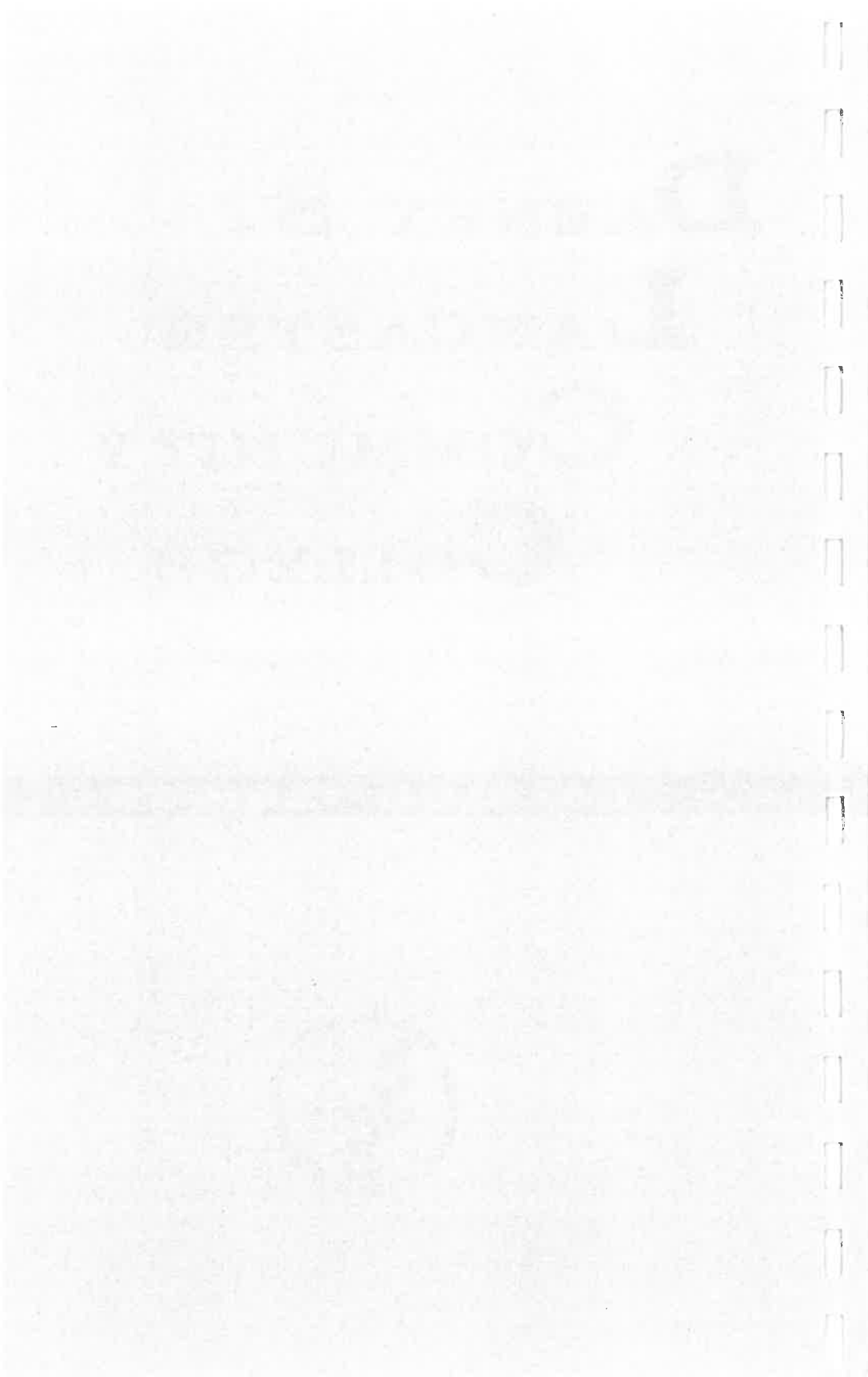


**D**ABNEY S.  
**L**ANCASTER  
**C**OMMUNITY  
**C**OLLEGE

**CATALOG 1968-69**





**CATALOG**

**DABNEY S.  
LANCASTER  
COMMUNITY  
COLLEGE**

**CLIFTON FORGE, VIRGINIA 24422**



**1968-69**

# Contents

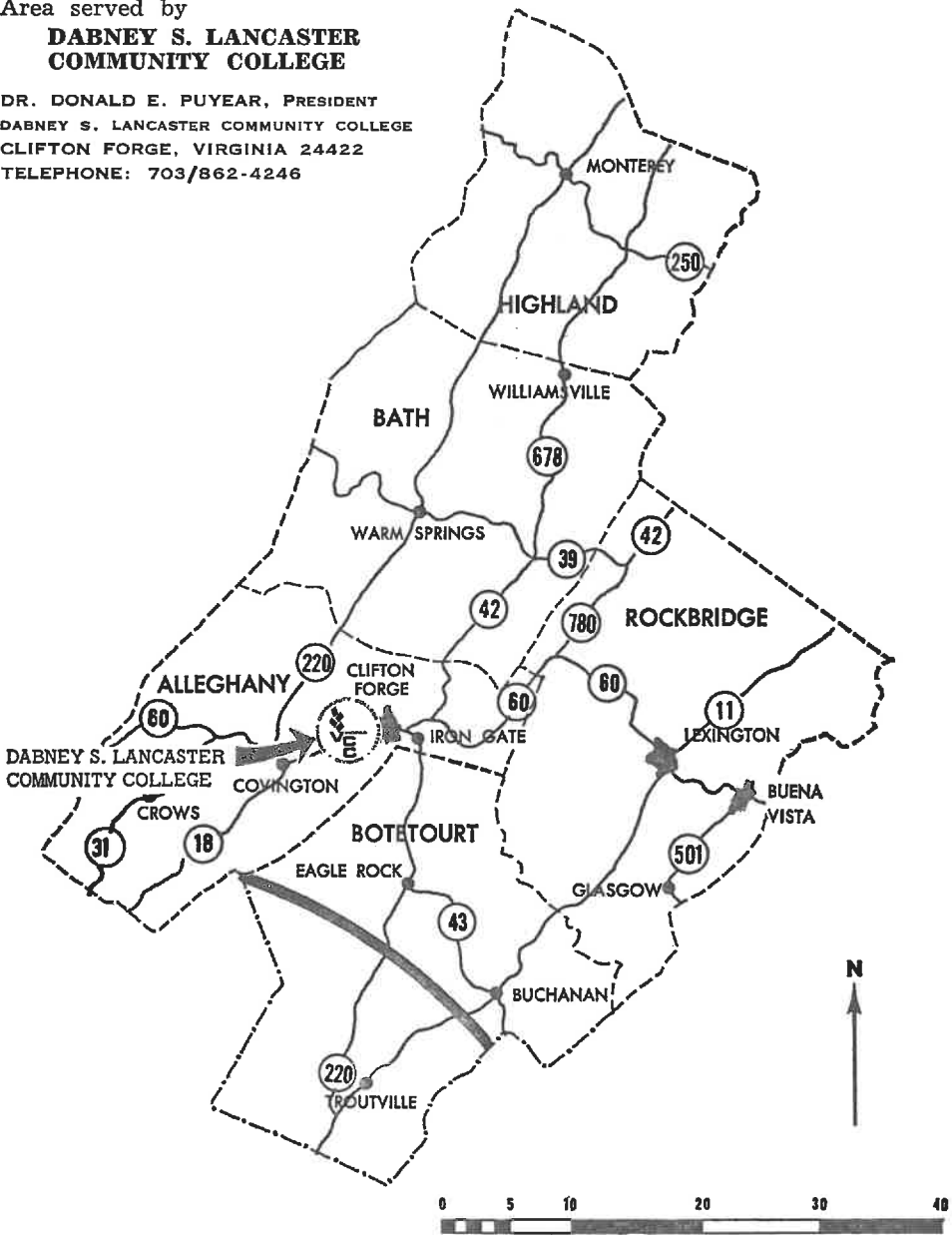
<b>College Calendar</b> .....	5
<b>Part I General Information</b> .....	7
Faculty .....	8
Location and Facilities .....	11
History .....	11
Purpose .....	11
Recognition .....	13
<b>Part II Administrative Information</b> .....	15
Admission Requirements .....	15
Classification of Students .....	18
Expenses .....	19
Credits .....	20
Grading System .....	20
Degrees, Diplomas and Certificates .....	21
Graduation Requirements .....	21
Academic Regulations .....	22
<b>Part III Student Services</b> .....	25
Counseling .....	25
Testing .....	25
Orientation .....	25
Financial Aids .....	26
Placement Service .....	27
Snack Bar .....	27
Parking .....	28
Student Activities .....	28
Student Handbook .....	28
Student Conduct .....	28
<b>Part IV Curriculums of Study</b> .....	31
Minimum Requirements for Associate Degrees .....	33
<b>Associate in Arts Degree Curriculum</b>	
Liberal Arts .....	34
<b>Associate in Science Degree Curriculums</b>	
Business Administration .....	36
Science .....	38
Pre-Teacher Education .....	40
Pre-Engineering .....	42

<b>Associate in Applied Science Degree Curriculums</b>	
Business Management .....	44
Drafting and Design Technology .....	46
Electronics Technology .....	48
<b>Certificate Curriculums</b>	
Mechanical Drafting .....	50
Steno-Clerical Arts .....	52
<b>Other Programs</b>	
Co-operative Nursing Program .....	53
Preparatory Foundations Program .....	54
Special Training Programs .....	55
Community Service Programs .....	55
<b>Part V Description of Courses</b> .....	56
Arts and Crafts .....	57
Biology .....	57
Business Administration .....	57
Chemistry .....	59
Data Processing Technology .....	60
Drafting and Design .....	60
Drama .....	62
Economics .....	63
Electrical Engineering Technology .....	63
Engineering Technology .....	65
English .....	66
French .....	68
General .....	68
Government .....	68
Health .....	69
History .....	69
Industrial Technology .....	70
Mathematics .....	70
Mechanical Engineering Technology .....	72
Natural Science .....	72
Physical Education .....	73
Physics .....	73
Psychology .....	73
Secretarial Science .....	74
Social Sciences .....	75
Sociology .....	75

Area served by

**DABNEY S. LANCASTER  
COMMUNITY COLLEGE**

DR. DONALD E. PUYEAR, PRESIDENT  
DABNEY S. LANCASTER COMMUNITY COLLEGE  
CLIFTON FORGE, VIRGINIA 24422  
TELEPHONE: 703/862-4246



# College Calendar

## 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 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

## WINTER QUARTER—1969

New Student orientation.....	January 2
Registration.....	January 2-3
Classes begin, 8 a.m.....	January 6
Last day to register, add a course, or change from audit to credit.....	January 10
Last day to drop course, or change from credit to audit.....	January 24
Mid-term grade reports.....	February 11
Washington's Birthday—holiday.....	February 22
Last day of classes.....	March 18
Examinations begin.....	March 19
Examinations, quarter ends.....	March 21

## SPRING QUARTER—1969

New Student orientation.....	March 26
Registration.....	March 27-28
Classes begin, 8 a.m.....	March 31
Last day to register, add a course, or change from audit to credit.....	April 4
Last day to drop course, or change from credit to audit.....	April 18
Mid-term grade reports.....	May 6
Final deadline to apply for June Graduation.....	May 9
Memorial Day—holiday.....	May 30
Last day of classes.....	June 9
Examinations begin.....	June 10
Examinations, quarter ends.....	June 12
Graduation.....	June 14

### SUMMER QUARTER—1969—FIRST SESSION

New Student orientation.....	June 16
Registration.....	June 17
Classes begin, 8 a.m. ....	June 18
Last day to register, add a course, or change from audit to credit.....	June 20
Last day to drop course, or change from credit to audit. ....	June 28
Independence Day—holiday.....	July 4
Mid-term grade reports.....	July 8
Last day of classes.....	July 23
Final Examinations.....	July 24-25

### SUMMER QUARTER—1969—SECOND SESSION

New Student orientation.....	July 28
Registration.....	July 29
Classes begin, 8 a.m. ....	July 30
Last day to register, add a course, or change from audit to credit.....	August 1
Last day to drop course, or change from credit to audit. ....	August 8
Mid-term grade reports.....	August 18
Labor Day—holiday.....	September 1
Last day of classes.....	September 3
Final Examinations.....	September 4-5

### FALL QUARTER—1969

New Student orientation.....	September 24
Registration.....	September 25-26
Classes begin, 8 a.m. ....	September 29
Last day to register, add a course, or change from audit to credit.....	October 3
Last day to drop course, or change from credit to audit. ....	October 17
Mid-term grade reports.....	November 4
Thanksgiving Holiday begins.....	November 27
Thanksgiving Holiday ends, classes start at 8 a.m.....	December 1
Last day of classes.....	December 10
Examinations begin.....	December 11
Examinations, quarter ends.....	December 13



# Part I

# General Information

## STATE BOARD FOR COMMUNITY COLLEGES

Eugene B. Sydnor, Jr., Chairman

Thomas R. Glass, Vice Chairman

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

## STATE DEPARTMENT OF COMMUNITY COLLEGES

Dana B. Hamel, Director

## DABNEY S. LANCASTER COMMUNITY COLLEGE

### ADVISORY BOARD

Thomas N. Warren, Chairman

B. C. Moomaw, Vice Chairman

James L. Clarkson	William O. Roberts
Z. M. K. Fulton, III	Everett J. Schneider, Jr.
H. V. Humphries	George R. Swecker
Robert W. H. Mish, Jr.	

