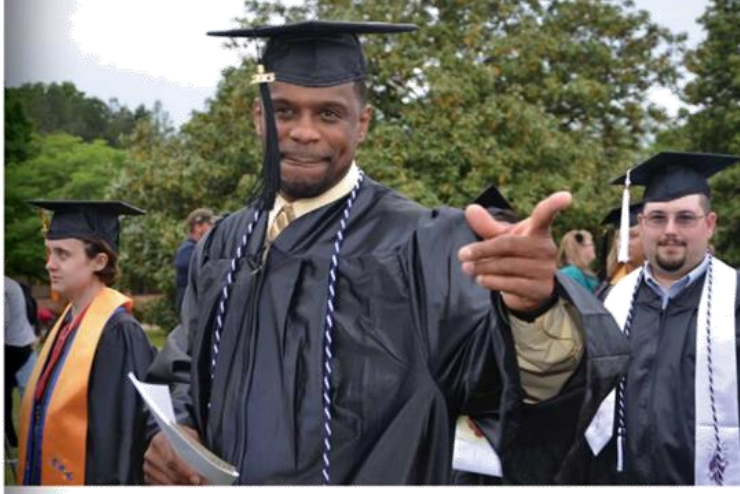


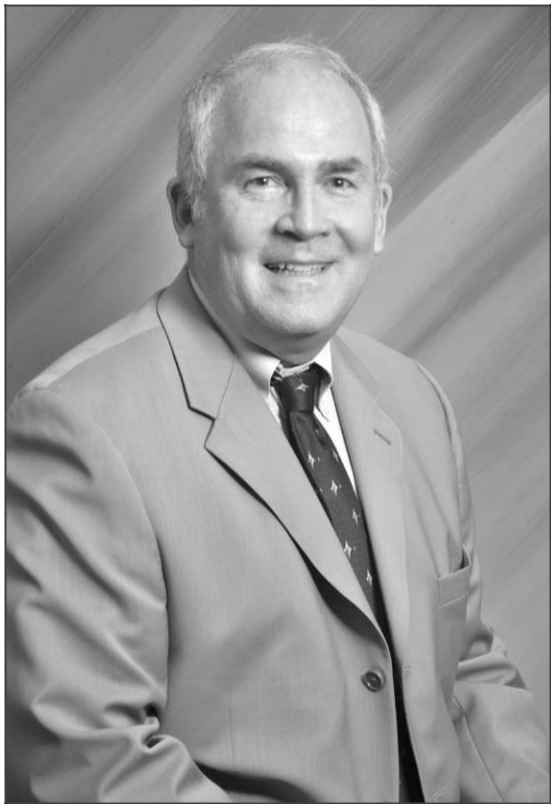
DCC

Danville Community College

Catalog 2014-15

Message from the President

Welcome!



What an exciting time to be at Danville Community College! We have an array of programs and services that are designed to engage you and prepare you for the workplace or for transfer to a baccalaureate-degree-granting institution. Either way, you will receive a quality education with faculty, staff and administrators who care about your success.

If you are seeking a technical credential, you have come to the right place. Our programs have a 90-100 percent placement rate with our graduates seeking jobs in advanced manufacturing, IT, and health care. Our graduates in public service, air conditioning, electrical/electronics, automotive analysis, welding, auto body and other career-relevant fields of study are finding employment in this community and beyond. The College continues to update its facilities and undertake building projects to expand labs and purchase state-of-the-art equipment. We are also creating career pathways with area high schools to expand our dual enrollment offerings so that students can begin technical training programs or earn a certificate or associate degree while still in high school.

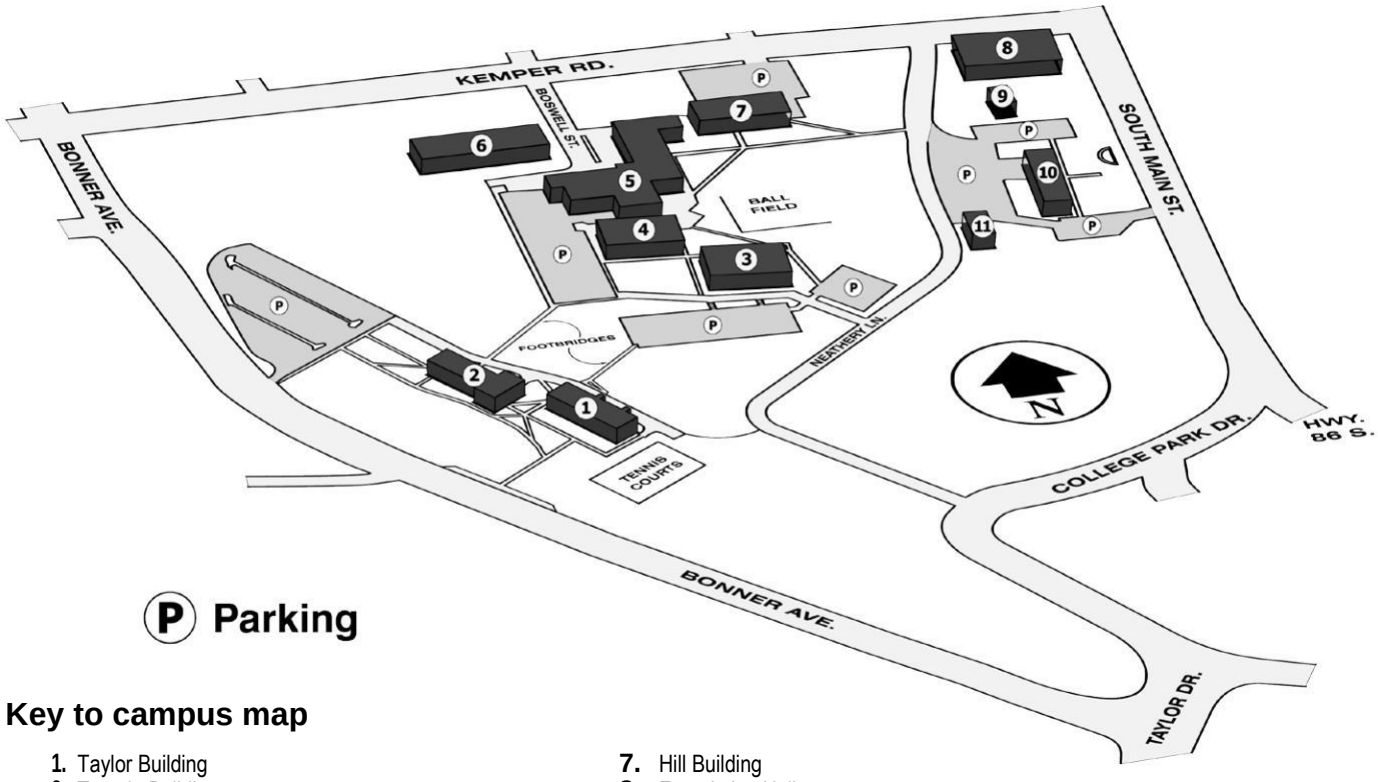
Students who transfer after completing studies at DCC are successful at four-year colleges and universities because of the more than 25 articulation agreements that are in place. We assist students in aligning their DCC courses closely with the transfer institution to ensure a smooth transition. DCC also has opportunities for you to demonstrate leadership through a variety of activities, including service learning, honor societies, sports, and clubs and organizations.

Finally, we are trying to ensure that higher education is affordable. Through more than $300,000 in scholarships each year and a host of financial aid options, including work study, we want you to achieve your educational goals. We have a lot to offer you at Danville Community College. This 2014-15 catalog provides a lot of answers about DCC; but we invite you to come for a campus visit and see what we are all about.

