilling and reaming centers, and safety in use of machines. Laboratory work in layout and measurement, bench work, lathe work, assembling, sawing, threading, grinding, polishing, and buffing. Lectures 5 hours, Laboratory 15 hours, Total 20 hours per week.

MECH 022 BASIC MACHINE SHOP OPERATIONS II (9 cr.)—Prerequisite MECH 021. Instruction in chipping, filing, scraping, drill press, reamers, taps, lathe work, soldering, brazing, babbitting and hand forging. Laboratory work includes layout and measurement, bench work, lathe work, assembling, shaper operation, settling welding, horizontal milling machine, grinding, power sawing, polishing and buffing. Lectures 5 hours, Laboratory 15 hours, Total 20 hours per week.

MECH 023 BASIC MACHINE SHOP OPERATIONS III (9 cr.)—Prerequisite MECH 023. Instruction on shaper, milling machines, index head

and indexing, electric welding, spur gears, helical gears, worm and worm gear, and grinding machines. Laboratory work includes layout and measurement, bench operations, lathe operation, assembling, shaper operation, electric welding, milling machine operation, grinding, surface hardening and polishing and buffing. Lectures 5 hours, Laboratory 15 hours, Total 20 hours per week.

MECH 104-105 TECHNOLOGY OF METALS I-II (4 cr.) (4 cr.)—Introduction of foundry processes, melting, casting methods, heat treatment of steel, hot working metal, powdered metallurgy, electronforming and casting processes. Lectures 3 hours, Laboratory 3 hours, Total 6 hours per week.

MECH 114 MECHANICAL ENGINEERING DRAFTING I (2 cr.)—Prerequisite DRFT 126. A continuation of topics introduced in DRFT 126, plus threads and fasteners, sectioning, conventional representation, working drawings and some specialized drafting areas. Provides additional understanding of drafting problems and skills and techniques that are essential to the work of draftsmen. The student is given work dealing with gears, cams, jigs, and fixtures in preparation for the second year courses. Lecture 1 hour, Laboratory 3 hours, Total 4 hours per week.

MECH 115 MECHANICAL ENGINEERING DRAFTING II (2 cr.)—Prerequisite MECH 114. The student is given more advanced problems (including the principles of descriptive geometry) and is encouraged to analyze the problems, collect data, and make mathematical calculations, complete drawings, and check out work. Lecture 1 hour, Laboratory 3 hours, Total 4 hours per week.

MECH 117 MACHINE TOOL DESIGN (3 cr.)—This course includes tool drafting, standards, tolerances, dimensions, checking catalogues, manufacturing processes, primary and secondary operations. Lectures 3 hours per week.

MECH 118 TOOL DESIGN (3 cr.)—A basic course in design and layout of cutting tools, stamping tools, punches, gages, dies, blanking and forming tools, notching tools, progressive dies, embossing dies, instruction in use and application of these tools. Lecture 1 hour, Laboratory 5 hours, Total 6 hours per week.

MECH 119 JIG AND FIXTURE DESIGN (3 cr.)—Basic fundamentals of the construction and design of various types of jigs and fixtures, including milling, reaming, tapping, and drilling fixtures. Preparation of complete working drawings from layouts, for interchangeable manufacture; computation of fits; limit dimensions; tolerance; tool drawing principles and methods; fundamentals of cutting tools and gauges. Lectures 2 hours, Laboratory 3 hours, Total 5 hours per week.

MECH 131 MACHINE LABORATORY I (2 cr.)—Fundamental machine operations of drilling, reaming, turning between centers chuck work, thread chasing, shaper, layout, finishing; emphasis will be placed on cutting speeds, tool care, tool grinding; surface grinder, milling machine operations and tools will be included. Lecture 1 hour, Laboratory 3 hours; Total 4 hours per week.

MECH 132 MACHINE LABORATORY II (2 cr.)—A continuation of Machine Lab I with greater emphasis on practical and industrial applications and set-up will be included; inspection tools, gauges, tapers, gear cutting, square threads and fits will also be included. Lecture 1 hour, Laboratory 3 hours, Total 4 hours per week.

MECH 133 MACHINE LABORATORY III (2 cr.)—A seminar course in which the student will combine the knowledge and skills in all machining, tool, jig and machine design courses to build a simple machine and make the necessary tools for fabrication. Lecture 1 hour, Laboratory 3 hours, Total 4 hours per week.