### PRESIDENT

Donald E. Puyear

## FACULTY

†Backels, John Franz B.S.F., University of Michigan, 1952 M.F., University of Michigan, 1953 M.B.A., University of Washington, 1958 Ed. D., Florida State University, 1968	Dean of Instruction
Balazs, Mary W. B.A., University of Akron, 1960 M.A., Pennsylvania State, 1962 Ph.D., Pennsylvania State, 1965	Associate Professor of English
†Bausum, Dolores B. B.A., Louisiana College, 1947	Assistant Instructor of Developmental English
Bell, Carla H. Cert., Wisconsin School of Art, 1920	Instructor of Art
Biggs, Machel C. B.S., Emory and Henry, 1959 M.S., Radford College, 1967	Instructor of Mathematics
Bloom, Edgar B. A.B., Hiram, 1923 M.S., Ohio State, 1926 Ph.D., Ohio State, 1928	Professor of Chemistry
Chiang, James B.S., Cheng-Kung University, 1960 M.S., University of Tennessee, 1965	Instructor of Physics and Mathematics
Drewry, Robert M. B.S., Richmond Professional Institute, 1964	Business Manager
Eads, James Harold B.A., King College, 1963 M.A., University of Virginia, 1968	Instructor of History
*Fischer, Mary M. B.S., Virginia Polytechnic Institute, 1948	Instructor of Chemistry
Guth, James E. B.A., Union College, 1961 M.A., Western Michigan University, 1964	Director of Student Services
Hamer, Joseph W. B.A., Lambuth College, 1966 M.A., Memphis State, 1967	Guidance Counselor
†Hanner, Jack B. B.A., Greensboro College, 1964 M.A., Appalachian State University, 1968	Instructor of French
†Hefner, Clydie Lucille B.S., Appalachian State University, 1967 M.A., Appalachian State University, 1968	Instructor of Mathematics
Jordan, Thomas E. B.S., Northwestern State College, 1960 M.S., Northwestern State College, 1962	Assistant Professor of Electronics

Keyser, William V. B.A., Emory and Henry, 1965 M.F.A., Richmond Professional Institute, 1967	Instructor of Speech and Drama
Knobloch, Fred F. B.S., University of Virginia, 1935 M.S., Virginia Polytechnic Institute, 1952	Assistant Professor of Psychology
Lawless, Marie C. B.S., Radford, 1952 M.Ed., University of Virginia, 1958	Instructor of English
Luke, Nina R. B.A., New School for Social Research, 1964	Library Assistant
Manner, Jean H. B.S., Madison College, 1948	Instructor of Secretarial Science and Business Education
Maydian, Peggy S. B.S., East Tennessee State, 1951 M.A., George Peabody, 1959	Assistant Librarian
*Moon, Camellia A. B.A., Middlebury College, 1961	Assistant Instructor of French
Moon, David P. B.A., Middlebury College, 1962 M. Ed., Virginia Polytechnic Institute, 1968	Instructor of Engineering Technology
†Moore, Betty L. A.B., Kansas State, 1944 M.A., Columbia University, 1949	Assistant Professor of English
Olson, Bruce D. A.B., Elon College, 1964 M.A., Appalachian State Teachers, 1965	Instructor of Physical Education
Puyear, Donald E. B.S., Missouri School of Mines and Metallurgy, 1954 M.S., Missouri School of Mines and Metallurgy, 1958 Ph.D., Virginia Polytechnic Institute, 1965	President
Scott, Elizabeth A. B.S., George Peabody, 1935 B.S. in L.S., George Peabody, 1936	Coordinator of Library Services
Smith, David R. B.S., Virginia Polytechnic Institute, 1963 M.S., Virginia Polytechnic Institute, 1968	Instructor of Business Administration
Stutz, Charles A., Jr. B.S., Michigan State University, 1963 M.S., Virginia Polytechnic Institute, 1968	Instructor of Biology
†Sullivan, Michael A.S., Bluefield Junior College, 1964 B.A., William and Mary, 1967 M.B.A., William and Mary, 1968	Instructor of Business Administration

Thayer, Mary A. B.A., Trinity College, 1925 M.A., Boston University, 1926 Ph.D., Boston College, 1939	Professor of English and Coordinator of Humanities
Tuholsky, Joseph M. A.A., Paducah, 1958 B.S., Murray State University, 1961 M.A., Murray State University, 1965	Instructor of Drafting and Design
**Vaughan, George B. B.A., Emory and Henry, 1959 M.S., Radford, 1965	Director of Instruction
**Vaughan, Peggy A. B.A., Radford College, 1962 M.A., University of Tennessee, 1967	Instructor of English
Williamson, Frank D. B.S., West Virginia University, 1955 M.S., Virginia Polytechni Institute, 1968	Instructor of Business Education

\* Resigned effective end of 1967-68 academic year.

\*\* Leave of absence.

† New appointment for 1968-69 academic year.

## **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 the northern portion of Botetourt County.

The principal structure at the College is a new building containing modern laboratories, classrooms, offices, and library. It is located on a 117-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.

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 indi-

vidual 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 fully accredited by the State Board of Education and is approved for listing in U. S. Office of Education directories.

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





# Part II      Administrative Information

## ADMISSION REQUIREMENTS

### General Admission to the College

Any person who has a high school diploma or the equivalent, or who 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 or course is not offered).
3. Official transcripts from high schools, colleges, and universities attended.

For all special students only a completed official "Application for Admission" is required.

**Persons wishing to apply for the non-credit community service programs should contact the college for additional information.**

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 studies at the 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 will 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". 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 entitle 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 categories:

**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 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 \$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) **Diplomas** are awarded to students who complete one of the two-year diploma occupational curriculums.
- 5) **Certificates** are awarded to students who complete one of the approved curriculums that are less than two years in length.

## **GRADUATION REQUIREMENTS**

### **Certificate Requirements**

If a student successfully completes a program of instruction

which does not lead to an associate degree or diploma, he may be awarded a certificate. Also, if he pursues a degree or diploma program but fails to meet the degree or diploma requirements, he may, upon the recommendation of the appropriate instructional department and the Dean of Instruction, be issued a certificate in the occupational specialty in which he is considered proficient.

### **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) for an associate degree;
- 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.

## **ACADEMIC 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.

### **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 Dean 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 Dean of Instruction and the student's faculty advisor or counselor.

## **Part III**

# **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.

### **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. This includes 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 staff—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 Counseling 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 is available to provide additional information of interest to students. The handbook describes student activities and organizations and also lists the college rules and regulations.

## **STUDENT CONDUCT**

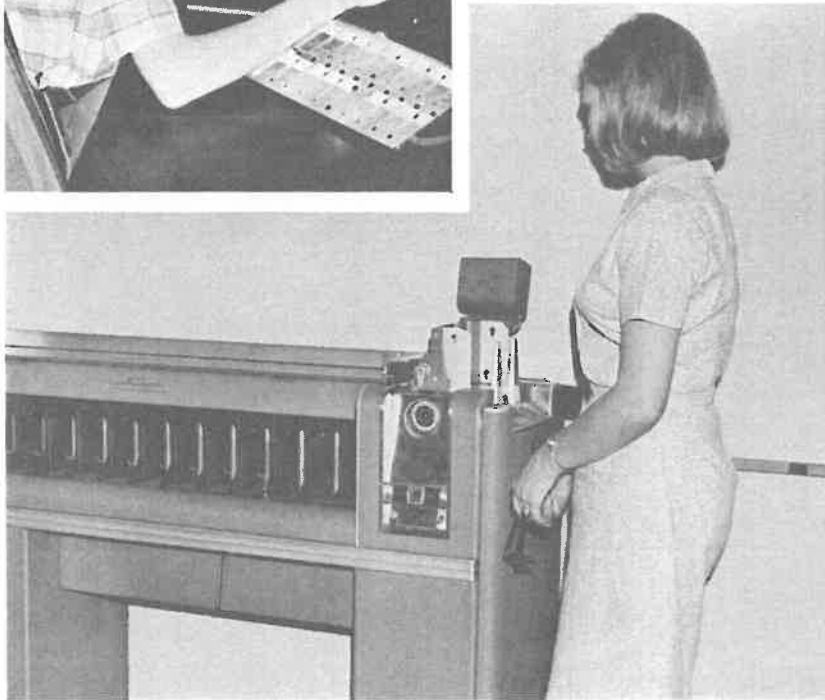
Each individual is considered a responsible adult, and it is assumed that men and women of college age will maintain standards of conduct appropriate to membership in the college community. Emphasis is placed on standards of student conduct rather than on limits or restrictions of students. Guidelines and regulations governing student conduct usually are developed by representatives of the students, faculty, counseling staff, and administration. The College refrains from imposing a rigid code of discipline but reserves the right to take disciplinary action compatible with its own best interest when it is clearly necessary. The regulations shall become official by administrative statement.

Failure to meet standards of conduct acceptable to the Col-

lege 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 Virginia Community College System guarantees to each student the privilege of exercising his rights of citizenship under the Constitution of the United States without fear of prejudice. Special care is taken to assure due process and to spell out clearly-defined routes of appeal when a student feels his rights have been violated.







# **Part IV**                      **Curriculums of Study**

## **Associate in Arts Degree Curriculum**

Liberal Arts

## **Associate in Science Degree Curriculums**

Business Administration

Science

Pre-Teacher Education

Pre-Engineering (first year only)

## **Associate in Applied Science Degree Curriculums**

Business Management

Drafting and Design Technology

Electronics Technology

## **Certificate Curriculums**

Mechanical Drafting

Steno-Clerical Arts

## **Co-operative Nursing Program**

## **Preparatory Foundation Program**



## MINIMUM REQUIREMENTS FOR ASSOCIATE DEGREES

Associate in Arts (A.A.)

Associate in Science (A.S.)

Associate in Applied Science (A.A.S.)

	Number of credits (Quarter Hours)		
	A.A.	A.S.	A.A.S.
<b>Humanities</b>			
English Composition	9	6-9	6
Literature (English, American, or World)	6-9	3-6	—
Speech	0-3	0-3	3
Art, Drama, Music, and/or Philosophy	3-6	0-3	—
	<sup>b</sup>		
Foreign Language	9-18	—	—
<b>Social Sciences</b>			
History (American or Western Civilization)	9	3-9	—
Economics	0-9	0-9	3
Government	0-9	0-9	3
Psychology or Human Relations	0-9	0-9	3
<b>Natural Sciences and Mathematics</b>			
Natural Science (Laboratory)	12-15	12-15	—
(Biology, Chemistry, Geology, Physics)			
Mathematics	9	3-9	—
Health, Physical Education, or Recreation	3-6	3-6	3-6
Orientation	1	1	1
Electives and other Major Field	<sup>a</sup>	<sup>a</sup>	<sup>c</sup>
Requirements	6-24	57	75
Minimum Total Number of Credits for Degree	97	97	97

- a. 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 further to consult with the Counseling Department of the Community College in planning his program and selecting his electives.
- b. Students who have successfully completed two years of a foreign language in high school may petition for advanced placement to the sophomore level course of this foreign language.
- c. The Associate in Applied Science degree programs generally are organized approximately as follows:
 

Specialized courses in major field	50%
Supporting technical and theory courses in related fields	25-30%
General education courses	20-25%

# 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, usually 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
- 1 unit of algebra I
- 1 unit of geometry or algebra II
- 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.