Sincerely,

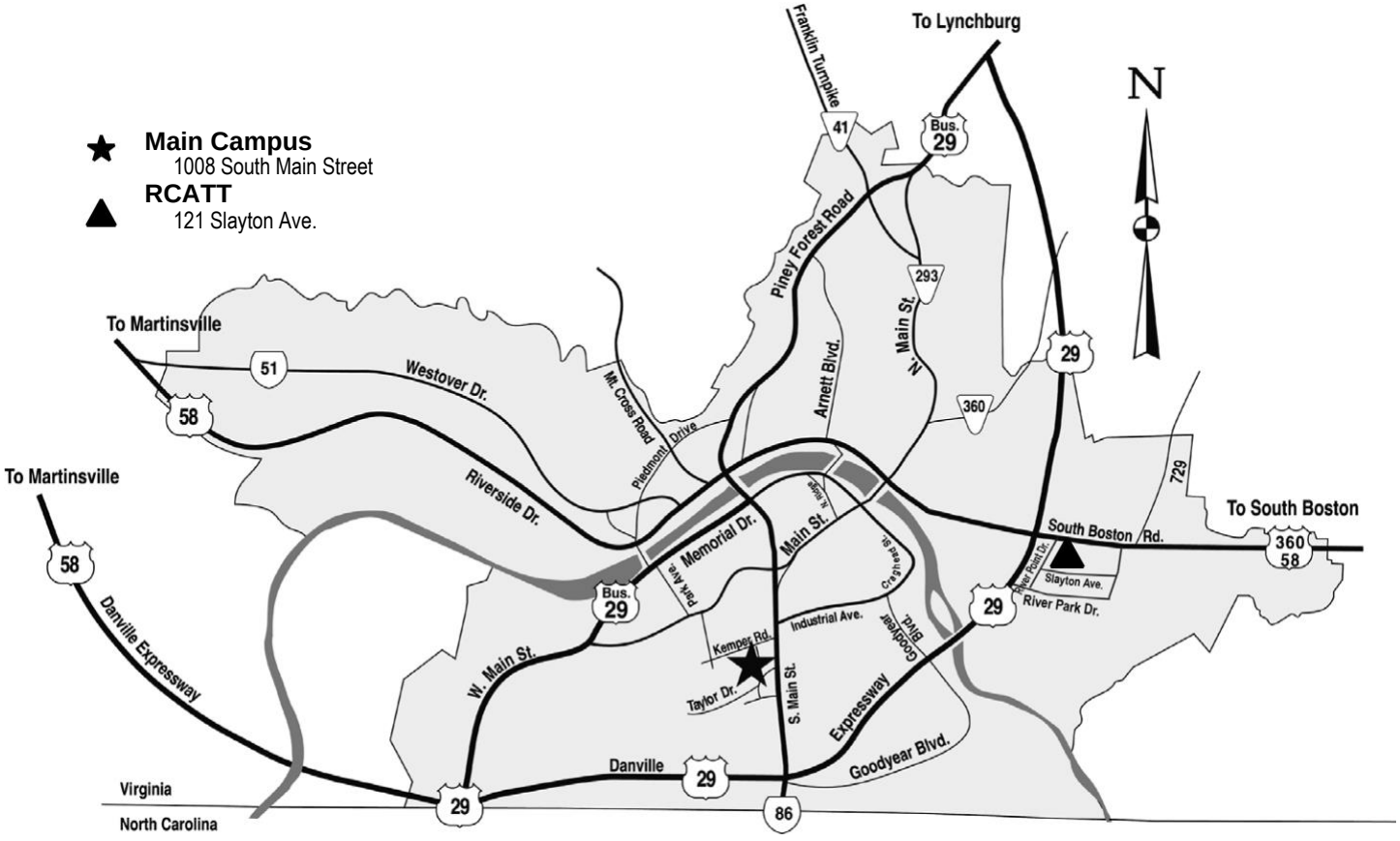
Dr. Bruce R. Scism
President

Campus/Area Maps



Key to campus map

1. Taylor Building
2. Temple Building
3. Whittington W. Clement Learning Resources Center
4. Student Center
5. Charles R. Hawkins Engineering and Industrial Technologies Building
6. John H. Zechman Facilities Support Center
7. Hill Building
8. Foundation Hall
9. Carrington Child Development Center
10. Wyatt Building
11. Womack Hall



Locations/Office Hours

Danville Community College

Danville Community College
1008 South Main Street
Danville, VA 24541-4004
434.797.2222 • Toll Free: 800.560.4291
434.688.0136 (vp) • FAX: 434.797.8514
Email: info@dcc.vccs.edu
www.dcc.vccs.edu

Regional Center for Advanced Technology and Training (RCATT)

121 Slayton Avenue
Danville, VA 24541
434.797.6437

Administrative Office Hours

8 a.m. to 5 p.m., Monday through Friday

Whittington W. Clement Learning Resources Center

Mary M. Barksdale Library Hours
(During Full-Session Classes)
Monday - Thursday: 8 a.m. to 9 p.m.
Friday: 8:00 a.m. to 12 noon
Saturday: Closed
Sunday: 1 to 5 p.m. (Fall and Spring Semesters only)

Learning Assistance Center Hours
Monday - Thursday: 7:30 a.m. to 9 p.m.
Friday: 8:00 a.m. to 12 noon
Saturday: Closed
Sunday: 1 to 5 p.m. (Fall and Spring Semesters only)

Off-Campus Locations

Riddle Center

(located in the Gretna Public Library)
207-B Coffey Street
Gretna, VA 24557
434.656.8000

Southern Virginia Higher Education Center

P.O. Box 739
820 Bruce Street
South Boston, VA 24592
434.572.5456 or 434.572.5451

Table of Contents

Your Community College Offers the Following Programs of Study

Associate of Arts and Science Degree (College Transfer – AA&S)
Associate of Science Degree (College Transfer – AS) • Associate of Applied Science Degree (AAS)
Diploma (D) • Certificate (C)

*pending approval

*pending approval

2014-2015 Academic Calendar

FALL SEMESTER 2014

Advising by Appointment/Registration for Fall Semester	June 9-August 22
Payment of Tuition & Add/Drops *(8:00 a.m. - 4:30 p.m.)*	
(Day & Evening Classes)	June 9-August 22
Faculty Planning and Preparation Days	August 18-22
Classes Begin	August 25
Late Registration	August 25-29
Last Day for New Registration	August 29
Holiday *(College Closed)*	September 1
*Swaps/Drops Only *(8:00 a.m. - 4:30 p.m.)*	September 2-3
Swaps cannot be processed without the approval of the instructor	
Last Day to Withdraw With Full Tuition Refund	September 10
Faculty Planning and Preparation Day	October 21
Mid-term Grades Posted	October 20-24
Last Day to Withdraw Without Mitigating Circumstances *(W Grade Issued)*	October 31
Institutional Effectiveness Day	November 6
Advising by Appointment/Registration for Spring Semester	November 4-December 12, January 2; 5-9
Faculty Research Day	November 26
Holidays *(College Closed)*	November 27-28
Classes End	December 12
Exams	December 15-19
Faculty Planning and Preparation Days	December 22-23
College Closed	December 24-31

SPRING SEMESTER 2015

Holiday *(College Closed)*	January 1
Advising by Appointment/Registration for Spring Semester	January 2; 5-9
Registration/Payment of Tuition & Add/Drops *(8:00 a.m. - 4:30 p.m.)*	
(Day & Evening Classes)	January 2; 5-9
Faculty Planning and Preparation Days	January 2; 5-9
Classes Begin	January 12
Late Registration	January 12-16
Last Day for New Registration	January 16
Holiday *(College Closed)*	January 19
*Swaps/Drops Only	January 20-21
Swaps cannot be processed without the approval of the instructor	
Last Day to Withdraw With Full Tuition Refund	January 28
Mid-term Grades Posted	March 2-6
Spring Break	March 9-13
Last Day to Withdraw Without Mitigating Circumstances *(W Grade Issued)*	March 20
Advising by Appointment/Registration for Summer Session	April 1-May4
Institutional Effectiveness Day	April 8
Classes End	May 4
Exams	May 5-8; 11
Faculty Planning and Preparation Days	May 12-15
Graduation	May 15

2014-2015 Academic Calendar

SUMMER SESSION – 2015

Advising by Appointment/Registration for Summer Session ..... April 1-May 4
Registration/Payment of Tuition *(8:00 a.m. - 4:30 p.m.)*
(Day & Evening Classes) ..... April 1-May 22
Advising by Appointment/Registration for Fall Semester ..... June 1-until Fall Semester Classes Begin

Full Session

Classes Begin ..... May 26
Late Registration ..... May 26-29, June 1
*Swaps/Drops Only ..... June 2
Swaps cannot be processed without the approval of the instructor
Last Day to Withdraw With Full Tuition Refund ..... June 3
Last Day to Withdraw Without Mitigating Circumstances *(W Grade Issued)* ..... July 2
Holiday *(College Closed)* ..... July 3
Classes End ..... July 27

First Session

Classes Begin ..... May 26
Late Registration ..... May 26-28
Last Day to Withdraw With Full Tuition Refund ..... May 29
Last Day to Withdraw Without Mitigating Circumstances *(W Grade Issued)* ..... June 12
Classes End ..... June 24

Second Session

Classes Begin ..... June 25
Late Registration ..... June 25-26, June 29
Last Day to Withdraw With Full Tuition Refund ..... June 30
Holiday *(College Closed)* ..... July 3
Last Day to Withdraw Without Mitigating Circumstances *(W Grade Issued)* ..... July 14
Classes End ..... July 27

General Information

The College

Danville Community College is a two-year institution of higher education under the statewide Virginia Community College System. DCC's service area includes the City of Danville, Pittsylvania County, and Halifax County. The College, its employees, and students are governed by the policies established by the State Board for Community Colleges with the support and advice of the Danville Community College Board.