MECH 144 STRENGTH OF MATERIALS I (3 cr.)—Prerequisite ENGR 151. A study of simple stresses (tension, compression and shear) properties of materials including biaxial and thermal stresses, riveted and welded joints, thin walled cylinders, center of gravity centroids, and moments of inertia. Lectures 3 hours per week.

MECH 145 STRENGTH OF MATERIALS II (4 cr.)—Prerequisite MECH 144. Shear forces and bending moments in beams, tension, combined stresses, and columns. Laboratory tests using standard testing machines are conducted in accordance with ASTM testing procedures. Included are shear, compression, tension, torsion, bending and hardness tests on various metals and other materials. Lectures 3 hours, Laboratory 3 hours, Total 6 hours per week.

MECH 214-215 MECHANICAL DESIGN I-II (4 cr.) (4 cr.)—Prerequisite MATH 113, ENGR 152. Application of the principles of mechanics to the analysis and design of tools and machine elements, including the factors that influence the selection of materials used in mechanical design. Lecture 3 hours, Laboratory 3 hours, Total 6 hours per week.

MECH 218 JIGS AND FIXTURE DESIGN (3 cr.)—Designed to give the student a thorough knowledge of the principles, practices, tools, and commercial standards of jig and fixture design. Through lectures, visual aids, and individual project and design work, the student becomes well acquainted with the many types of jigs and fixtures and their design. Lectures 2 hours, Laboratory 3 hours, Total 5 hours per week.

NATURAL SCIENCE

NASC 100 SURVEY OF SCIENCE (4 cr.)—A general survey, course designed to familiarize the student with the basic principles of biological and physical sciences. Lectures 3 hours, Laboratory 2 hours, Total 5 hours per week.

NASC 126 SCIENCE IN INDUSTRY (3 cr.)—A course designed to provide a background in the physical sciences for the draftsman and other industrial workers. A study of the laws and principles of physics, chemistry, and other fields of science with consideration to their relationship to industrial processes, products, and methods will be undertaken. Lectures 2 hours, Laboratory 2 hours, Total 4 hours per week.

PHYSICAL EDUCATION

PHED 101-102-103 PHYSICAL EDUCATION I-II-III (1 cr.) (1 cr.) (1 cr.)—An introductory study of recreational activities that will have value for the individual in adult life in developing physical skills for more effective use of leisure time. The development of skills and methods in archery, badminton, bowling, golf, tennis and volleyball are stressed. Lecture 1 hour, Clinic 1 hour, Total 2 hours per week.

PHED 111 TEAM SPORTS I (1 cr.)—The skills and techniques of volleyball and basketball. Lecture 1 hour, Clinic 1 hour, Total 2 hours per week.

PHED 112 TEAM SPORTS II (1 cr.)—The theory and practice of soccer and softball. Lecture 1 hour, Clinic 1 hour, Total 2 hours per week.

PHED 121 DUAL SPORTS I (1 cr.)—An introduction to dual sports such as table tennis, horseshoes, golf, and tennis. Lecture 1 hour, Clinic 1 hour, Total 2 hours per week.

PHED 246 RULES AND OFFICIATING (2 cr.)—Study of rules and officiating techniques of selected sports. Supervised practice in officiating. Lecture 1 hour, Clinic 1 hour, Total 2 hours per week.

PHYSICS

PHYS 006 BASIC PHYSICS (4 cr.)—A foundations course in general physics designed to develop a basic understanding of physics. Lectures 3 hours, Laboratory 3 hours, Total 6 hours per week.

PHYS 111-112-113 TECHNICAL PHYSICS I-II-III (4 cr.) (4 cr.) (4 cr.)—Prerequisite: one year of high school algebra. Precision measurement, properties of matter, hydrostatics and hydraulics are studied first. Then force and motion and Newtonian mechanics. Vectors and graphic solutions are followed by a study of statics. Then dynamics,

followed by rotary motion. A detailed treatment of heat and thermodynamics, with special emphasis being placed on heat engines. There is an elementary treatment of sound and acoustics. Further development of the theory of wave motion leads into the study of light and optics. A rather extensive treatment of magnetism and electricity follows, with emphasis on DC and AC circuits and machines. An introduction to basic electronics follows, and the course closes with a brief treatment of nuclear energy for industrial purposes. Lectures 3 hours, Laboratory 3 hours, Total 6 hours per week.

PHYS 124-125 GENERAL PHYSICS I-II (6 cr.) (6 cr.)—Prerequisite or corequisite: MATH 164 or equivalent. General freshman physics, Fundamentals and principles of physics including mechanics, heat, sound, electricity, and light. Lectures 5 hours, Laboratory 2 hours, Total 7 hours per week.