## ASSOCIATE IN ARTS DEGREE CURRICULUM

### LIBERAL ARTS

		Credits
ECON	Economics*	5
— ENGL, 111-112-113	English Comp I-II-III	9
ENGL	Literature*	9
GENL 100	Orientation	1
GOVT	Government*	5
HIST	History*	9
MATH	Math.*	9
PHED	Physical Ed. or Health*	3
PSYC	Psychology*	5
	Natural Science with Lab*	12
	Foreign Language**	18
	Humanities Elective*	9
	Elective*	3
	Total	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 administration to help provide 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 administration.

**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
- 1 unit of algebra I
- 1 unit of geometry or algebra II
- 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 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.

### ASSOCIATE IN SCIENCE DEGREE CURRICULUM

#### BUSINESS ADMINISTRATION

		Credits
BUAD 211-212-213	Prin. of Account. I-II-III	12
ECON 214-215	Prin. of Economics I-II	9
ENGL 111-112-113	English Comp. I-II-III	9
ENGL	Literature*	6
ENGL	Literature or Speech*	3
GENL 100	Orientation	1
GOVT	Government*	5
HIST	History*	9
MATH	Math.*	9
PHED	Physical Ed. or Health*	3
PSYC	Psychology*	5
	Natural Science with Lab*	12
	Humanities Elective*	5
	Other Electives*	9
	Total	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.

# 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 pro-



vided 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.

#### ASSOCIATE IN SCIENCE DEGREE CURRICULUM

##### SCIENCE

		Credits
ECON	Economics*	5
ENGL 111-112-113	English Composition I-II-III	9
ENGL	Literature	6
ENGL	Literature or Speech*	3
GENL 100	Orientation	1
GOVT	Government*	5
HIST	History*	6
MATH	Mathematics*	9
MATH	Adv. Math or Elective*	9
PHED	Physical Ed. or Health*	3
PSYC	Psychology*	5
	Natural Science with Lab*	12
	Adv. Nat. Science with Lab*	12
	Humanities Elective*	3
	Other Electives*	9
	Total	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 baccalaureate 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
- 1 unit of algebra I
- 1 unit of geometry or algebra II
- 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.

## ASSOCIATE IN SCIENCE DEGREE CURRICULUM

### PRE-TEACHER EDUCATION

		Credits
ECON	Economics*	5
ENGL 111-112-113	English Composition I-II-III	9
ENGL	Literature*	6
GENL 100	Orientation	1
GOVT	Government*	5
HIST 111-112-113	American History I-II-III	9
MATH	Mathematics*	9
PHED	Physical Ed or Health*	3
PSYC 204-205	General Psychology I-II	9
	Natural Science with Lab*	12
	Humanities Elective*	5
	Electives*	24
	Total	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:** None—This program represents the first year of a four-year baccalaureate degree program

**Length:** Three quarters

**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 Pre-Engineering Program 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	Engineering Mechanics
Agricultural Engineering	Industrial Engineering
Architectural Engineering	Mechanical Engineering
Ceramic Engineering	Metallurgical Engineering
Chemical Engineering	Mining Engineering
Civil Engineering	Nuclear Engineering
Electrical 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 Pre-Engineering Program 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 113 (the beginning English course for pre-engineering majors), as indicated by high school grades and test scores, may first have to complete ENGL 111 and 112. 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 Program.

**Program Requirements:** This program includes the English and humanities, mathematics, science, social science, and introductory engineering courses usually required in the first year 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.**

### PRE-ENGINEERING

		Credits
CHEM 111-112-113	Gen Inorganic Chem I-II-III	12
ENGL 113	English Composition III**	3
ENGL	Literature*	3
ENGR 100	Introd to Engineering	1
ENGR 121-122	Engineering Graphics I-II	4
ENGR 123	Descriptive Geometry	3
GENL 100	Orientation	1
HIST	History*	6
MATH 141-142-143	Math Analysis I-II-III	15
PHED	Physical Ed or Health*	3
	Total	51

\*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 113 as indicated by high school grades and test scores may first have to take ENGL 111 and ENGL 112.

# 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 quarter (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.

## ASSOCIATE IN APPLIED SCIENCE DEGREE CURRICULUM

### BUSINESS MANAGEMENT

		Credits
BUAD 100	Intro to Business	3
BUAD 106	Office Procedures	2
BUAD 111-112-113	Accounting I-II-III	12
BUAD 156	Office Machines	2
BUAD 170	Bus Orgn & Management	3
BUAD 240	Business Finance	3
BUAD 241-242	Business Law I-II	6
BUAD 246	Money and Banking	3
BUAD 286	Personnel Management	2
BUAD 294	Intro to Bus Statistics	3
BUAD 299	BUAD Seminar & Project	2
DAPR 100	Intro to Data Processing	4
ECON 160	American Economics	3
ENGL 101-102	Communication Skills I-II	6
ENGL 136	Speech Communication	3
ENGL 280	Business English	3
GENL 100	Orientation	1
GOVT 180	American Const Govt	3
MATH 151-152	Business Mathematics	6
PHED	Phys Ed or Health*	3
PSYC 128	Human Relations	3
SECR 111	Typewriting I**	3
	Electives*	18
	Total	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 admissions requirements in Part II of this catalog), entry into the Associate in Applied Science curriculum in Drafting and Design Technology requires proficiency in high school English, mathematics and science including one unit of algebra. 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.

**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.

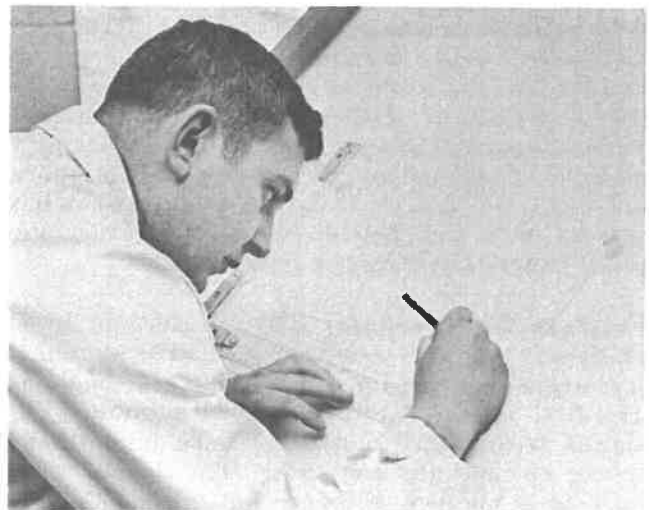


## ASSOCIATE IN APPLIED SCIENCE DEGREE CURRICULUM

### DRAFTING AND DESIGN TECHNOLOGY

		Credits
DRFT 111-112-113	Drafting I-II-III	6
DRFT 211-212-213	Adv. Drafting IV-V-VI	9
DRFT	Drafting Elective*	2
ECON 160	American Economics	3
ENGL 101-102-103	Communication Skills I-II	9
ENGR 151	Mechanics I (Statics)	3
ENGR 152	Mechanics II (Strength of Materials)	4
GENL 100	Orientation	1
GOVT 180	American Const. Govt.	3
INDT 111-112	Mat. & Proc. of Industry I-II	6
INDT 176	Plant Safety	2
INDT 226	Plant Layout	3
INDT 299	Seminar & Project Drafting & Design Technology	2
MATH 111-112-113	Tech. Math I-II-III	9
MATH 211	Adv. Tech. Math. I	3
MECH 218	Jig & Fixture Design	3
PHED	Physical Ed Elective*	3
PHYS 111-112-113	Technical Physics I-II-III	12
PSYC 128	Human Relations	3
	Approved Electives*	11
	Total	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. 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.

**Program Requirements:** The curriculum in Electronics is a two-year program 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.

## ASSOCIATE IN APPLIED SCIENCE DEGREE CURRICULUM

### ELECTRONICS TECHNOLOGY

		Credits
DAPR 100	Intro to Data Processing	4
DRFT 256	Electronics Drafting	2
ECON 160	American Economics	3
ELEC 114	Fund of Direct Current	4
ELEC 115	Fund of Alternating Current	4
ELEC 116	Circuit Analysis	4
ELEC 120	Tubes & Transistors	4
ELEC 121	Electronics	4
ELEC 126	Amplifiers	4
ELEC 227	Pulse & Switching Circuits	3
ELEC 241-242	Communications I-II	8
ELEC 276	Instruments & Measurements	4
ELEC 287	Advanced Circ & New Devices	2
ELEC 299	Seminar & Proj in Elec Tech	2
ELEC	Electronic Elective*	2
ENGL 101-102-103	Communication Skills I-II-III	9
GENL 100	Orientation	1
GOVT 180	American Const Govt	3
MATH 111-112-113	Technical Math I-II-III	9
PHED	Phys Education Elective*	3
PHYS 111-112-113	Tech Physics I-II-III	12
PSYC 128	Human Relations	3
	Approved Electives*	3
	Total	97

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

# 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, requires 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 four-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

		Credits
DRFT 071-072-073	Basic Blueprint Reading I-II-III	6
DRFT 126	Intro to Graphic Presentation	3
DRFT 131-132-133	Mechanical Drafting I-II-III	15
ECON 160	American Economics	3
ENGL 101-102-103	Communication Skills I-II-III	9
GENL 100	Orientation	1
GOVT 180	American Government	3
MATH 011-012-013	Elements of Mathematics*	9
INDT 111-112	Matl and Processes of Indust I-II	6
NASC 126	Science in Industry	3
PSYC	Psychology**	3
	Total	61

\*MATH 111-112-113 Technical Mathematics I-II-III (3 cr.) (3 cr.) (3 cr.) may be substituted for the entire MATH 011-012-013 sequence.

\*\*The student must consult with the Counseling Department of the College in the selection of an appropriate course in the subject-matter field indicated.

# Steno-Clerical Arts

**Certificate:** Certificate in Steno-Clerical Arts

**Length:** Four-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.

## CERTIFICATE CURRICULUM

### STENO-CLERICAL ARTS

		Credits
BUAD 100	Introduction to Business	3
BUAD 121	Record Keeping	3
BUAD 156	Office Machines	2
ECON 160	American Economics	3
ENGL 101-102	Communication Skills I-II	6
GENL 100	Orientation	1
GOVT 180	American Government	3
MATH 151	Business Mathematics	3
PSYC	Psychology***	3
SECR 111	Typewriting I*	3
SECR 112-113	Typewriting II-III	6
SECR 217	Typewriting Skill Building	2
SECR 121	Shorthand I*	4
SECR 122-123	Shorthand II-III	8
SECR 221	Shorthand Transcription	3
SECR 136	Filing & Record Management	2
SECR 156	Personal Development**	3
	Total	58

\*Students who have successfully completed at least one year of type-writing and shorthand in high school will have SECR 111 and SECR

121 waived, making this a three-quarter program of study. **SECR 111 and SECR 121 will be offered in the summer session only.**

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

**\*\*\*The student must consult with the Counseling Department of the College in the selection of an appropriate course in the subject-matter field indicated.**

## **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 test 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 scheduled 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 available 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.

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



## **Special Training Programs**

An important part of the community college philosophy centers around the concept of serving the community. Any community served by the college, if job opportunities warrant it, may apply for a special training program to be conducted by the College. These programs, which are usually of a short term nature, shall be tailored to fit the exact needs of a company and shall terminate when the immediate needs are met. The special training programs may be carried out at the College, or the individual company may request that a college instructor come to the industry to conduct the program.