Danville Community College promotes and maintains educational and employment opportunities without regard to race, color, sex, ethnicity, religion, gender, age (except when age is a bona fide occupational qualification), disability, national origin, or other non-merit factors. Danville Community College prohibits sexual harassment including sexual violence. Inquiries related to the college's nondiscrimination policies should be directed to: Affirmative Action Officer/Title IX Coordinator, Danville Community College, 1008 S. Main St., Danville, VA 24541, 434.797.8458; toll free: 800.560.4291, ext. 8458, or 434.688.0136 (VP).

Danville Community College values the multi-cultural diversity of its students, faculty, and staff. We are committed to creating and nurturing a campus environment that both welcomes and empowers all individuals. We recognize cultural differences of background, experience, and national origin, and we seek to promote a genuine understanding and appreciation for these differences. We also seek to recognize and promote the common bonds of humanity, which cross the boundaries of cultural differences.

The College has an open admissions policy. You can enroll if you have a high school diploma or the equivalent, or have reached the age of 18 and can benefit from a program of study. In order to help you succeed, you may, however, be required to participate in developmental studies before beginning coursework in the particular field of study you have chosen.

Location

The main campus is located in Danville, VA, at 1008 South Main Street (Route 86). The Regional Center for Advanced Technology and Traning (RCATT) is located at 121 Slayton Avenue in Danville. Please refer to campus and area maps on page 2.

History

Danville Community College developed from two institutions, Danville Technical Institute and the Danville Division of Virginia Polytechnic Institute. Danville Technical Institute opened in 1936 as Danville Textile School, becoming Danville Technical Institute in 1941. The Danville Division of Virginia Polytechnic Institute first began as an engineering division in 1946, and was later expanded to include the first two years of coursework for all engineering, business administration, liberal arts, and science majors.

Beginning in the summer of 1966, all programs taught by Danville Technical Institute were brought under the Virginia Department of Community Colleges. Effective July 1, 1968, the Danville Division of Virginia Polytechnic Institute merged with the existing community college to provide more comprehensive programming.

Vision Statement

Danville Community College will be the college of choice in our region for exemplary educational programs and services.

Mission Statement

Danville Community College is committed to providing quality comprehensive higher education and workforce programs and services to promote student success and to enhance business and community development.

Programs

Danville Community College is a comprehensive institution of higher education offering programs of instruction extending two years beyond the high school level. These programs include:

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

College Transfer Education: The 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.

General Education: General education is that portion of the collegiate experience that addresses the knowledge, skills, attitudes, and values characteristic of educated persons. It is unbounded by disciplines and honors the connections among bodies of knowledge. The following seven elements embody the essence of general education: communication, critical thinking, cultural and social understanding, information literacy, personal development, quantitative reasoning, and scientific reasoning.

Continuing Adult Education: These programs are offered to enable the adults in the region to continue their learning experiences. This work includes both degree credit and non-degree credit work offered on- and off-campus.

Special Training Program: Special training is provided where specific job opportunities are available for new or expanding industries. This special training is coordinated with Virginia's economic expansion efforts and with the needs of employers.

Developmental Studies Program: Foundation and developmental programs are offered to help prepare a student 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 students develop the basic skills and understanding necessary to succeed in community college programs.

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 college. This service includes the non-classroom and non-credit programs, cultural events, workshops, meetings, lectures, conferences, seminars and special community projects that are designed to provide needed cultural and educational opportunities for the citizens of the region.

College Goals

The seven goals of the College are:

1. **Educational Programs:** The College will provide quality credit and non-credit educational programs and instruction.
2. **Faculty and Staff:** The College will have an excellent faculty and staff.
3. **Academic and Student Services:** The College will provide quality services to assist students in achieving their academic and personal goals.
4. **Educational Environment:** The College will have facilities, equipment, and technology that enhance an effective learning environment.
5. **Outreach Programs:** The College will have a comprehensive outreach program.
6. **Community Relations:** The College will foster effective partnerships.
7. **Resources:** The College will obtain and use resources to achieve its mission and goals.

DCC General Education Goals and Student Learning Outcomes*

Danville Community College graduates will demonstrate competency in the following general education areas:

1. Communication

A competent communicator can interact with others using all forms of communication, resulting in understanding and being understood. DCC graduates will demonstrate the ability to:

1.1 understand and interpret complex materials;
1.2 assimilate, organize, develop, and present an idea formally and informally;
1.3 use standard English;
1.4 use appropriate verbal and non-verbal response in interpersonal relations and group discussions;
1.5 use listening skills; and
1.6 recognize the role of culture in communication.

2. Critical Thinking

A competent critical thinker evaluates evidence carefully and applies reasoning to decide what to believe and how to act. DCC graduates will demonstrate the ability to:

2.1 discriminate among degrees of creditability, accuracy, and reliability of inferences drawn from given data;
2.2 recognize assumptions, or presuppositions in any given source of information;
2.3 evaluate the strengths and relevance of arguments on a particular question or issue;
2.4 weigh evidence and decide if generalizations or conclusions based on the given data are warranted;
2.5 determine whether certain conclusions or consequences are supported by the information provided; and
2.6 use problem solving skills.

3. Cultural and Social Understanding

A culturally and socially competent person possesses an awareness, understanding, and appreciation of the interconnectedness of the social and cultural dimensions within and across local, regional, state, national, and global communities. DCC graduates will demonstrate the ability to:

3.1 assess the impact that social institutions have on individuals and culture—past, present, and future;
3.2 describe their own as well as others' personal ethical systems and values within social institutions;
3.3 recognize the impact that arts and humanities have upon individuals and cultures;
3.4 recognize the role of language in social and cultural contexts; and
3.5 recognize the interdependence of distinctive world-wide social, economic, geo-political, and cultural systems.

4. Information Literacy

A person who is competent in information literacy recognizes when information is needed and has the ability to locate, evaluate, and use it effectively. DCC graduates will demonstrate the ability to:

4.1 determine the nature and extent of the information needed;
4.2 access needed information effectively and efficiently;
4.3 evaluate information and its sources critically and incorporate selected information into his or her knowledge base;
4.4 use information effectively, individually, or as a member of a group, to accomplish a specific purpose; and
4.5 understand many of the economic, legal, and social issues surrounding the use of information and access and use information ethically and legally.

5. Personal Development

An individual engaged in personal development strives for physical well-being and emotional maturity. DCC graduates will demonstrate the ability to:

5.1 develop and/or refine personal wellness goals; and
5.2 develop and/or enhance the knowledge, skills, and understanding to make informed academic, social, personal, career, and interpersonal decisions.

6. Quantitative Reasoning

A person who is competent in quantitative reasoning possesses the skills and knowledge necessary to apply the use of logic, numbers, and mathematics to deal effectively with common problems and issues. A person who is quantitatively literate can use numerical, geometric, and measurement data and concepts, mathematical skills, and principles of mathematical reasoning to draw logical conclusions and to make well-reasoned decisions. DCC graduates will demonstrate the ability to:

6.1 use logical and mathematical reasoning within the context of various disciplines;
6.2 interpret and use mathematical formulas;
6.3 interpret mathematical models such as graphs, tables, and schematics and draw inferences from them;
6.4 use graphical, symbolic, and numerical methods to analyze, organize, and interpret data;
6.5 estimate and consider answers to mathematical problems in order to determine reasonableness; and
6.6 represent mathematical information numerically, symbolically, and visually, using graphs and charts.

7. Scientific Reasoning

A person is competent in scientific reasoning adheres to a self-correcting system of inquiry (the scientific method) and relies on empirical evidence to describe, understand, predict, and control natural phenomena. DCC graduates will demonstrate the ability to:

7.1 generate consistent arguments based on empirical evidence;
7.2 distinguish a scientific argument from a non-scientific argument;
7.3 reason by deduction, induction, and analogy;
7.4 distinguish between causal and correlational relationships; and
7.5 recognize methods of inquiry that lead to scientific knowledge.

**Complements Virginia Community College System General Education Goals and Student Learning Outcomes (www.vccs.edu)*
Note: Reaffirmed by DCC Curriculum Committee, March 27, 2014.

Educational Foundation

The Danville Community College Educational Foundation is a tax-exempt, non-profit organization governed by a Board of Directors composed of concerned citizens, donors and alumni. The Foundation was established to enhance the academic excellence of Danville Community College and to improve the College's ability to serve the citizens of our area in accordance with the College's mission. Objectives of the Foundation include: awarding student scholarships, providing professional development for faculty and staff, ensuring that instructional equipment keeps pace with technological changes, strengthening the academic programs, and encouraging cultural activities.

Accreditation

Danville Community College is one of 23 colleges in the Virginia Community College System. The associate degree curricula of the College have been approved by the State Council of Higher Education for Virginia. Danville Community College is accredited by the Southern Association of Colleges and Schools Commission on Colleges to award the associate degree. Contact the Commission on Colleges at 1866 Southern Lane, Decatur, GA 30033, telephone 404.679.4500 for questions about the accreditation of Danville Community College. *(Note: The commission is to be contacted only if there is evidence that appears to support an institution's significant non-compliance with a requirement or standard.)*

Enrollment Information

Admission Information

All matters pertaining to admission to DCC should be addressed to the Office of Admissions and Records, located on the first floor of the Wyatt Building, Room 108.