PHYS 224-225 COLLEGE PHYSICS I-II (6 cr.) (6 cr.)—Prerequisite: MATH 143 and Corequisite MATH 241 or equivalent. General college physics for students of engineering and the mathematical sciences. Lectures 5 hours, Laboratory 2 hours, Total 7 hours per week in PHYS 224 and Lectures 4 hours, Laboratory 4 hours, Total 8 hours per week in PHYS 225.

PSYCHOLOGY

PSYC 010 BASIC APPLIED PSYCHOLOGY (3 cr.)—A survey of the basic principles of psychology as applied to everyday problems of American living. Designed to familiarize the student entering an occupation with the attitudes and habits of successful citizens. Lectures 3 hours per week.

PSYC 119 PSYCHOLOGY OF PERSONALITY (3 cr.)—Introduction to the psychology of self-understanding and the attainment of personal efficiency. Lectures 3 hours per week.

PSYC 128 HUMAN RELATIONS (3 cr.)—Introduction to the study of human personality and its reaction upon other personalities. The application of psychology to problems in industry and private life. Some introduction to such matters as selection, training and placement of employees. Lectures 3 hours per week.

PSYC 204-205 GENERAL PSYCHOLOGY I-II (5 cr.) (4 cr.)—The principles of behavior with a relating of experimental data to practical problems: the measurement of ability, sensory and perceptive processes, organic basis of behavior, hereditary, maturation, learning and thinking, motivation, emotion, personality and social factors in behavior. Lectures 5 hours per week in MATH 204; Lectures 4 hours per week in MATH 205.

PSYC 246 EDUCATIONAL PSYCHOLOGY (5 cr.)—Prerequisite PSYC 202 or equivalent. Human behavior and learning treated in the context of educational processes. The nature of various mental characteristics (intelligence, interest, knowledge, etc.) is examined, with special consideration given to their measurement and appraisal and their significance for educational goals. Lectures 5 hours per week.

SECRETARIAL SCIENCE

SECR 111 TYPEWRITING I (3 cr.)—Introduction to keyboard with emphasis on good technique and machine mastery; letter format and styles; tabulation and centering; manuscript typing. Electric typewriters are used for training. Lecture 1 hour, Laboratory 4 hours, Total 5 hours per week.

SECR 112 TYPEWRITING II (3 cr.)—Prerequisite SECR 111 or placement test. Continuation of skill building with increased emphasis on standards required to meet job requirement in production typing. Lecture 1 hour, Laboratory 4 hours, Total 5 hours per week.

SECR 113 TYPEWRITING III (3 cr.)—Prerequisite SECR 112 or placement test. An advanced course in skill development with high standards required to meet job requirements in production typing. Lecture 1 hour, Laboratory 4 hours, Total 5 hours per week.

SECR 121 SHORTHAND I (4 cr.)—ENGL 101 must have been taken previously or must be taken concurrently. Presentation of shorthand principles in Gregg Diamond Jubilee Series with emphasis on basic reading and writing skills, emphasizing associated vocabulary and grammar. Lectures 3 hours, Laboratory 2 hours, Total 5 hours per week.

SECR 122 SHORTHAND II (4 cr.)—Prerequisite SECR 121 or placement test. Reinforcement of shorthand principles, further development of general business vocabularies and English usage. General business dictation. Lectures 3 hours, Laboratory 2 hours, Total 5 hours per week.

SECR 123 SHORTHAND III (4 cr.)—Prerequisite SECR 122 or placement test. Increased speed in general business dictation. Introduction of specialized business dictation with emphasis on vocabularies. Lectures 3 hours, Laboratory 2 hours, Total 5 hours per week.

SECR 136 FILING AND RECORDS MANAGEMENT (2 cr.)—A comprehensive course covering indexing principles, filing procedures and techniques as applied to basic systems of filing; establishment of filing systems; selection of equipment and supplies; survey of systems using electronics and microfilm; solution of records management

problems. Lecture 1 hour, Laboratory 2 hours, Total 3 hours per week.

SECR 156 PERSONAL DEVELOPMENT (3 cr.)—A course designed to develop the personality, appearance, and values necessary to make a favorable impression on the job. Lectures 3 hours per week.

SECR 216 EXECUTIVE TYPING (2 cr.)—Prerequisite SECR 113 or placement test. Introduction to proportional-spacing typing with emphasis on quality work in letters, statistical materials, and justified copy. Lecture 1 hour, Laboratory 2 hours, Total 3 hours per week.