## **Community Service Programs**

The College considers community service programs an integral part of its function. These programs may include degree credit, non-degree credit courses, and special programs which are taken primarily for cultural enrichment. The community service programs are aimed at both adults and full-time students, and they help fulfill the belief that the College is to serve the entire community. Some examples of community service programs are:

Special short term courses which develop various skills

Non-credit art courses for adults and students

A cinema series featuring classic motion pictures

Student-adult forums which discuss vital community issues in the true spirit of the "Old Town Meetings"

An annual arts festival which features local, state, national and international talent.

# Part V

# Description of Courses

## Course Numbers

Courses numbered 000-099 are freshman level courses for the preparatory foundations program and for the occupational programs. 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. They may also be used in certificate and diploma programs.

Courses numbered 200-299 are sophomore level courses applicable toward an associate degree. They may also be used in certificate and diploma programs.

## 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 Dean of Instruction 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.

ARTS 126 FREE-HAND SKETCHING (2 cr.)—Basic principles and practice in free-hand sketching. Laboratory 6 hours per week.

ARTS 196 ART WORKSHOP (2 cr.)—A workshop for individual special projects in arts and crafts. Laboratory 6 hours per week.

## BIOLOGY

BIOL 101-102-103 GENERAL BIOLOGY I-II-III (4 cr.) (4 cr.) (4 cr.)—Fundamental characteristics of living matter from the molecular level to the ecological community with emphasis on general biological principles. Diversity of plant and animal life; evolutionary processes; adaptation of organisms to their environments. Lectures 3 hours, Laboratory 3 hours, Total 6 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 ~~217~~<sup>226</sup> INTRODUCTORY INVERTEBRATE ZOOLOGY (6 cr.)—Prerequisite BIOL 103 or permission of the instructor. The biology of invertebrate animals with special references to structure, function, ecology, classification, and evolution. Lectures 4 hours, Laboratory 4 hours, Total 8 hours per week.

BIOL ~~218~~ INTRODUCTORY VERTEBRATE ZOOLOGY (6 cr.)—Prerequisite BIOL 103 or permission of the instructor. Fundamentals of vertebrate anatomy, physiology, embryology, classification, and evolution. Lectures 4 hours, Laboratory 4 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 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 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 standards and controls. Lectures 3 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 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 006 BASIC CHEMISTRY (4 cr.)**—A foundations course in general chemistry designed to develop a basic understanding of inorganic and organic chemistry. Lectures 3 hours, Laboratory 3 hours, Total 6 hours per week.

**CHEM 101-102-103 GENERAL CHEMISTRY I-II-III (4 cr.) (4 cr.) (4 cr.)**—Course designed to introduce the student to fundamental laws and theories of chemistry; the most important elements and their compounds; the basic facts; the properties and uses of the more important metallic and non-metallic elements and their general importance. The laboratory

work in the third quarter includes qualitative analysis. Lectures 3 hours, Laboratory 3 hours, Total 6 hours per week.

**CHEM 104-105 BASIC HEALTH SCIENCE CHEMISTRY (4 cr.) (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 111-112-113 GENERAL INORGANIC CHEMISTRY I-II-III (4 cr.) (4 cr.) (5 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 3 hours, Laboratory 3 hours, Total 6 hours per week. (Laboratory for CHEM 113 is 6 hours.)

**CHEM 241-242-243 ORGANIC CHEMISTRY I-II-III (4 cr.) (4 cr.) (4 cr.)**—Prerequisite CHEM 113 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 hour, 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 tool drawings 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 260 ARCHITECTURAL DRAWING (3 cr.)**—Basic standard building details are studied and drawn. One point and two point perspective line drawings are included. Working drawings for a small building are made, including floor and foundation plans, elevations, wall sections and details. Lecture 1 hour, Laboratory 6 hours, Total 7 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 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 211-212-213 PRINCIPLES OF ECONOMICS I-II-III (3 cr.) (3 cr.) (3 cr.)—The principles of economics and the bearing of these principles on present American conditions; structural and functional aspects of the economy. Analysis, problems and issues relating to organization of business, labor, and government institutions, and economic stability and growth. Measurements of economics activity. Private enterprise, economic growth and stabilization policies, monetary and fiscal policy. 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.

### 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 characteristic, 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.)**—Prerequisite **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.)**—Prerequisite **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.

### 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 040 READING IMPROVEMENT (3 cr.)—A course designed with the use of modern techniques, equipment, and materials to increase the student's comprehension, skill, and speed in reading. Lectures 2 hours, Laboratory 3 hours, Total 5 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 111-112-113 ENGLISH COMPOSITION I-II-III (3 cr.) (3 cr.) (3 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 equivalent. Expository writing, ranging from single paragraphs to essays of some length and complexity. Study of the logical, rhetorical, and linguistic structures of expository prose; the methods and conventions of preparing research papers; and the practical criticism of major literary types. Lectures 3 hours per week.

ENGL 120 INTRODUCTION TO JOURNALISM (3 cr.)—Mass communication media which have reporting functions are surveyed as preparation for study in specific areas. Contributions of newspapers, magazines, radio, and television to journalistic techniques are shown and special news gathering organizations are examined. Beginning instruction and practice in news writing is included. Lectures 3 hours per week.

ENGL 121-122-123 JOURNALISM I-II-III (2 cr.) (2 cr.) (2 cr.)—Instruction and classroom practice in gathering, evaluating, and writing news. Techniques of page layout, newspaper make-up, rewriting, and editing. Lecture 1 hour, Laboratory 3 hours, Total 4 hours per week.

ENGL 136 SPEECH COMMUNICATIONS (3 cr.)—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 251-252-253 AMERICAN LITERATURE I-II-III (3 cr.) (3 cr.) (3 cr.)—Prerequisite satisfactory completion of freshman English. The cultural history of America as revealed through its major literary works and historical events. Emphasis on the ideas, themes and characteristics of an emerging national literature. I: Colonial period to 1860; II: 1860 to 1914; III: 1914 to present. Lectures 3 hours per week.

ENGL 261-262-263 ENGLISH LITERATURE I-II-III (3 cr.) (3 cr.) (3 cr.)—Prerequisite satisfactory completion of freshman English. 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 271-272-273 INTRODUCTION TO WORLD LITERATURE I-II-III (4 cr.) (4 cr.) (4 cr.)—Prerequisite completion of freshman English.

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 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 280 BUSINESS ENGLISH (3 cr.)—Prerequisite ENGL 102. 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 234-235 INTRODUCTION TO FRENCH CIVILIZATION AND LITERATURE I-II (5 cr.) (4 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 5 hours per week in FREN 234 and Lectures 4 hours per week in FREN 235.

### 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 2 hours per week.

### GOVERNMENT

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 281-282-283 UNITED STATES GOVERNMENT I-II-III (3 cr.) (3 cr.) (3 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 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.)—Prerequisite 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 evaluates present problems as they relate to the functioning of the United States. Lectures and Seminars 2 hours per week.

#### **HEALTH**

HLTH 107 CONCEPTS OF PERSONAL AND COMMUNITY HEALTH (3 cr.)—An introductory course in the maintenance of health and prevention of illness at the personal and community level. Lectures 3 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.

### 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 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 arrangement, 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 knowledge 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 011-012-013 ELEMENTS OF MATHEMATICS I-II-III (3 cr.) (3 cr.)**—Designed for the occupational student. This course involves practical applications of elementary mathematics, including algebra, geometry, and trigonometry, to the common everyday problems in the manufacturing and trade world. The instructional material meets the full requirements for elementary mathematics in the machinist, drafting, toolmaking, and auto mechanic trades. Lectures 2 hours, Laboratory 2 hours, Total 4 hours per week.

**MATH 031-032 BASIC ALGEBRA I-II (5 cr.) (5 cr.)**—Fundamentals of algebraic calculations for students who need a survey of the basic principles of algebra. MATH 031 covers introductory algebra and MATH 032 surveys the second year of high school algebra. 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 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, nonlinear 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 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: 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 161-162-163 COLLEGE MATHEMATICS I-II-III (3 cr.) (3 cr.) (3 cr.)**—Prerequisite: 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 equivalent. A modern unified course in algebra, trigonometry, analytic geometry, and calculus for students other than those in engineering. Lectures 3 hours per week.

**MATH 181-182-183 GENERAL COLLEGE MATHEMATICS I-II-III (3 cr.) (3 cr.) (3 cr.)**—This course is intended for students with majors other than mathematics, science or engineering. Prerequisite algebra I and either algebra II or geometry and a satisfactory mathematics score on the ACT test. Topics including sets; the logic of algebra; the real number system; algebraic and transcendental functions, relations and graphs will be covered the first two quarters. The third quarter will include permutations, combinations, probability and elementary statistics.

**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 264-265 ADVANCED COLLEGE MATHEMATICS I-II (5 cr.) (4 cr.)**—Prerequisite MATH 163 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 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 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 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 107 PHYSICAL PERFORMANCE (1 cr.)—Group and individual work in the development and understanding of strength, balance, agility, and cardio-vascular function. Clinic 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 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 thermo-dynamics, 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 121-122-123 GENERAL PHYSICS I-II-III (4 cr.) (4 cr.) (4 cr.)—Prerequisite or corequisite: MATH 181 or equivalent. General freshman physics. Fundamentals and principles of physics including mechanics, heat, sound, electricity, and light. Lectures 3 hours, Laboratory 3 hours, Total 6 hours per week.

## PSYCHOLOGY

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 201-202-203 GENERAL PSYCHOLOGY I-II-III (3 cr.) (3 cr.) (3 cr.)**—An introduction of human 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 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 PSYC 204; Lectures 4 hours per week in PSYC 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. 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 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 examination. Lecture 1 hour, Laboratory 2 hours, Total 3 hours per week.

**SECR 221 SHORTHAND TRANSCRIPTION I (3 cr.)**—Prerequisite SECR 123. 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.

#### **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.

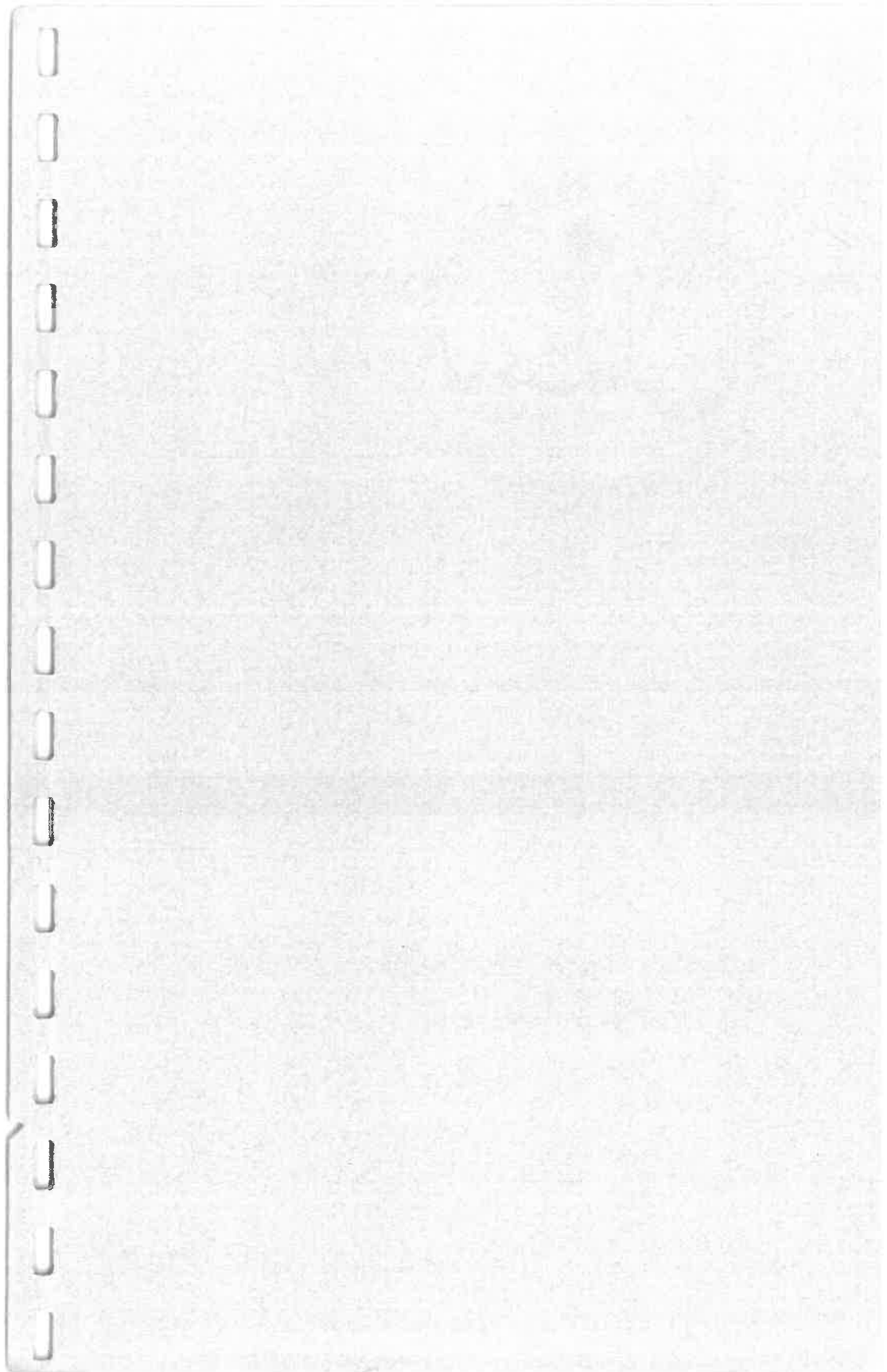
**SOSC 180 PROBLEMS OF MAN IN THE MODERN WORLD (3 cr.)**—Survey of contemporary social, political, and economic problems connected with industrialization, urbanization, the role of government, national and international tensions. Lectures 3 hours per week.