General Admission To

Danville Community College

Individuals are eligible for admission to Danville Community College if they are high school graduates or the equivalent, or if they are 18 years of age or older and able to benefit academically from study at the community college, as demonstrated by assessment in reading, writing and mathematics.

Minimum scores are noted in the chart below:

	Virginia Placement Test (VPT)	Compass	Asset
Reading	ENF 1	62	35
Writing	ENF 1	32	35
Mathematics	MTE 1	25	33

Exceptions to this policy may be made by the college president only for documented reasons.

The College reserves the right to evaluate and document special cases and to refuse or revoke admission if the College determines that the applicant or student poses a threat, is a potential danger, is significantly disruptive to the college community, or if such refusal or revocation is considered to be in the best interest of the College. DCC also reserves the right to refuse admission for applicants who have been expelled or suspended from, or determined to be a threat, potential danger or significantly disruptive by another college. The decision to refuse or deny admission is final and not subject to appeal. Students whose admission is revoked after enrollment will be given due process. Please see Appeal Process for Revoked Admissions in this catalog.

Individuals may be admitted to DCC as curricular or non-curricular students.

Admission For High School Students

Although high school and home school students are not normally qualified for general admission, DCC offers admission to those students who meet additional criteria. All students admitted under this section must demonstrate readiness for college by meeting the criteria below. Students enrolling in a dual enrollment course must meet all course pre-requisites.

Admission Criteria for Transfer Courses

		Virginia Placement Test (VPT)	Compass	Asset	PSAT	SAT	ACT	SOL
English/Writing	ENG 111	76	43	50	500	21	N/A
Reading	ENG 111	81	42	50	500	21	N/A
Mathematics	MTE 1	25	33	52	520	22	Algebra 1 - Pass

Admission Criteria for CTE (Career and Technical Education) Courses

	Virginia Placement Test (VPT)	Compass	Asset	PSAT	SAT	ACT	SOL
English/Writing	ENF 1	32	35	50	500	21	N/A
Reading	ENF 1	62	35	50	500	21	N/A
Mathematics	MTE 1	25	33	52	520	22	Algebra 1 - Pass

Dual Enrollment: Danville Community College may enter a contractual agreement with high schools in the service region and offer college-level courses through the high school. In accordance with the Virginia Community College System statewide agreement on dual enrollment, students enrolled in these courses may earn both high school and college credit. Dual enrollment is restricted to high school juniors and seniors. Because admitting freshman or sophomore students is considered exceptional, the college ready status of each prospective freshman and sophomore student will be treated on a case-by-case basis. Formal approval by the College President is required for admitting freshman and sophomores. Documentation of parental permission is required for all dual enrollment students.

Students interested in dual enrollment should contact the high school guidance department or the DCC Admissions Office.

Concurrent Enrollment: High school juniors and seniors may be admitted to the College and enroll for courses prior to graduating from high school. Prior to admission, the College must receive a completed Concurrent Enrollment Form approved and signed by the student, the student's parents and his/her high school principal, and be approved by the Danville Community College Admissions Committee. Because admitting freshman or sophomore students is considered exceptional, the college ready status of each prospective freshman and sophomore student will be treated on a case-by-case basis. Formal approval by the College President is required for admitting freshmen and sophomores. Students requesting to take courses at the freshman and sophomore level will be restricted to enrolling in a maximum of one credit course per session. Students interested in concurrent enrollment should contact the DCC Admissions Office.

Homeschooled Student: Homeschooled students studying at the high school junior or senior levels may be admitted to the College and enroll in courses prior to the completion of high school. Prior to admission, the College must receive a completed Homeschooled Student Enrollment Form approved and signed by the student, the student's parents, and his/her high school principal/overseer for homeschooler course work, and be approved by the Danville Community College Admissions Committee. Homeschooled students must provide a copy of a home school agreement approved by the school district or a letter from the local school board or a copy of the letter filed by the parent/legal guardian declaring home school for religious exemption. Because admitting freshman or sophomore students is considered exceptional, the college ready status of each prospective freshman and sophomore student will be treated on a case-by-case basis. Formal approval by the College President is required for admitting freshmen or sophomores.

Contract/Memorandum of Agreement

Under certain circumstances, Danville Community College may enter into an agreement with business, industrial, and governmental groups to provide educational services. Students admitted under this arrangement will receive full benefit of College services; however, they may need to meet additional requirements in order to enroll in a specific program.

Senior Citizens

Students are classified as senior citizens if they are 60 years of age or older and enrolled in credit or non-credit courses without tuition charge under provisions of the Senior Citizen Higher Education Act of 1974, as amended.

To enroll tuition free in credit or non-credit courses on a space-available basis students should meet the following criteria. (not to exceed three courses per semester)

- be 60 years of age or older prior to the semester of enrollment;
- be a legal resident of Virginia;
- have had a taxable income not exceeding $15,000 for income tax purposes for the year preceding enrollment; and
- must be admitted to the college as a student.

To be eligible for free tuition for audit of credit courses, or for taking non-credit courses (not to exceed three courses per semester), a person must be:

- 60 years of age or older prior to the semester of enrollment;
- a legal resident of Virginia; and
- admitted to the college as a student.

Interested senior citizens should contact the admissions office for information and required application materials. Any person meeting the above criteria will be admitted to a course only after all tuition paying students have been accommodated.

International Students

Danville Community College is a two-year, nonresidential, commuter college. The College welcomes applications from qualified international students who meet the College's academic, financial, and language requirements. Before processing a request for admission to the College and issuing a form I-20 for the F-1 Visa, the following documents must be submitted 60 days prior to the beginning of the semester in which enrollment is sought: completed DCC application, proof of the equivalent of an American high school diploma, official TOEFL scores, verification of financial support sufficient to enroll as a full-time student without the need to work off campus, a doctor's statement certifying good health, a brief statement of desire to attend DCC, and a photocopy of the applicant's passport. After the student's I-20 is issued, the student must complete the college assessment test (VPT), enroll in a minimum of 12 credit hours in a transfer program and file a copy of the passport and I-94 card with the Admissions Office. Students seeking 1-20 must be enrolled in a two-year program. International students are not able to sustain employment at the school or in the community. International students are not allowed to receive financial aid.

Other Immigrant Status

It is the policy of Danville Community College to admit to the College those applicants who are immigrants residing in Virginia who have graduated from a Virginia high school with a high school diploma or equivalent, even if they are not able to document their legal presence. Those who are undocumented will pay tuition at the out-of-state rate. DCC will follow State Council for Higher Education for Virginia Domicile Guidelines for establishing domicile.

Readmission

Former students who have not been enrolled for a period of three (3) years or more and wish to enroll must submit a new application for admission available from the Admissions Office or online at http://www.dcc.vccs.edu/ Studentservices/BecomeaStudent.htm

Possession of Weapons Prohibited

Possession or carrying of any weapon by any person, except a police officer, is prohibited on college property in academic buildings, administrative office buildings, student centers, child care centers, dining facilities and places of like kind where people congregate, or while attending any sporting, entertainment or educational events. Entry upon the aforementioned college property in violation of this prohibition is expressly forbidden.

Any individual in violation of this prohibition will be asked to remove the weapon immediately. Failure to comply may result in a student conduct referral, an employee disciplinary action, or arrest.

DCC Policy Related to Legislation Regarding Admissions

: Section 23-2.2:1 of the Code of Virginia requires that the Virginia Community College System (VCCS) send enrollment information to the Virginia State Police concerning applicants to institutions of higher education. This information is transmitted electronically and compared against the Virginia Criminal Information Network and National Crime Information Center Convicted Sexual Offender Registry. Language on the web application informs applicants that their information is being transferred to the State Police.

In the event that the Virginia State Police determine that an applicant to Danville Community College is listed on the Sex Offender Registry, the State Police will notify DCC. When the College receives such notification, the following procedures apply:

1. The applicant will be denied admission to DCC in accordance with its admission policy as published in this catalog. (see Admission Denied/ Revoked in this section). The decision is final and not subject to appeal.
2. If the applicant registers for classes and becomes a student before the College receives notification from the State Police that he/she is listed on the Sex Offender Registry, the student will immediately be informed that he/she is being administratively withdrawn from classes and will receive a tuition refund. An applicant, in this instance, may invoke his/her right to an appeal process.

Appeal Process for Revoked Admission

When a student's admission is revoked, he/she may invoke the appeal process. Students who have registered for class but not yet started classes will be administratively withdrawn, and an appropriate service indicator will be placed on the student's record which will prevent the student from registering for classes. If the student is already attending classes, the College will reserve the class enrollment until the appeal process is complete, but the individual will not be allowed to attend class during the appeal process. The College will make every effort to expedite the appeals timeline.