SECR 217 TYPEWRITING SKILL BUILDING (2 cr.)—Prerequisite SECR 113. Further development of speed and accuracy on production typing with emphasis on employment standards. Preparation for employers' secretarial placement examinations. Lecture 1 hour, Laboratory 2 hours, Total 3 hours per week.

SECR 221 SHORTHAND TRANSCRIPTION I (3 cr.)—Prerequisite SECR 216 (or concurrent enrollment). Rapid review of fundamental principles of Gregg Shorthand, Diamond Jubilee Series, development of vocabulary and phrases. Speed building on general business dictation and transcription. Lecture 1 hour, Laboratory 4 hours, Total 5 hours per week.

SECR 222 SHORTHAND TRANSCRIPTION II (3 cr.)—Prerequisite SECR 221 or placement test. Continuation of speed building with emphasis on particular areas of general business, developing special vocabularies, phrases, and shortcuts. Emphasis on spelling, grammar, and other transcription skills. Lecture 1 hour, Laboratory 4 hours, Total 5 hours per week.

SECR 223 SHORTHAND TRANSCRIPTION (GENERAL) (3 cr.)—Prerequisite SECR 222 or placement test. Speed building in typical business dictation with a high degree of speed with accuracy in transcription from shorthand notes. Preparation for employee's secretarial placement examinations. Lecture 1 hour, Laboratory 4 hours, Total 5 hours per week.

SECR 241 SECRETARIAL PROCEDURES I (3 cr.)—Corequisite SECR 216. Development of skills in operation of stencil and spirit duplicating machines. Preparation of copy for reproduction by offset, stencil, and spirit process. Criteria for selecting a duplicating process. In-depth study of type styles, paper, typewriter ribbons, and carbon paper. Lectures 2 hours, Laboratory 2 hours, Total 4 hours per week.

SECR 242 SECRETARIAL PROCEDURES II (3 cr.)—Prerequisite SECR 241. Emphasis on the secretary's routine office responsibilities, including mail handling, communications services, telephone techniques, and

the use of reference materials. Emphasis is placed on application of skills gained in typewriting and shorthand. Lectures 2 hours, Laboratory 2 hours, Total 4 hours per week.

SECR 243 SECRETARIAL PROCEDURES III (3 cr.)—Prerequisite SECR 242. Continued emphasis on the secretary's office responsibilities, including handling of banking transactions, maintaining records on securities transactions, travel arrangements, planning of office layouts, and personnel policies. Textbook instruction is supplemented by actual on-the-job experience in solving practical problems. Lectures 2 hours, Laboratory 2 hours, Total 4 hours per week.

SECR 266 MACHINE TRANSCRIPTION (3 cr.)—Prerequisite SECR 216. Introduction to machine transcription, incorporating good listening techniques, grammar, punctuation, and correct business English. Emphasis is placed on mailability of copy with good production rates. Lectures 2 hours, Laboratory 2 hours, Total 4 hours per week.

SECR 299 SEMINAR AND PROJECT IN SECRETARIAL SCIENCE (2 cr.)—A selection and completion of an individual project related to the student's occupational objective and designed to combine theoretical concepts with practical applications by cooperative arrangements with industry and business offices. Also includes discussions of professional topics in general and a study of approaches to selection and pursuit of employment and career opportunities in secretarial science.

SOCIAL SCIENCES

SOSC 161-162-163 AMERICAN CIVILIZATION I-II-III (3 cr.) (3 cr.) (3 cr.)—An analysis of the factors involved in the development of the American society and American culture. Course materials will be presented in an integrated pattern to develop an understanding of American history, American government, American economics, and man's role in society. Lectures 3 hours per week.

SOSC 180 PROBLEMS OF MAN IN THE MODERN WORLD (3 cr.)—Survey of contemporary social, political, and economic problems connected with industrialization, urbanization, the role of government, national and international tensions. Lectures 3 hours per week.

SOCIOLOGY

SOCI 204-205 SOCIOLOGY I-II (5 cr.) (4 cr.)—The fundamental concepts and the general principles of sociology; social institutions, population study, human ecology and community study, culture, human na-

ture and personality, social interaction and stratification, and social problems. Lectures 5 hours per week in SOCI 204; Lectures 4 hours per week in SOCI 205.

SOCI 106 GENERAL SOCIOLOGY (3 cr.)—An introduction to the study of various forms of human association, their structure, processes and products in terms of culture systems, human nature and personality. Lectures 3 hours per week.