#### **SOCIOLOGY**

**SOCI 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.

**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 nature 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.







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DABNEY S. LANCASTER COMMUNITY COLLEGE  
U. S. ROUTE 60 (WEST)  
CLIFTON FORGE, VIRGINIA 24422



**D**ABNEY S.  
**L**ANCASTER  
**C**OMMUNITY  
**C**OLLEGE

**CATALOG 1968-69**





**CATALOG**

**DABNEY S.  
LANCASTER  
COMMUNITY  
COLLEGE**

**CLIFTON FORGE, VIRGINIA 24422**



**1968-69**

# Contents

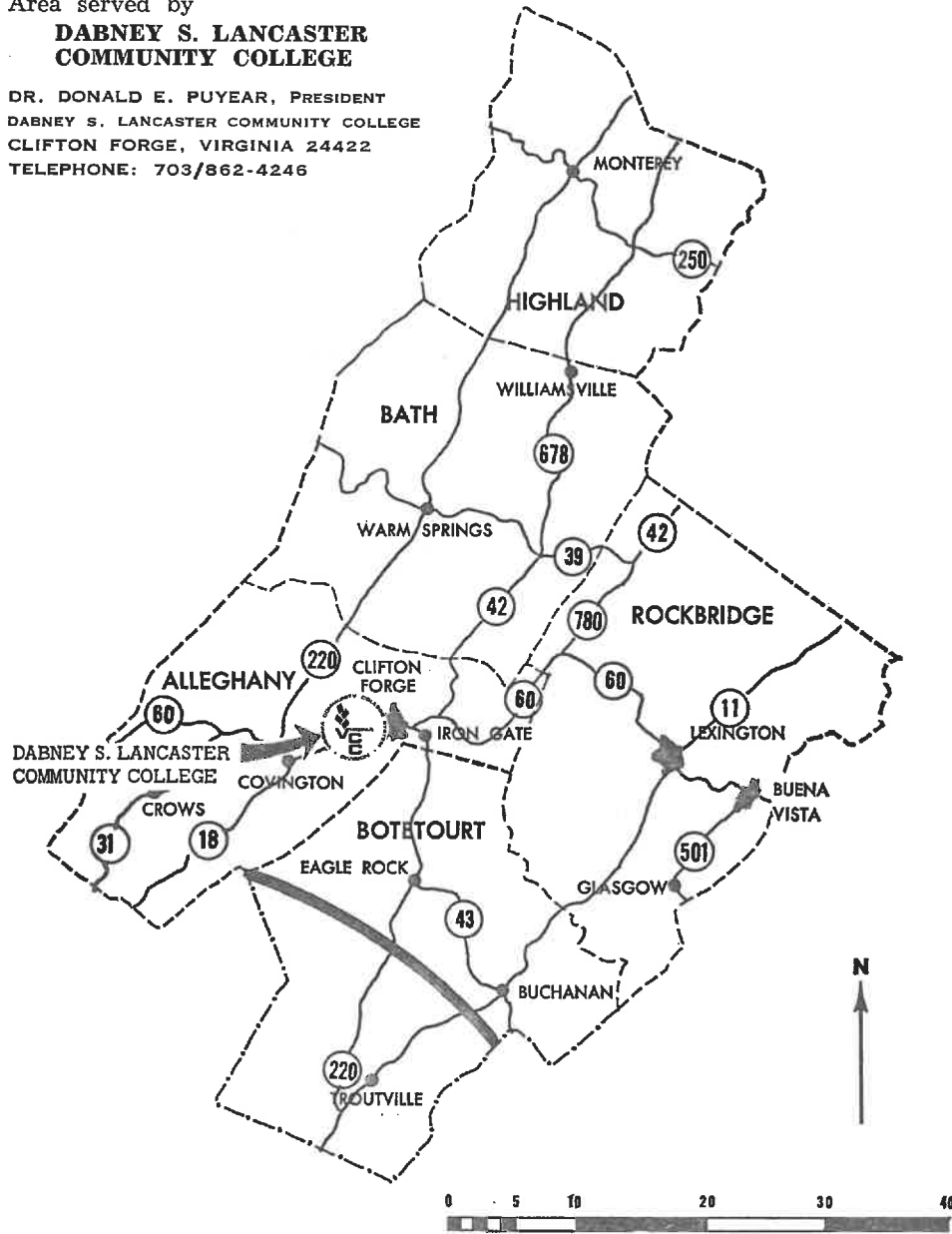
<b>College Calendar</b> .....	5
<b>Part I General Information</b> .....	7
Faculty .....	8
Location and Facilities .....	11
History .....	11
Purpose .....	11
Recognition .....	13
<b>Part II Administrative Information</b> .....	15
Admission Requirements .....	15
Classification of Students .....	18
Expenses .....	19
Credits .....	20
Grading System .....	20
Degrees, Diplomas and Certificates .....	21
Graduation Requirements .....	21
Academic Regulations .....	22
<b>Part III Student Services</b> .....	25
Counseling .....	25
Testing .....	25
Orientation .....	25
Financial Aids .....	26
Placement Service .....	27
Snack Bar .....	27
Parking .....	28
Student Activities .....	28
Student Handbook .....	28
Student Conduct .....	28
<b>Part IV Curriculums of Study</b> .....	31
Minimum Requirements for Associate Degrees .....	33
<b>Associate in Arts Degree Curriculum</b>	
Liberal Arts .....	34
<b>Associate in Science Degree Curriculums</b>	
Business Administration .....	36
Science .....	38
Pre-Teacher Education .....	40
Pre-Engineering .....	42

<b>Associate in Applied Science Degree Curriculums</b>	
Business Management .....	44
Drafting and Design Technology .....	46
Electronics Technology .....	48
<b>Certificate Curriculums</b>	
Mechanical Drafting .....	50
Steno-Clerical Arts .....	52
<b>Other Programs</b>	
Co-operative Nursing Program .....	53
Preparatory Foundations Program .....	54
Special Training Programs .....	55
Community Service Programs .....	55
<b>Part V Description of Courses</b> .....	<b>56</b>
Arts and Crafts .....	57
Biology .....	57
Business Administration .....	57
Chemistry .....	59
Data Processing Technology .....	60
Drafting and Design .....	60
Drama .....	62
Economics .....	63
Electrical Engineering Technology .....	63
Engineering Technology .....	65
English .....	66
French .....	68
General .....	68
Government .....	68
Health .....	69
History .....	69
Industrial Technology .....	70
Mathematics .....	70
Mechanical Engineering Technology .....	72
Natural Science .....	72
Physical Education .....	73
Physics .....	73
Psychology .....	73
Secretarial Science .....	74
Social Sciences .....	75
Sociology .....	75

Area served by

**DABNEY S. LANCASTER  
COMMUNITY COLLEGE**

DR. DONALD E. PUYEAR, PRESIDENT  
DABNEY S. LANCASTER COMMUNITY COLLEGE  
CLIFTON FORGE, VIRGINIA 24422  
TELEPHONE: 703/862-4246



# College Calendar

## 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 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

## WINTER QUARTER—1969

New Student orientation.....	January 2
Registration.....	January 2-3
Classes begin, 8 a.m. ....	January 6
Last day to register, add a course, or change from audit to credit.....	January 10
Last day to drop course, or change from credit to audit.....	January 24
Mid-term grade reports.....	February 11
Washington's Birthday—holiday.....	February 22
Last day of classes.....	March 18
Examinations begin.....	March 19
Examinations, quarter ends.....	March 21

## SPRING QUARTER—1969

New Student orientation.....	March 26
Registration.....	March 27-28
Classes begin, 8 a.m. ....	March 31
Last day to register, add a course, or change from audit to credit.....	April 4
Last day to drop course, or change from credit to audit.....	April 18
Mid-term grade reports.....	May 6
Final deadline to apply for June Graduation.....	May 9
Memorial Day—holiday.....	May 30
Last day of classes.....	June 9
Examinations begin.....	June 10
Examinations, quarter ends.....	June 12
Graduation.....	June 14

### SUMMER QUARTER—1969—FIRST SESSION

New Student orientation.....	June 16
Registration.....	June 17
Classes begin, 8 a.m. ....	June 18
Last day to register, add a course, or change from audit to credit.....	June 20
Last day to drop course, or change from credit to audit.....	June 28
Independence Day—holiday.....	July 4
Mid-term grade reports.....	July 8
Last day of classes.....	July 23
Final Examinations.....	July 24-25

### SUMMER QUARTER—1969—SECOND SESSION

New Student orientation.....	July 28
Registration.....	July 29
Classes begin, 8 a.m. ....	July 30
Last day to register, add a course, or change from audit to credit.....	August 1
Last day to drop course, or change from credit to audit.....	August 8
Mid-term grade reports.....	August 18
Labor Day—holiday.....	September 1
Last day of classes.....	September 3
Final Examinations.....	September 4-5

### FALL QUARTER—1969

New Student orientation.....	September 24
Registration.....	September 25-26
Classes begin, 8 a.m. ....	September 29
Last day to register, add a course, or change from audit to credit.....	October 3
Last day to drop course, or change from credit to audit.....	October 17
Mid-term grade reports.....	November 4
Thanksgiving Holiday begins.....	November 27
Thanksgiving Holiday ends, classes start at 8 a.m.....	December 1
Last day of classes.....	December 10
Examinations begin.....	December 11
Examinations, quarter ends.....	December 13



# Part I

# General Information

## STATE BOARD FOR COMMUNITY COLLEGES

Eugene B. Sydnor, Jr., Chairman

Thomas R. Glass, Vice Chairman

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

## STATE DEPARTMENT OF COMMUNITY COLLEGES

Dana B. Hamel, Director

## DABNEY S. LANCASTER COMMUNITY COLLEGE

### ADVISORY BOARD

Thomas N. Warren, Chairman

B. C. Moomaw, Vice Chairman

James L. Clarkson	William O. Roberts
Z. M. K. Fulton, III	Everett J. Schneider, Jr.
H. V. Humphries	George R. Swecker
Robert W. H. Mish, Jr.	