1. The student will receive a certified letter/return receipt requested from the Dean of Student Success and Academic Advancement or designee notifying the student of the revoked admission and outlining the appeal process.
2. The student may write a letter of appeal to the Dean of Student Success and Academic Advancement in which he/she (1) provides justification for consideration of admission/reinstatement and (2) discloses the nature of the offense and/or conviction serving as the basis for DCC's action to revoke admission. If the student is a convicted sex offender, the letter should include a statement acknowledging his/her understanding that his/her identity and status as a convicted sex offender will be publicized on the college campus in accordance with federal and state law if he/she is admitted or reinstated.
   The letter of appeal must be submitted to the Dean of Student Success and Academic Advancement within seven (7) business days of notification by the College
3. A panel of five (5) full-time faculty or administrators will review the information submitted and make a decision by a simple majority vote within fourteen (14) business days of receiving the letter of appeal.

The Dean of Student Success and Academic Advancement will serve as the convener of the panel and will be a member of the panel. Panel discussions will be confidential.

4. If the panel determines that the withdrawn student represents a threat or potential danger to the College and/or the revoked admission/withdrawn enrollment is considered to be in the best interest of the College, the following apply:
   a. the student's admission to the College will remain revoked
   b. the student will be administratively withdrawn from classes if classes have been held
   c. an enrolled student will receive a tuition refund. Tuition refunds will not be granted for students removed from the College for disciplinary reasons
5. The Dean of Student Success and Academic Advancement will inform the student by certified letter/return receipt requested of the decision of the appeals panel. The decision of the appeals panel shall be final.

Admission Procedures

Curricular Admission *((Applies to program-placed students):*

1. A completed application for admission including the Domicile Determination Form, available online at www.dcc.vccs.edu/BecomeaStudent.
2. Official transcripts from all high schools, colleges, and universities attended. If the student has been out of high school five years or more, high school transcripts are not required for admission to the College; however, certain programs may require high school transcripts for admission. Graduates who complete secondary in a home school setting must provide a graduation date and will be required to provide documentation of coursework.
3. All program placed students are required to take a placement assessment. Students should contact the Counseling Office at 434.797.8460 or email dcc placement@dcc.vccs.edu to make an appointment. All students are strongly encouraged to complete the practice test which is available online at www.dcc.vccs.edu/studentServices/Admissions/PlacementTesting.
4. Meet with a DCC counselor to discuss placement test scores and program selection.

Placement Testing Policy:

Math Placement: Test scores are valid for two (2) years after the date of the test. Students who take the placement test and who do not enroll in developmental math are allowed to take one (1) retest within twelve (12) months. Students who attempt a developmental mathematics course will be ineligible for a retest. Exceptions to this retest policy may be made on a case-by-case basis. A student who provides official evidence of a minimum score of 520 on the mathematics section of the SAT or a minimum score of 22 on the mathematics section of the ACT, taken within the last two (2) years, may be exempt from taking the VCCS mathematics placement test based on the mathematics requirements in the student's academic plan.

English Placement: Test scores are valid for two (2) years after the date of the test. Students who take the English placement test and who do not enroll in developmental English are allowed to take one (1) retest within twelve (12) months. Students who attempt a developmental English course will be ineligible for a retest. Exceptions to this retest policy may be made on a case-by-case basis. A student who provides official evidence of a minimum score of 500 on both the critical reading and writing sections of the SAT or a minimum score of 21 on the English Test and Reading Test of the ACT, taken within the last two (2) years, is exempt from taking the VCCS English placement test.

Non-Curricula Admission (Applies to non-program-placed students)

1. A completed application for admission including the Domicile Determination Form which is available online at www.dcc.vccs.edu/BecomeaStudent.
2. Acceptance by the College does not ensure admission to a specific curriculum or course. Non-curricular students must satisfy all required course prerequisites or placement testing requirements before enrolling in specific college-level courses.
3. Non-curricular students may request to meet with a DCC counselor to review course options.

Admissions to Specific Curricula

In addition to the general admission requirements explained above, specific requirements are listed for each program of the College. Among the items generally considered in determining students' eligibility for admission to a curriculum are their educational and occupational experiences and other reasonable standards to ensure that they can successfully complete the program requirements. Specific requirements for each program of the College are listed in the Programs of Study section of this Catalog. If a student does not meet the requirements for a specific program or course, the student may improve his or her chances of eligibility by completing Developmental Studies courses.

Residence Requirements

Each student applying for admission must complete a Domicile Determination Form in order to be declared legally domiciled in Virginia. Students must verify that one year before the date of entering the term for which they are requesting in-state tuition status they had given up any previous domicile and were living in Virginia with the unqualified intention of remaining in Virginia. Please contact the Admissions Office for more information regarding residency requirements. It is the student's responsibility to submit documentation and provide clear and convincing evidence regarding their domicile.

Domicile Appeals Process

A student who disagrees with an initial tuition classification may submit a Domicile Reclassification Form to the Domicile Appeals Committee within 10 calendar days of the initial notification. The committee will respond to the appeal within 15 calendar days. The Domicile Appeals Committee shall consist of two members of the Student Services Office. No person who serves at one level of this appeals process shall be eligible to serve at any other level of this review.

If the student still disagrees with the tuition classification, the student may file a final written appeal with the Vice President of Academic and Student Services. This written appeal must be made within five calendar days of the student's notification of the first appeal. The Vice President of Academic and Student Services will notify the student in writing of the final administrative decision within 30 calendar days of receipt of the appeal.

A student who is not satisfied with the outcome of the review by the Vice President of Academic and Student Services may appeal to the appropriate circuit court. The student must file a petition for review with the court within 30 calendar days of receipt of the decision by the Vice President of Academic and Student Services.

Auditing a Course

Students desiring to attend a course without taking the examination or receiving credit for the course may do so by registering to audit through the usual registration process and paying the normal tuition. Permission of the division dean or another appropriate academic administrator is required to audit a course. Audited courses carry no credit and do not count as part of the student's course load. Students desiring to change status in a course from audit to credit or from credit to audit must do so within the add/drop period for the course. Students who desire to earn credit for a previously audited course must re-enroll in the course for credit and pay normal tuition to earn a grade other than "X." Advanced standing credit should not be awarded for a previously audited course.

Advanced Standing Credit

Advanced standing is the administrative placement of a student that awards credit for subject matter competency based upon previous academic study or occupational experience. This may include, but is not limited to, college credit and advancement based upon individual college participation in the Advanced Placement Program (AP) or testing through the College Level Examination Program (CLEP); training provided by non-collegiate institutions, such as the armed forces; professional certification, or experiential learning/work experience.

Advanced standing policies at Danville Community College are consistent with the Commission on Colleges of the Southern Association of Colleges and Schools (SACS) principles and with Virginia Community College System (VCCS) policy.

To be eligible to apply for advanced standing credit, a student must be admitted to Danville Community College and officially placed in a program of study.

Credit awarded for CLEP, AP, departmental challenge exams, and credit for work experience may satisfy DCC program of study requirements, but will not necessarily transfer to another institution. Students desiring to transfer credit awarded via these methods should contact their four-year college of interest to determine its policy. However, appropriate credit, when awarded, will be listed on the student's official DCC transcript.

Students desiring to earn college credit through one of the above advanced standing methods or who wish to take a locally developed departmental exam should contact the appropriate division office in which the course is taught.

Danville Community College may award credit for the following competencies:

AP (Advanced Placement)

Many area high schools offer Advanced Placement (AP) or honors courses to their students giving them the opportunity to complete college level work while attending high school. A minimum Advanced Placement score of 3 is required for credit at DCC. An official copy of the AP transcript must be submitted to the DCC Admissions Office in order to obtain credit. Unofficial, student copies, or high school transcripts noting the AP credit will not be accepted for credit at the college.

CLEP (College Level Examination Program)

CLEP is a national program of credit-by-examination that offers students the opportunity to obtain college credit for prior academic achievement. DCC accepts most of the CLEP offered exams, and uses the American Council on Education recommended minimum score of 50 for awarding CLEP credit. An official copy of the CLEP transcript must be submitted to the DCC Admissions Office in order to obtain credit. Unofficial or student copies of transcripts will not be accepted for credit.

CLEP examinations are not offered through DCC.

IBO (International Baccalaureate Organization)

Students who have completed the Standard Level certificate with a score of 4 to 7 in the International Baccalaureate program may be granted advanced standing credit for a variety of courses.

Students requesting IB credit must have an official transcript sent from the International Baccalaureate Organization to the DCC Admissions Office in order to be considered for credit.

Credit for Military Training

A student's military training, courses, and occupational specialty can all be considered for college credit. As a participating member of Service members Opportunity Colleges (SOC), Danville Community College follows the American Council on Education's (ACE) Guide to the Evaluation of Educational Experiences in the Armed Services in determining the value of learning acquired in military service when applicable to the service member's program of study. Military service credit in the occupational/technical areas (i.e., Engineering, Health Technology) may require approval by the appropriate division dean prior to award.