### PRESIDENT

Donald E. Puyear

## FACULTY

†Backels, John Franz B.S.F., University of Michigan, 1952 M.F., University of Michigan, 1953 M.B.A., University of Washington, 1958 Ed. D., Florida State University, 1968	Dean of Instruction
Balazs, Mary W. B.A., University of Akron, 1960 M.A., Pennsylvania State, 1962 Ph.D., Pennsylvania State, 1965	Associate Professor of English
†Bausum, Dolores B. B.A., Louisiana College, 1947	Assistant Instructor of Developmental English
Bell, Carla H. Cert., Wisconsin School of Art, 1920	Instructor of Art
Biggs, Machel C. B.S., Emory and Henry, 1959 M.S., Radford College, 1967	Instructor of Mathematics
Bloom, Edgar B. A.B., Hiram, 1923 M.S., Ohio State, 1926 Ph.D., Ohio State, 1928	Professor of Chemistry
Chiang, James B.S., Cheng-Kung University, 1960 M.S., University of Tennessee, 1965	Instructor of Physics and Mathematics
Drewry, Robert M. B.S., Richmond Professional Institute, 1964	Business Manager
Eads, James Harold B.A., King College, 1963 M.A., University of Virginia, 1968	Instructor of History
*Fischer, Mary M. B.S., Virginia Polytechnic Institute, 1948	Instructor of Chemistry
Guth, James E. B.A., Union College, 1961 M.A., Western Michigan University, 1964	Director of Student Services
Hamer, Joseph W. B.A., Lambuth College, 1966 M.A., Memphis State, 1967	Guidance Counselor
†Hanner, Jack B. B.A., Greensboro College, 1964 M.A., Appalachian State University, 1968	Instructor of French
†Hefner, Clydie Lucille B.S., Appalachian State University, 1967 M.A., Appalachian State University, 1968	Instructor of Mathematics
Jordan, Thomas E. B.S., Northwestern State College, 1960 M.S., Northwestern State College, 1962	Assistant Professor of Electronics

Keyser, William V. B.A., Emory and Henry, 1965 M.F.A., Richmond Professional Institute, 1967	Instructor of Speech and Drama
Knobloch, Fred F. B.S., University of Virginia, 1935 M.S., Virginia Polytechnic Institute, 1952	Assistant Professor of Psychology
Lawless, Marie C. B.S., Radford, 1952 M.Ed., University of Virginia, 1958	Instructor of English
Luke, Nina R. B.A., New School for Social Research, 1964	Library Assistant
Manner, Jean H. B.S., Madison College, 1948	Instructor of Secretarial Science and Business Education
Maydian, Peggy S. B.S., East Tennessee State, 1951 M.A., George Peabody, 1959	Assistant Librarian
*Moon, Camellia A. B.A., Middlebury College, 1961	Assistant Instructor of French
Moon, David P. B.A., Middlebury College, 1962 M. Ed., Virginia Polytechnic Institute 1968	Instructor of Engineering Technology
†Moore, Betty L. A.B., Kansas State, 1944 M.A., Columbia University, 1949	Assistant Professor of English
Olson, Bruce D. A.B., Elon College, 1964 M.A., Appalachian State Teachers, 1965	Instructor of Physical Education
Puyear, Donald E. B.S., Missouri School of Mines and Metallurgy, 1954 M.S., Missouri School of Mines and Metallurgy, 1958 Ph.D., Virginia Polytechnic Institute, 1965	President
Scott, Elizabeth A. B.S., George Peabody, 1935 B.S. in L.S., George Peabody, 1936	Coordinator of Library Services
Smith, David R. B.S., Virginia Polytechnic Institute, 1963 M.S., Virginia Polytechnic Institute, 1968	Instructor of Business Administration
Stutz, Charles A., Jr. B.S., Michigan State University, 1963 M.S., Virginia Polytechnic Institute, 1968	Instructor of Biology
†Sullivan, Michael A.S., Bluefield Junior College, 1964 B.A., William and Mary, 1967 M.B.A., William and Mary, 1968	Instructor of Business Administration

Thayer, Mary A. B.A., Trinity College, 1925 M.A., Boston University, 1926 Ph.D., Boston College, 1939	Professor of English and Coordinator of Humanities
Tuholsky, Joseph M. A.A., Paducah, 1958 B.S., Murray State University, 1961 M.A., Murray State University, 1965	Instructor of Drafting and Design
**Vaughan, George B. B.A., Emory and Henry, 1959 M.S., Radford, 1965	Director of Instruction
**Vaughan, Peggy A. B.A., Radford College, 1962 M.A., University of Tennessee, 1967	Instructor of English
Williamson, Frank D. B.S., West Virginia University, 1955 M.S., Virginia Polytechni Institute, 1968	Instructor of Business Education

\* Resigned effective end of 1967-68 academic year.

\*\* Leave of absence.

† New appointment for 1968-69 academic year.

## **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 the northern portion of Botetourt County.

The principal structure at the College is a new building containing modern laboratories, classrooms, offices, and library. It is located on a 117-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.

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 indi-

vidual 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 fully accredited by the State Board of Education and is approved for listing in U. S. Office of Education directories.

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





# Part II      Administrative Information

## **ADMISSION REQUIREMENTS**

### **General Admission to the College**

Any person who has a high school diploma or the equivalent, or who 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 or course is not offered).
3. Official transcripts from high schools, colleges, and universities attended.

For all special students only a completed official "Application for Admission" is required.

**Persons wishing to apply for the non-credit community service programs should contact the college for additional information.**

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 studies at the 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 will 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". 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 entitle 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 categories:

**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 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 \$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) **Diplomas** are awarded to students who complete one of the two-year diploma occupational curriculums.
- 5) **Certificates** are awarded to students who complete one of the approved curriculums that are less than two years in length.

## **GRADUATION REQUIREMENTS**

### **Certificate Requirements**

If a student successfully completes a program of instruction

which does not lead to an associate degree or diploma, he may be awarded a certificate. Also, if he pursues a degree or diploma program but fails to meet the degree or diploma requirements, he may, upon the recommendation of the appropriate instructional department and the Dean of Instruction, be issued a certificate in the occupational specialty in which he is considered proficient.

### **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) for an associate degree;
- 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.

## **ACADEMIC 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.

### **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 Dean 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 Dean of Instruction and the student's faculty advisor or counselor.

## Part III

# 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.

### 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. This includes 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 staff—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 Counseling 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 is available to provide additional information of interest to students. The handbook describes student activities and organizations and also lists the college rules and regulations.

## **STUDENT CONDUCT**

Each individual is considered a responsible adult, and it is assumed that men and women of college age will maintain standards of conduct appropriate to membership in the college community. Emphasis is placed on standards of student conduct rather than on limits or restrictions of students. Guidelines and regulations governing student conduct usually are developed by representatives of the students, faculty, counseling staff, and administration. The College refrains from imposing a rigid code of discipline but reserves the right to take disciplinary action compatible with its own best interest when it is clearly necessary. The regulations shall become official by administrative statement.

Failure to meet standards of conduct acceptable to the Col-

lege 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 Virginia Community College System guarantees to each student the privilege of exercising his rights of citizenship under the Constitution of the United States without fear of prejudice. Special care is taken to assure due process and to spell out clearly-defined routes of appeal when a student feels his rights have been violated.







# **Part IV**                      **Curriculums of Study**

## **Associate in Arts Degree Curriculum**

Liberal Arts

## **Associate in Science Degree Curriculums**

Business Administration

Science

Pre-Teacher Education

Pre-Engineering (first year only)

## **Associate in Applied Science Degree Curriculums**

Business Management

Drafting and Design Technology

Electronics Technology

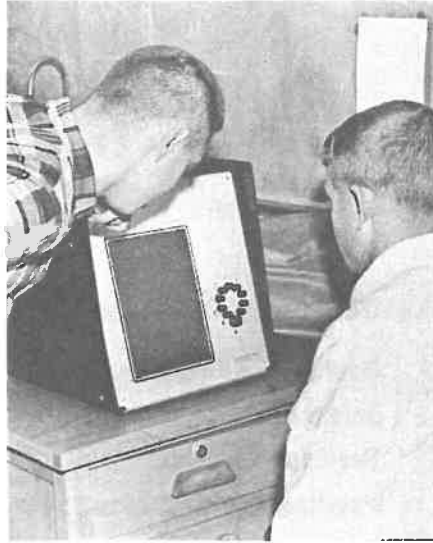
## **Certificate Curriculums**

Mechanical Drafting

Steno-Clerical Arts

## **Co-operative Nursing Program**

## **Preparatory Foundation Program**



## MINIMUM REQUIREMENTS FOR ASSOCIATE DEGREES

Associate in Arts (A.A.)

Associate in Science (A.S.)

Associate in Applied Science (A.A.S.)

	Number of credits (Quarter Hours)		
	A.A.	A.S.	A.A.S.
<b>Humanities</b>			
English Composition	9	6-9	6
Literature (English, American, or World)	6-9	3-6	—
Speech	0-3	0-3	3
Art, Drama, Music, and/or Philosophy	3-6	0-3	—
	<sup>b</sup>		
Foreign Language	9-18	—	—
<b>Social Sciences</b>			
History (American or Western Civilization)	9	3-9	—
Economics	0-9	0-9	3
Government	0-9	0-9	3
Psychology or Human Relations	0-9	0-9	3
<b>Natural Sciences and Mathematics</b>			
Natural Science (Laboratory) (Biology, Chemistry, Geology, Physics)	12-15	12-15	—
Mathematics	9	3-9	—
Health, Physical Education, or Recreation	3-6	3-6	3-6
Orientation	1	1	1
Electives and other Major Field Requirements	<sup>a</sup> 6-24	<sup>a</sup> 57	<sup>c</sup> 75
Minimum Total Number of Credits for Degree	97	97	97

a. 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 further to consult with the Counseling Department of the Community College in planning his program and selecting his electives.

b. Students who have successfully completed two years of a foreign language in high school may petition for advanced placement to the sophomore level course of this foreign language.

c. The Associate in Applied Science degree programs generally are organized approximately as follows:

Specialized courses in major field	50%
Supporting technical and theory courses in related fields	25-30%
General education courses	20-25%

# 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, usually 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
- 1 unit of algebra I
- 1 unit of geometry or algebra II
- 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.

## ASSOCIATE IN ARTS DEGREE CURRICULUM

### LIBERAL ARTS

		Credits
ECON	Economics*	5
ENGL 111-112-113	English Comp I-II-III	9
ENGL	Literature*	9
GENL 100	Orientation	1
GOVT	Government*	5
HIST	History*	9
MATH	Math.*	9
PHED	Physical Ed. or Health*	3
PSYC	Psychology*	5
	Natural Science with Lab*	12
	Foreign Language**	18
	Humanities Elective*	9
	Elective*	3
	Total	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 administration to help provide 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 administration.

**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
- 1 unit of algebra I
- 1 unit of geometry or algebra II
- 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 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.

## ASSOCIATE IN SCIENCE DEGREE CURRICULUM

### BUSINESS ADMINISTRATION

		Credits
BUAD 211-212-213	Prin. of Account. I-II-III	12
ECON 214-215	Prin. of Economics I-II	9
ENGL 111-112-113	English Comp. I-II-III	9
ENGL	Literature*	6
ENGL	Literature or Speech*	3
GENL 100	Orientation	1
GOVT	Government*	5
HIST	History*	9
MATH	Math.*	9
PHED	Physical Ed. or Health*	3
PSYC	Psychology*	5
	Natural Science with Lab*	12
	Humanities Elective*	5
	Other Electives*	9
	Total	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.

# 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 pro-



vided 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.

#### ASSOCIATE IN SCIENCE DEGREE CURRICULUM

##### SCIENCE

		Credits
ECON	Economics*	5
ENGL 111-112-113	English Composition I-II-III	9
ENGL	Literature	6
ENGL	Literature or Speech*	3
GENL 100	Orientation	1
GOVT	Government*	5
HIST	History*	6
MATH	Mathematics*	9
MATH	Adv. Math or Elective*	9
PHED	Physical Ed. or Health*	3
PSYC	Psychology*	5
	Natural Science with Lab*	12
	Adv. Nat. Science with Lab*	12
	Humanities Elective*	3
	Other Electives*	9
	Total	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 baccalaureate 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
- 1 unit of algebra I
- 1 unit of geometry or algebra II
- 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.