In order to receive credit for your military training, the student must submit a military transcript which includes the ACE recommended credit, and initiate a request for evaluation to the DCC Admissions Office. Note: If the student submits only the DD214 and no military transcript, only credit for HLT/PED eee will be awarded. Students who have completed basic training, regardless of the date of military experience, may receive credit for HLT/PED eee. Each branch of the service has its own transcript request service.

Police Academy Certificates

Per the Articulation Agreement between the Virginia Community College System and the Virginia Department of Criminal Justice Services, students who have satisfactorily documented successful completion of the VA State Police Academy or a Regional and Independent Certified Training Academy shall be awarded the following credit. Appropriate documentation is required and must be submitted to the Administration of Justice program advisor or to the Dean of Arts and Science.

Previous Completion Credit (Experiential Learning/Work Experience Credit)

The purpose of the Danville Community College policy on non-traditional credits is to award credit or advanced standing to students with documented experience related to specific course work offered at DCC.

Students may be awarded college credit if they can demonstrate previous educational study or training/work experience that entitles them to credit for specific courses applicable to their program of study. Documentation for special training or experience must be submitted with the request for credit and will be retained in the student's file. The supporting documentation must include samples of work or projects completed to assist the division in credit determination.

Students wishing to be awarded previous completion credit for a specific course should contact the appropriate division office in which the course is taught (i.e., a request for credit for Keyboarding must be submitted to the Business division.)

Danville Community College reserves the right to place a time limit on prior learning experiences for which advanced standing may be granted. The college has a time limit for accepting credit for technical courses taken previously at DCC or other institutions. The division dean, in consultation with the registrar, will determine if courses taken more than five years previously can be used in your current program of study.

Advanced Standing / Graduation Requirements

There is no limit to the number of credits that may be awarded through advanced standing credit, with the exception of previous experiential learning credit. Credit for previous experiential learning may be awarded for no more than 25% of the credit hours required for a degree. In addition, credit achieved through advanced standing may not be used to fulfill the graduation residency requirement. A minimum of 25% of the credit required in the graduation curriculum must be earned at DCC.

All accepted advanced standing credits will be acknowledged and recorded on the student's permanent record with the transferring agency or other source of credit identified. No unsuccessfully attempted advanced standing applications or examination results will be recorded on the student's permanent record.

The following shall apply to the Advanced Standing Credit requirements:

1. To earn credit for prior learning, an individual must be admitted to the curriculum in which advanced standing is requested.
2. As much as 25 percent of the required curriculum credits may be earned through the advanced standing process.
3. Advanced standing credits awarded through the advanced standing evaluation process will be posted to the student's transcript after the student has successfully completed 15 credits of coursework in the curriculum with a cumulative grade point average of at least 2.25 in the curriculum.
4. Advanced standing will be awarded only for courses in which a student is not currently and has not been previously enrolled.

Course Acceptance Policy

1. The administrator responsible for the program for which the evaluation of a student's previous coursework is requested shall:
   a. Determine the acceptability of each course the student wishes to transfer or apply toward the program requirements based upon his/her knowledge of changes, which have occurred since the course(s) was completed;
   b. Give particular attention to courses in areas which have had significant technological changes in recent years (i.e., electronics, automotive, graphic imaging, information systems, accounting, administrative support technology, etc.);
   c. As deemed appropriate, seek the input of faculty or other administrators regarding the proper course of action.
2. Courses which are determined to have outdated information and whose acceptance would not assure the student of having current skills may be used to meet elective credit requirements.
3. Students who have kept their educational training current through their job activities may have their coursework given special consideration for acceptance.
4. A student who wishes to challenge the decision regarding the non-acceptance of his/her coursework may do so by demonstrating his/her competencies in an appropriate manner to the administrator or appropriate faculty member.
5. Because of the diversity of courses offered and the differences in changes which occur over a given time, no specific time frame can be established for courses whose content may have become obsolete. However, it is recommended that all technical courses taken under the quarter system or more than five years ago be carefully reviewed for their current relevance.
6. The decision to accept or not accept a course(s) should be made with the idea that a student's graduation indicates current and relevant competencies in the program of studies.

Registration Information

Registration is held prior to the beginning of each semester or term. Specific registration dates are listed in the College's Academic Calendar in this Catalog. The dates also are posted in each building on campus and on the College's website (www.dcc.vccs.edu).

All students are encouraged to register online at http://www.dcc.my.vccs.edu.
Directions for Course Registration

1. Go to https://dcc.my.vccs.edu
2. Enter USERNAME & PASSWORD
3. Click LOGIN
4. Click VCCS SIS: Student Information System
5. Click Self Service
6. Click Enrollment
7. Click Enrollment: Add Classes
8. Select the term to register & click Continue
9. Click Search For Classes or Add Class Number
10. Click Proceed to Step 2 or 3
11. Click Finish Enrolling
12. Click View My Schedule

***Note**: Curricular (program-placed) students should contact their assigned academic advisor to register for classes.* For more information, contact the Admissions Office at 434.797.8467 or email admissions@dcc.vccs.edu.

Offerings

The College reserves the rights to cancel, withdraw, or combine classes when necessary. Classes with insufficient enrollment normally are cancelled the first week of class (see Tuition Refund Policy in this Catalog).

Expenses

Tuition

Tuition rates are established annually by the State Board for Community Colleges. Current rates can be verified by contacting the Admissions Office. The College has an extensive financial assistance program. We encourage you to review that section of this Catalog, and to contact our Financial Aid Office for additional information. Fees are subject to change by the State Board for Community Colleges.

Payment of Tuition and Fees

Fall Semester: Students wishing to enroll for Fall Semester classes may do so on the published dates during the months of June, July and August. Students are expected to pay tuition and related fees on the same day that they register; otherwise they risk losing their enrollment in classes.

Spring Semester, Summer Session, and Special Session Classes: Students enrolling for classes must pay all tuition and related fees on the same day that they register. Failure to do so will result in the cancellation of their registration.

Students who have not paid tuition and fees are not authorized to attend class(es).

Student Activity Fee

The Student Activity Fee is currently $1.50 per credit hour. Monies are used for social, cultural and student activities. Please note that fees are subject to change. Contact the Admissions Office at 434.797.8467 for the current cost.

Maintenance Fee

All students enrolled for classes on the main DCC campus pay a Maintenance Fee. The Maintenance Fee is $1.00 per credit hour for classes taken on campus. Monies are used to maintain College parking lots. Please note that fees are subject to change. Contact the Admissions Office at 434.797.8467 for the current cost.

VCCS Technology Fee

All students on and off campus will be charged a technology fee for each credit hour for which they enroll. This fee will be shown separately on the payment receipt. All monies support the acquisition of high technology equipment for academic purposes. Currently, the Technology Fee is $7.50 per credit. Please note that fees are subject to change by the State Board for Community Colleges.

Capital Fee

Currently, students with out-of-state residences are charged a $18.00 per credit Capital Fee. Please note that fees are subject to change by the State Board for Community Colleges.

E-rate

The e-rate is applicable to designated distance learning courses delivered entirely over the internet. Contact the Admissions Office for the current cost.

Other Fees

There are NO special laboratory or library fees. Students are responsible for any College property which they damage or lose (such as laboratory or shop equipment, supplies, library books, and materials).

Nonpayment of Tuition and Fees, or Other College Debts

A student's continued attendance at the College is dependent upon proper settlement of all debts owed the institution. Transcripts, certificates, diplomas, or degrees will not be issued, nor will students be permitted to complete registration until accounts are cleared satisfactorily with the Business Office, Bookstore, or Library. Should the student fail to satisfy all due and payable amounts for tuition and fees, College loans, fines, or other debts owed the College, the College may initiate disciplinary action in accordance with the Code of Student Conduct and Discipline Policy.

Bad Check/Dishonored Payment Fees: The College assesses a $35 service charge for handling returned checks or dishonored credit card or debit card payments for accounts not in past due collection status. The College assesses a $50 service charge for handling returned checks or dishonored credit card or debit card payments when the account is in past-due collection status.

Waived Tuition

Section 23-7.1 of the Code of Virginia provides that free tuition for State-supported institutions be granted to children of: (1) deceased or permanently disabled veterans of the armed forces, or (2) prisoners of war or persons missing in action; or (3) persons who have been killed in the line of duty while employed or serving as a law enforcement officer, a fire fighter, or a member of a rescue squad. To be eligible for such aid, the student must be between the ages of 16 and 25, and the parent must have met certain State residency requirements.