## ASSOCIATE IN SCIENCE DEGREE CURRICULUM

### PRE-TEACHER EDUCATION

		Credits
ECON	Economics*	5
ENGL 111-112-113	English Composition I-II-III	9
ENGL	Literature*	6
GENL 100	Orientation	1
GOVT	Government*	5
HIST 111-112-113	American History I-II-III	9
MATH	Mathematics*	9
PHED	Physical Ed or Health*	3
PSYC 204-205	General Psychology I-II	9
	Natural Science with Lab*	12
	Humanities Elective*	5
	Electives*	24
	Total	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:** None—This program represents the first year of a four-year baccalaureate degree program

**Length:** Three quarters

**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 Pre-Engineering Program 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	Engineering Mechanics
Agricultural Engineering	Industrial Engineering
Architectural Engineering	Mechanical Engineering
Ceramic Engineering	Metallurgical Engineering
Chemical Engineering	Mining Engineering
Civil Engineering	Nuclear Engineering
Electrical 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 Pre-Engineering Program 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 113 (the beginning English course for pre-engineering majors), as indicated by high school grades and test scores, may first have to complete ENGL 111 and 112. 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 Program.

**Program Requirements:** This program includes the English and humanities, mathematics, science, social science, and introductory engineering courses usually required in the first year 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.**

### PRE-ENGINEERING

		Credits
CHEM 111-112-113	Gen Inorganic Chem I-II-III	12
ENGL 113	English Composition III**	3
ENGL	Literature*	3
ENGR 100	Introd to Engineering	1
ENGR 121-122	Engineering Graphics I-II	4
ENGR 123	Descriptive Geometry	3
GENL 100	Orientation	1
HIST	History*	6
MATH 141-142-143	Math Analysis I-II-III	15
PHED	Physical Ed or Health*	3
	Total	51

\*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 113 as indicated by high school grades and test scores may first have to take ENGL 111 and ENGL 112.

# 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 quarter (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.

## ASSOCIATE IN APPLIED SCIENCE DEGREE CURRICULUM

### BUSINESS MANAGEMENT

		Credits
BUAD 100	Intro to Business	3
BUAD 106	Office Procedures	2
BUAD 111-112-113	Accounting I-II-III	12
BUAD 156	Office Machines	2
BUAD 170	Bus Orgn & Management	3
BUAD 240	Business Finance	3
BUAD 241-242	Business Law I-II	6
BUAD 246	Money and Banking	3
BUAD 286	Personnel Management	2
BUAD 294	Intro to Bus Statistics	3
BUAD 299	BUAD Seminar & Project	2
DAPR 100	Intro to Data Processing	4
ECON 160	American Economics	3
ENGL 101-102	Communication Skills I-II	6
ENGL 136	Speech Communication	3
ENGL 280	Business English	3
GENL 100	Orientation	1
GOVT 180	American Const Govt	3
MATH 151-152	Business Mathematics	6
PHED	Phys Ed or Health*	3
PSYC 128	Human Relations	3
SECR 111	Typewriting I**	3
	Electives*	18
	Total	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.

→ 6 hrs. BUAD  
12 hrs. other

# 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 admissions requirements in Part II of this catalog), entry into the Associate in Applied Science curriculum in Drafting and Design Technology requires proficiency in high school English, mathematics and science including one unit of algebra. 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.

**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.

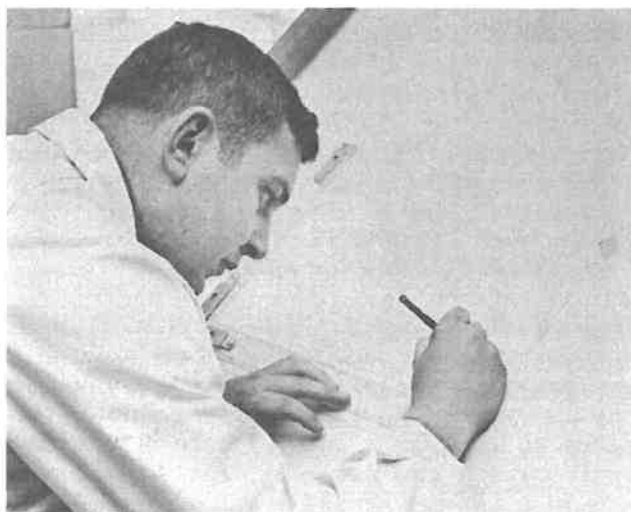


## ASSOCIATE IN APPLIED SCIENCE DEGREE CURRICULUM

### DRAFTING AND DESIGN TECHNOLOGY

		Credits
DRFT 111-112-113	Drafting I-II-III	6
DRFT 211-212-213	Adv. Drafting IV-V-VI	9
DRFT	Drafting Elective*	2
ECON 160	American Economics	3
ENGL 101-102-103	Communication Skills I-II	9
ENGR 151	Mechanics I (Statics)	3
ENGR 152	Mechanics II (Strength of Materials)	4
GENL 100	Orientation	1
GOVT 180	American Const. Govt.	3
INDT 111-112	Mat. & Proc. of Industry I-II	6
INDT 176	Plant Safety	2
INDT 226	Plant Layout	3
INDT 299	Seminar & Project Drafting & Design Technology	2
MATH 111-112-113	Tech. Math I-II-III	9
MATH 211	Adv. Tech. Math. I	3
MECH 218	Jig & Fixture Design	3
PHED	Physical Ed Elective*	3
PHYS 111-112-113	Technical Physics I-II-III	12
PSYC 128	Human Relations	3
	Approved Electives*	11
	Total	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. 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.

**Program Requirements:** The curriculum in Electronics is a two-year program 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.

## ASSOCIATE IN APPLIED SCIENCE DEGREE CURRICULUM

### ELECTRONICS TECHNOLOGY

		<b>Credits</b>
DAPR 100	Intro to Data Processing	4
DRFT 256	Electronics Drafting	2
ECON 160	American Economics	3
ELEC 114	Fund of Direct Current	4
ELEC 115	Fund of Alternating Current	4
ELEC 116	Circuit Analysis	4
ELEC 120	Tubes & Transistors	4
ELEC 121	Electronics	4
ELEC 126	Amplifiers	4
ELEC 227	Pulse & Switching Circuits	3
ELEC 241-242	Communications I-II	8
ELEC 276	Instruments & Measurements	4
ELEC 287	Advanced Circ & New Devices	2
ELEC 299	Seminar & Proj in Elec Tech	2
ELEC	Electronic Elective*	2
ENGL 101-102-103	Communication Skills I-II-III	9
GENL 100	Orientation	1
GOVT 180	American Const Govt	3
MATH 111-112-113	Technical Math I-II-III	9
PHED	Phys Education Elective*	3
PHYS 111-112-113	Tech Physics I-II-III	12
PSYC 128	Human Relations	3
	Approved Electives*	3
	Total	97

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

# 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, requires 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 four-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

		Credits
DRFT 071-072-073	Basic Blueprint Reading I-II-III	6
DRFT 126	Intro to Graphic Presentation	3
DRFT 131-132-133	Mechanical Drafting I-II-III	15
ECON 160	American Economics	3
ENGL 101-102-103	Communication Skills I-II-III	9
GENL 100	Orientation	1
GOVT 180	American Government	3
MATH 011-012-013	Elements of Mathematics*	9
INDT 111-112	Matl and Processes of Indust I-II	6
NASC 126	Science in Industry	3
PSYC	Psychology**	3
	Total	61

\*MATH 111-112-113 Technical Mathematics I-II-III (3 cr.) (3 cr.) (3 cr.) may be substituted for the entire MATH 011-012-013 sequence.

\*\*The student must consult with the Counseling Department of the College in the selection of an appropriate course in the subject-matter field indicated.

# Steno-Clerical Arts

**Certificate:** Certificate in Steno-Clerical Arts

**Length:** Four-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.

## CERTIFICATE CURRICULUM

### STENO-CLERICAL ARTS

		Credits
BUAD 100	Introduction to Business	3
BUAD 121	Record Keeping	3
BUAD 156	Office Machines	2
ECON 160	American Economics	3
ENGL 101-102	Communication Skills I-II	6
GENL 100	Orientation	1
GOVT 180	American Government	3
MATH 151	Business Mathematics	3
PSYC	Psychology***	3
SECR 111	Typewriting I*	3
SECR 112-113	Typewriting II-III	6
SECR 217	Typewriting Skill Building	2
SECR 121	Shorthand I*	4
SECR 122-123	Shorthand II-III	8
SECR 221	Shorthand Transcription	3
SECR 136	Filing & Record Management	2
SECR 156	Personal Development**	3
	Total	58

\*Students who have successfully completed at least one year of typewriting and shorthand in high school will have SECR 111 and SECR

121 waived, making this a three-quarter program of study. **SECR 111 and SECR 121 will be offered in the summer session only.**

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

**\*\*\*The student must consult with the Counseling Department of the College in the selection of an appropriate course in the subject-matter field indicated.**

## **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 test 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 scheduled 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 available 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.

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



## **Special Training Programs**

An important part of the community college philosophy centers around the concept of serving the community. Any community served by the college, if job opportunities warrant it, may apply for a special training program to be conducted by the College. These programs, which are usually of a short term nature, shall be tailored to fit the exact needs of a company and shall terminate when the immediate needs are met. The special training programs may be carried out at the College, or the individual company may request that a college instructor come to the industry to conduct the program.

## **Community Service Programs**

The College considers community service programs an integral part of its function. These programs may include degree credit, non-degree credit courses, and special programs which are taken primarily for cultural enrichment. The community service programs are aimed at both adults and full-time students, and they help fulfill the belief that the College is to serve the entire community. Some examples of community service programs are:

Special short term courses which develop various skills

Non-credit art courses for adults and students

A cinema series featuring classic motion pictures

Student-adult forums which discuss vital community issues in the true spirit of the "Old Town Meetings"

An annual arts festival which features local, state, national and international talent.

# Part V

# Description of Courses

## Course Numbers

Courses numbered 000-099 are freshman level courses for the preparatory foundations program and for the occupational programs. 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. They may also be used in certificate and diploma programs.

Courses numbered 200-299 are sophomore level courses applicable toward an associate degree. They may also be used in certificate and diploma programs.

## 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 Dean of Instruction 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.

ARTS 126 FREE-HAND SKETCHING (2 cr.)—Basic principles and practice in free-hand sketching. Laboratory 6 hours per week.

ARTS 196 ART WORKSHOP (2 cr.)—A workshop for individual special projects in arts and crafts. Laboratory 6 hours per week.

## BIOLOGY

BIOL 101-102-103 GENERAL BIOLOGY I-II-III (4 cr.) (4 cr.) (4 cr.)—Fundamental characteristics of living matter from the molecular level to the ecological community with emphasis on general biological principles. Diversity of plant and animal life; evolutionary processes; adaptation of organisms to their environments. Lectures 3 hours, Laboratory 3 hours, Total 6 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 217 INTRODUCTORY INVERTEBRATE ZOOLOGY (6 cr.)—Prerequisite BIOL 103 or permission of the instructor. The biology of invertebrate animals with special references to structure, function, ecology, classification, and evolution. Lectures 4 hours, Laboratory 4 hours, Total 8 hours per week.

BIOL 218 INTRODUCTORY VERTEBRATE ZOOLOGY (6 cr.)—Prerequisite BIOL 103 or permission of the instructor. Fundamentals of vertebrate anatomy, physiology, embryology, classification, and evolution. Lectures 4 hours, Laboratory 4 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 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 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 standards and controls. Lectures 3 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 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 006 BASIC CHEMISTRY (4 cr.)—A foundations course in general chemistry designed to develop a basic understanding of inorganic and organic chemistry. Lectures 3 hours, Laboratory 3 hours, Total 6 hours per week.

CHEM 101-102-103 GENERAL CHEMISTRY I-II-III (4 cr.) (4 cr.) (4 cr.)—Course designed to introduce the student to fundamental laws and theories of chemistry; the most important elements and their compounds; the basic facts; the properties and uses of the more important metallic and non-metallic elements and their general importance. The laboratory

work in the third quarter includes qualitative analysis. Lectures 3 hours, Laboratory 3 hours, Total 6 hours per week.

**CHEM 104-105 BASIC HEALTH SCIENCE CHEMISTRY (4 cr.) (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 111-112-113 GENERAL INORGANIC CHEMISTRY I-II-III (4 cr.) (4 cr.) (5 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 3 hours, Laboratory 3 hours, Total 6 hours per week. (Laboratory for CHEM 113 is 6 hours.)

**CHEM 241-242-243 ORGANIC CHEMISTRY I-II-III (4 cr.) (4 cr.) (4 cr.)**—Prerequisite CHEM 113 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 hour, 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 tool drawings 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 260 ARCHITECTURAL DRAWING (3 cr.)**—Basic standard building details are studied and drawn. One point and two point perspective line drawings are included. Working drawings for a small building are made, including floor and foundation plans, elevations, wall sections and details. Lecture 1 hour, Laboratory 6 hours, Total 7 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 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 211-212-213 PRINCIPLES OF ECONOMICS I-II-III (3 cr.) (3 cr.) (3 cr.)—The principles of economics and the bearing of these principles on present American conditions; structural and functional aspects of the economy. Analysis, problems and issues relating to organization of business, labor, and government institutions, and economic stability and growth. Measurements of economics activity. Private enterprise, economic growth and stabilization policies, monetary and fiscal policy. 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.

### 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 characteristic, 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.)**—Prerequisite **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.)**—Prerequisite **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.

### 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 040 READING IMPROVEMENT (3 cr.)—A course designed with the use of modern techniques, equipment, and materials to increase the student's comprehension, skill, and speed in reading. Lectures 2 hours, Laboratory 3 hours, Total 5 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 111-112-113 ENGLISH COMPOSITION I-II-III (3 cr.) (3 cr.) (3 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 equivalent. Expository writing, ranging from single paragraphs to essays of some length and complexity. Study of the logical, rhetorical, and linguistic structures of expository prose; the methods and conventions of preparing research papers; and the practical criticism of major literary types. Lectures 3 hours per week.

ENGL 120 INTRODUCTION TO JOURNALISM (3 cr.)—Mass communication media which have reporting functions are surveyed as preparation for study in specific areas. Contributions of newspapers, magazines, radio, and television to journalistic techniques are shown and special news gathering organizations are examined. Beginning instruction and practice in news writing is included. Lectures 3 hours per week.

ENGL 121-122-123 JOURNALISM I-II-III (2 cr.) (2 cr.) (2 cr.)—Instruction and classroom practice in gathering, evaluating, and writing news. Techniques of page layout, newspaper make-up, rewriting, and editing. Lecture 1 hour, Laboratory 3 hours, Total 4 hours per week.

ENGL 136 SPEECH COMMUNICATIONS (3 cr.)—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 251-252-253 AMERICAN LITERATURE I-II-III (3 cr.) (3 cr.) (3 cr.)—Prerequisite satisfactory completion of freshman English. The cultural history of America as revealed through its major literary works and historical events. Emphasis on the ideas, themes and characteristics of an emerging national literature. I: Colonial period to 1860; II: 1860 to 1914; III: 1914 to present. Lectures 3 hours per week.

ENGL 261-262-263 ENGLISH LITERATURE I-II-III (3 cr.) (3 cr.) (3 cr.)—Prerequisite satisfactory completion of freshman English. 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 271-272-273 INTRODUCTION TO WORLD LITERATURE I-II-III (4 cr.) (4 cr.) (4 cr.)—Prerequisite completion of freshman English.

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 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 280 BUSINESS ENGLISH (3 cr.)**—Prerequisite ENGL 102. 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 234-235 INTRODUCTION TO FRENCH CIVILIZATION AND LITERATURE I-II (5 cr.) (4 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 5 hours per week in FREN 234 and Lectures 4 hours per week in FREN 235.

### **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 2 hours per week.

### **GOVERNMENT**

**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 281-282-283 UNITED STATES GOVERNMENT I-II-III (3 cr.) (3 cr.) (3 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 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.)—Prerequisite 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 evaluates present problems as they relate to the functioning of the United States. Lectures and Seminars 2 hours per week.

#### HEALTH

HLTH 107 CONCEPTS OF PERSONAL AND COMMUNITY HEALTH (3 cr.)—An introductory course in the maintenance of health and prevention of illness at the personal and community level. Lectures 3 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.

### **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 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 arrangement, 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 knowledge 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 011-012-013 ELEMENTS OF MATHEMATICS I-II-III (3 cr.) (3 cr.) (3 cr.)**—Designed for the occupational student. This course involves practical applications of elementary mathematics, including algebra, geometry, and trigonometry, to the common everyday problems in the manufacturing and trade world. The instructional material meets the full requirements for elementary mathematics in the machinist, drafting, toolmaking, and auto mechanic trades. Lectures 2 hours, Laboratory 2 hours, Total 4 hours per week.

**MATH 031-032 BASIC ALGEBRA I-II (5 cr.) (5 cr.)**—Fundamentals of algebraic calculations for students who need a survey of the basic principles of algebra. MATH 031 covers introductory algebra and MATH 032 surveys the second year of high school algebra. 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 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, nonlinear 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 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: 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 161-162-163 COLLEGE MATHEMATICS I-II-III (3 cr.) (3 cr.) (3 cr.)**—Prerequisite: 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 equivalent. A modern unified course in algebra, trigonometry, analytic geometry, and calculus for students other than those in engineering. Lectures 3 hours per week.

**MATH 181-182-183 GENERAL COLLEGE MATHEMATICS I-II-III (3 cr.) (3 cr.) (3 cr.)**—This course is intended for students with majors other than mathematics, science or engineering. Prerequisite algebra I and either algebra II or geometry and a satisfactory mathematics score on the ACT test. Topics including sets; the logic of algebra; the real number system; algebraic and transcendental functions, relations and graphs will be covered the first two quarters. The third quarter will include permutations, combinations, probability and elementary statistics.

**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 264-265 ADVANCED COLLEGE MATHEMATICS I-II (5 cr.) (4 cr.)**—Prerequisite MATH 163 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 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 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 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 107 PHYSICAL PERFORMANCE (1 cr.)—Group and individual work in the development and understanding of strength, balance, agility, and cardio-vascular function. Clinic 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 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 thermo-dynamics, 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 121-122-123 GENERAL PHYSICS I-II-III (4 cr.) (4 cr.) (4 cr.)—Prerequisite or corequisite: MATH 181 or equivalent. General freshman physics. Fundamentals and principles of physics including mechanics, heat, sound, electricity, and light. Lectures 3 hours, Laboratory 3 hours, Total 6 hours per week.

## PSYCHOLOGY

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 201-202-203 GENERAL PSYCHOLOGY I-II-III (3 cr.) (3 cr.) (3 cr.)—An introduction of human 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 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 PSYC 204; Lectures 4 hours per week in PSYC 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. 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 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 examination. Lecture 1 hour, Laboratory 2 hours, Total 3 hours per week.

SECR 221 SHORTHAND TRANSCRIPTION I (3 cr.)—Prerequisite SECR 123. 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.

#### **SOCIAL SCIENCES**

SOSC 161-162-163 AMERICAN CIVILIZATION I-II-III (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.

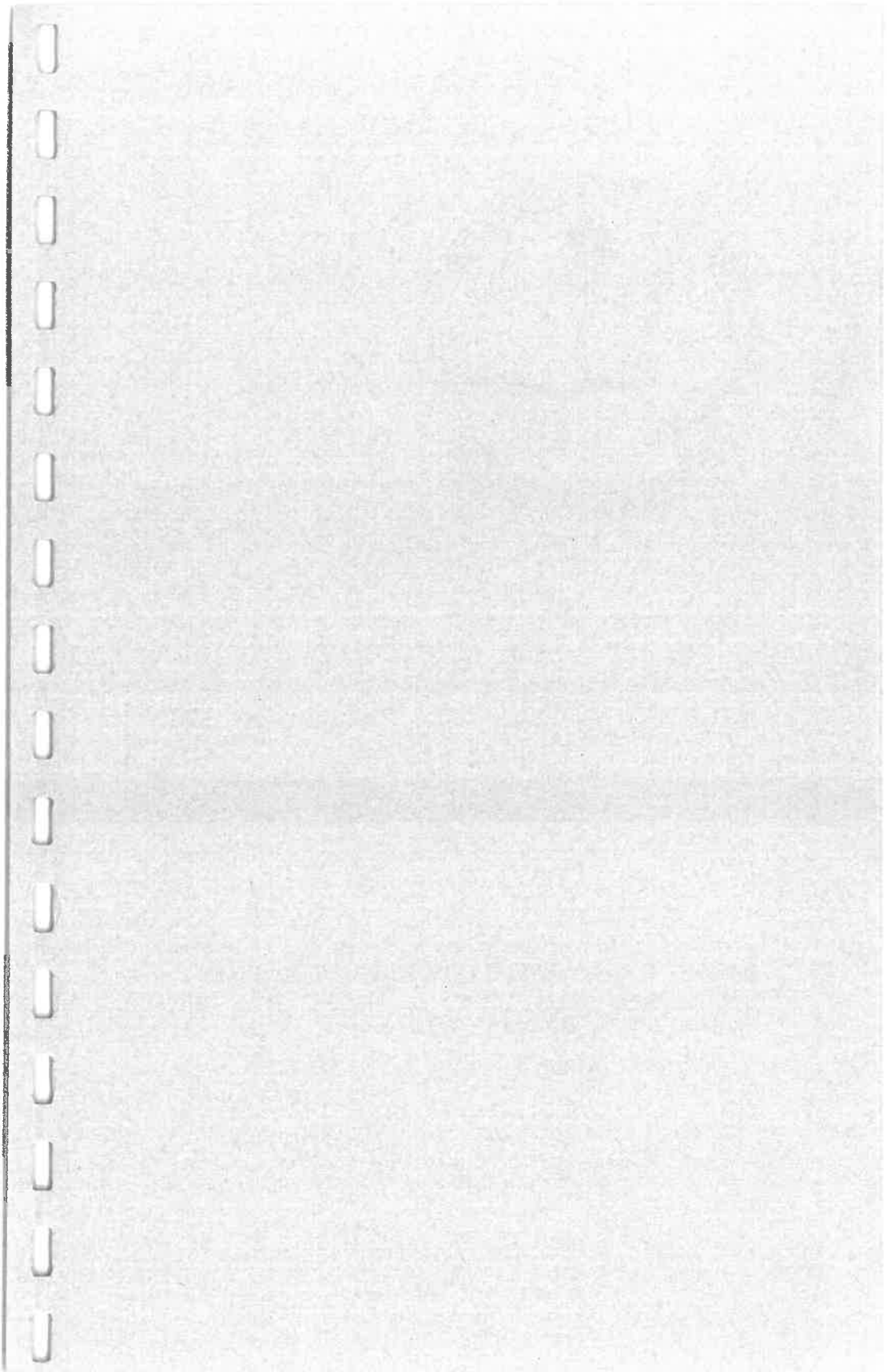
SOSC 180 PROBLEMS OF MAN IN THE MODERN WORLD (3 cr.)—Survey of contemporary social, political, and economic problems connected with industrialization, urbanization, the role of government, national and international tensions. Lectures 3 hours per week.

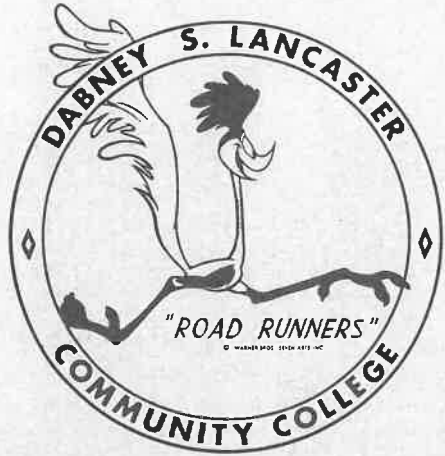
#### **SOCIOLOGY**

SOCI 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.

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 nature 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.







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**DABNEY S. LANCASTER COMMUNITY COLLEGE**  
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CLIFTON FORGE, VIRGINIA 24422