If you are eligible for the waiver of tuition and required fees under items (1) or (2) above, you must present a letter of certification from the State Division of War Veterans' Claims to the DCC Business Office before tuition can be waived. Requests for applications should be directed to the Director, Division of War Veterans' Claims, Commonwealth of Virginia, 210 Franklin Road, S.W., Roanoke, VA, 24011. If possible, applications should be submitted at least four months before the expected date of matriculation.

If you are eligible for the tuition waiver under item (3) above, you must provide certification from the chief administrative officer of the law enforcement agency or the State Fire Marshall that the deceased parent was employed or serving as a law enforcement officer or fire fighter or a member of a rescue squad and was killed in the line of duty. This certification must be submitted to the Business Office/Cashier so that a determination can be made on the request for free tuition and required fees.

Children, Step-Children, or Spouse of Deceased Law Enforcement/ Fire Fighter/Rescue Squad Personnel: As stated in Section 23-7.4:1 of the Code of Virginia, any child between the ages of sixteen and twenty five whose parent or any person whose spouse has been killed in the line of duty while employed or serving as a law-enforcement officer, firefighter, member of a rescue squad, sworn law-enforcement officer, special agent of the Department of Alcoholic Beverage Control, state correctional, regional or local jail officer, regional jail or jail farm superintendent, sheriff, deputy sheriff, or member of the Virginia National Guard while such member is serving in the Virginia National Guard or as a member of the United States Armed Forces, shall be entitled to free undergraduate tuition and required fees at any public institution of higher education in Virginia, if the deceased parent was domiciled in Virginia at the time of death and certification of employment is provided.

Children of Deceased or Permanently Disabled Veterans: Section 23-7.1 of the Code of Virginia states that free tuition and college fees shall be given to children of qualified permanently 100 percent disabled or deceased veterans of the armed forces of the United States who attend state supported schools of secondary grade or college level. Eligibility for such children shall be proven by the Division of War Veterans' Claims, who shall state in writing to the admitting school that tuition should be waived according to the provisions of Section 23-7.1. For further information, contact the DCC Office of Veterans' Affairs (434.797.8429). All recipients of Veterans benefits must be in an approved curriculum as recognized by the Veterans Administration and must maintain a grade point average of no less than 1.5 after 12 credit hours have been completed, excluding developmental classes.

Transcripts

In order to release a transcript the student must submit a request including his/her name (including any former names), Social Security Number (SSN) or EMPLID #, address where the transcript should be mailed, and their signature. Transcripts may be obtained by submitting a Transcript Request Form to the Admissions and Records Office , by signed letter via fax or email, or by visiting the Office to sign a release form. Official and unofficial transcripts are available for students who attended in the past 10 years, on-line at dcc.my.vccs,edu. For students who attended more than 10 years ago, request a transcript by signed letter via fax or mail or by visiting the Admissions Office to sign a release form. Students and alumni may obtain transcripts free of charge.

Grading System

The quality of performance in any academic course is reported by a letter grade, the assignment of which is the responsibility of the instructor. These grades denote the character of study and are assigned quality points as follows:

A Excellent
4 grade points per credit

B Good
3 grade points per credit

C Average
2 grade points per credit

D Poor
1 grade point per credit

F Failure
0 grade point per credit

P Pass
No grade point credit (applies to special courses. P/U Option: No more than 7 credits can count toward graduation.)

R Re-enroll
No grade point credit (used only for Developmental Studies courses. See below).

S Satisfactory
No grade point credit (used only for satisfactory completion of a Developmental Studies course).

U Unsatisfactory
No grade point credit (applies 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 withdrawal or that the withdrawal was officially made before the "deadline" date published in the college calendar.) See Withdrawal Policy in the next section.

I Incomplete
No grade point credit. The "I" grade is to be used only for verifiable unavoidable reasons that a student is unable to complete a course within the normal course time. To be eligible to receive an "I" grade, the student must (1) have satisfactorily completed more than 50% of the course requirements and (2) must request the faculty member to assign the "I" grade and indicate why it is warranted. The faculty member has the discretion to decide whether the "I" grade will be awarded. Since the "incomplete" extends enrollment in the course, requirements for satisfactory completion shall be established through consultation between the faculty member and the student. In assigning the "I" grade, the faculty member must complete documentation that (1) states the reason for assigning the grade; (2) specifies the work to be completed and indicates its percentage in relation to the total work of the course; (3) specifies the date by which the work must be completed; and (4) identifies the default grade (B, C, D, F, P, R, or U) based upon course work already completed. Completion dates may not be set beyond the subsequent semester (to include summer term) without written approval of the chief academic officer of the campus. The student will be provided a copy of the documentation. Colleges will establish procedures to ensure that all "I" grades that have not been changed by the faculty member through the normal grade change processes are subsequently changed to the default grade assigned by the faculty member. An "I" grade will be changed to a "W" only under documented mitigating circumstances which must be approved by the Vice President for Academic and Student Services.

X Audit
No credit (Permission of the Division Dean is required to audit a class.) The grade point average (GPA) is determined by dividing the total number of grade points earned in courses by the total number of credits attempted.

Grading – Developmental Studies Course

A grade of **"S"** (Satisfactory) shall be assigned for satisfactory completion of the developmental studies course.

A grade of **"R"** (Re-enroll) shall be assigned to a student who makes satisfactory progress during the term but has not completed the course objectives. This grade, which is to be used only for developmental studies, is to permit re-enrollment for the completion of the course objectives.

A grade of **"U"** (Unsatisfactory) shall be assigned to a student not making satisfactory progress. The Developmental Studies academic advisors, with the concurrence of the Dean of Student Success and Academic Advancement, will determine the subsequent sequence of courses for the student who receives a grade of "U."

A student may enroll no more than twice in any single developmental course. Appeal for a third and final enrollment must be addressed to the Admissions Committee. For additional information, refer to "Repeating A Course" section of this Catalog.

Course Credit

The credit for each course must be indicated after the title in the course description. One credit is equivalent to one collegiate semester-hour credit.

Each semester hour of credit given for a course is based on the "academic hour," which is 50 minutes of formalized, structured instructional time in a particular course weekly for fifteen weeks. This is a total of 750 minutes of instruction. In addition to this instructional time, appropriate evaluation will be required. If this evaluation is a final examination, a minimum of one hour will be scheduled for each semester hour of credit generated by the course, not to exceed three academic hours (150 minutes). Credits may be assigned to the activities as follows:

1. **Lecture** – One academic hour of lecture (including lecture, seminar, discussion, or other similar activities) per week, generally for 15 weeks, plus the evaluation or examination period, equals one collegiate semester-hour credit.
2. **Laboratory** – Two to five academic hours, depending on the discipline, of laboratory, clinical training, supervised work experience, coordinated internship, or other similar activities per week, generally for 15 weeks, plus the evaluation or examination period, equals one collegiate semester-hour credit.
3. **Asynchronous Distance Learning Courses** – In the case of asynchronous distance learning course offerings or hybrid courses that employ a mix of traditional contact hours and learning activities with students and faculty separated by time and place, colleges must demonstrate through faculty peer review that content and competency coverage and student outcomes are equivalent to those of traditional sections of the same class. In the event the only section of the course being taught in the VCCS is an asynchronous or hybrid course, faculty peer review will be employed to confirm that content and competency coverage and student outcomes are appropriate for the course credits awarded.
4. **General Usage Courses** – Variable academic hours from one to five credits for general usage courses.
5. **Variable Credits** – A college may request that a course vary from the existing credit value, but by no more than one credit. Existing variable credit ranges may not be extended. Credit variability will not be approved for purposes of deleting laboratory hours or of making laboratory hours optional. General usage courses and courses numbered 1-99 are exempt from this policy.

Withdrawal Policy

Students should be aware that withdrawal from a course might negatively affect their financial aid award. Students are encouraged to check with the Financial Aid Office to determine the impact of a course withdrawal on financial aid eligibility.

Withdrawals can be completed by telephone, online or in person. If a student withdraws from a class prior to the refund date of the term, the student is removed from the class roll and no grade is awarded. After the add/drop period, but prior to the completion of 60 percent of a session (nine weeks for regular session), a student who withdraws or is withdrawn from a course will be assigned a grade of "W."

After the 60% point, if a student withdraws or is withdrawn from a course(s) or the College, a grade of "F" will be assigned. Exceptions to this policy may be made under mitigating circumstances. Such circumstances must be documented and a copy of the documentation placed in the student's academic file. If mitigating circumstances cause the withdrawal, and if the student is making satisfactory progress at the time of withdrawal, the grade of "W" will be given.

Division Deans will decide whether the reason for withdrawal is mitigating.

Non-curricular students should initiate their withdrawals in the Counseling Office where a counselor will decide if the reason is mitigating. In all cases, mitigating circumstances must be documented and the document, plus the completed withdrawal or drop form, will be placed in the student's permanent record. Students must sign withdrawal forms. Even though students have the option of withdrawing from a course using the College's website without faculty

Tuition Refund

Students are eligible for a tuition refund if they drop classes or withdraw from the College on or before the announced date each semester. The add/drop form or withdrawal form must be processed by the Admissions Office. The College publishes in the College's Academic Calendar and on the website the dates during which a student may be eligible for tuition refunds. The College will not consider refunds after the announced date unless the student has encountered severe medical problems that relate directly to the individual student, or in case of an administrative error. Before any consideration can be made, the student must appeal to the Vice President of Academic and Student Services, and then to the Vice President of Financial and Administrative Services. The tuition refund policy and the deadline dates are established

by State policy. Please refer to the College Calendar in this Catalog for the deadline for tuition refund for full semester courses. Classes of shorter duration may have a different withdrawal deadline. Please contact the Admissions Office if you have questions.

Policy on Refunds, Credits and

Reinstatement as a Result of Military Service

Each community college shall have a policy statement providing for the tuition relief, refund, and reinstatement of military students in the event that military service requires their sudden withdrawal or prolonged absence from their enrollment. For purposes of this section, military services is defined as service on active duty in the Armed Forces, including such service by a member of the National Guard or Reserve, when mobilized or deployed for a period of more than 30 days. Dependents of military members may also be given consideration under this policy. Dependents are defined as any civilian qualifying as a military dependent under 37 USC 401 currently or as otherwise amended. Each community college shall provide for the following:

A. Tuition and Required Fees: EShould a student (as defined above) request to be withdrawn from the college after the census date, the student may elect either to be deleted from the registration file and be awarded a full refund or to be administratively withdrawn with no refund and assigned a grade of "W". Each community college shall also have a policy statement regarding the granting of refunds of Miscellaneous Education, General program, Auxiliary Services and Student Activity fees to students. The college shall provide, at the option of the student, for such refunds to be retained and to be applicable to tuition and fees charged in the semester or term in which the student returns to study.

B. Deposits: Each community college shall have a policy statement regarding the granting of refunds of deposits to students.

C. Textbooks: Each community college shall process refunds for textbooks according to contractual arrangement with local vendors.

D. Academic Credits and Grades: Students as defined above should have the opportunity to receive an incomplete grade ("I"). All course requirements shall be completed within one year from the date of release from active duty or mobilization. Students may be given the option of taking their examinations prior to regularly scheduled times. Careful consideration should be given and special options are advised for students who receive student financial aid or Veterans Administration benefits.

E. Reinstatement: Students as defined above shall be assured a reasonable opportunity to be reinstated in the same programs of study without having to re-apply for admission if they return to the same community college after a cumulative absence of not more than five years so long as the student provides notice of intent to return to the institution not later than three years after the completion of the period of service.

F. Dissemination of Information: Community college officials should make every effort to ensure that the aforementioned VCCS policies relative to tuition relief, refund, academic credit and reinstatement are well disseminated and carefully explained in accordance with the requirements of the Code of Virginia, Section 23-9.6:2, and the Virginia Tuition Relief, Refund, and Reinstatement Guidelines in the appropriate college publications. The Division of Student Success and Academic Advancement ensures that these policies are properly disseminated and administered.

Notification of Student Rights

Each institution shall establish and publish information release policies that respect the rights of individual privacy, and the confidentiality of records, and the best interests of the student and institution. As provided by the Family Educational Rights and Privacy Act (FERPA), colleges may disclose the following Virginia Community College System directory information items without the student's prior consent:

1. Student's Name
2. Participation in officially-recognized activities and sports
3. Address
4. Telephone Listing
5. Weight and height of members of athletic teams
6. Electronic mail address
7. Degrees, honors and awards received
8. Major field of study
9. Dates of attendance
10. Grade level
11. The most recent educational agency or institution attended
12. Number of credit hours enrolled
13. Photos

Students must provide official notification to the Admissions Office to prevent the disclosure of directory information. Students having questions pertaining to FERPA may contact the Dean of Student Success and Academic Advancement.

Assessment Requirements

The Commonwealth of Virginia requires a comprehensive plan for student outcomes assessment. The Danville Community College Plan was approved by the State Council of Higher Education for Virginia in 1987 and has been reviewed each year. The Plan includes a variety of procedures to ensure that the institution has an effective process for improving the instructional and student development programs. These include:

1. Assessing general education competencies of degree seeking students (Associate of Arts and Science, Associate of Science and Associate of Applied Science Degrees).
2. Administering pre- and post-tests to Developmental Studies students.
3. Tracking the progress of selected groups of students during their enrollment at Danville Community College.
4. Using a variety of assessment techniques to measure the level of success of students in meeting the objectives of their programs of study.

Students are required to participate in the assessment procedures which are appropriate to their curricula. For additional information, contact the Director of Planning, Effectiveness and Research at 434.797.8576.

Outcomes Assessment Requirement

Degree students will be required to take a core competency test designed to measure general education achievement prior to graduation for the purpose of evaluating general education competencies. No minimum score or level of achievement is required for graduation. Individual test results will remain confidential. Group scores will be used for accountability to the state and for improvement of academic programs.

Institutional Effectiveness Days

Two class days are designated each academic year (one per term) as Institutional Effectiveness Day.

Graduation

Degrees, Diplomas, and Certificates

Danville Community College offers the following degrees, diplomas, and certificates for students who successfully complete approved programs:

1. An Associate of Arts and Science Degree (AA&S) is awarded to students majoring in Business Administration, Liberal Arts, and Science, who plan to transfer to four-year colleges or universities after completing their Danville Community College program.
2. An Associate of Applied Science Degree (AAS) is awarded to students majoring in one of the occupational-technical programs and who plan to obtain full-time employment immediately upon graduation from the College.
3. An Associate of Science Degree (AS) is awarded to students majoring in Engineering and who plan to transfer to a baccalaureate program at a university.
4. A Diploma is awarded to students who complete one of the two-year non-degree occupational curriculums.
5. A Certificate is awarded to students who complete one of the approved non-degree curriculums that are usually less than two years in length. The College also offers Career Studies Certificates for programs that can be completed in less than one year.

See the Programs of Study section of this Catalog for more information, or contact the Admissions Office.

Catalog Year Determination

All students who are initially placed in a program (including Developmental Studies) are placed in a catalog year at the same time. The catalog year to which a student is assigned determines the catalog which describes their program requirements. Keeping in mind that the catalog goes Summer, Fall, and Spring, a student who is accepted for Summer 2013, Fall 2013, or Spring 2014 will be placed in the 2013-2014 catalog year.

Students who have been attending in a non-curricular status will be placed in the catalog year corresponding to their program placement, not the catalog year corresponding to the year they became a non-curricular student.

Students who were previously in a program and dropped out of college for at least one year or changed programs and then ask to be readmitted to the original program after one year will be placed in the program in existence at the time of their re-admittance. Students who drop out for less than one year or request re-admittance to a program within a year after dropping out of it, will be readmitted under the original catalog, unless there have been significant changes to the program requirements. The counselor, in consultation with the Division Dean, will be responsible for selecting the catalog year when there is a question about which to use when readmitting a student.

Requirements for Graduation

To be awarded an Associate Degree, Diploma, Certificate or Career Studies Certificate from Danville Community College, a student must:

1. Have fulfilled all of the course requirements of the curriculum as outlined in the College catalog (see Catalog Year Determination);
2. Have been recommended for graduation by the faculty and Division Dean for the student's curriculum;
3. Have completed all of the course and credit-hour requirements of the degree curriculum with at least twenty-five percent (25%) of the credits applicable for the degree acquired at Danville Community College;
4. Have earned a grade point average of at least 2.0 on all courses attempted which are applicable toward graduation in the curriculum;
5. Have completed all required assessment testing, interviews, or other activities established by the College, including but not limited to general education assessment instrument(s) used to assess and improve the effectiveness of programs and services;
6. Have filed an application for graduation (which may be waived in the case of the General Education Certificate) in the Office of Admissions and Records;
7. Have resolved all financial obligations to the College and returned all library and other College materials;
8. Have attended graduation exercises except when waived by the Vice President of Academic and Student Services.

When a student pursues a degree or diploma program, but is unable to complete the degree or diploma requirements, the student, upon the recommendation of the appropriate Division Dean and the Vice President of Academic and Student Services may be issued a certificate provided the portion of study successfully completed is equivalent to an approved certificate program and the student has met the requirements for graduation enumerated.

Graduation Honors and Awards

Appropriate honors are recorded on diplomas, certificates, or degrees. The honors, based upon scholastic achievement at Danville Community College, are as follows:

Grade Point Average or Better
3.2 Cum Laude (with honors)
3.5 Magna Cum Laude (with higher honors)
3.8 Summa Cum Laude (with highest honors)

Academic Information

Academic Load

The normal course load during a regular semester at Danville Community College is 15-18 semester hours. A student must register for at least 12 credits to be considered a full-time student. A student planning to enroll in 19 or 20 semester hours must have a 3.0 grade point average or higher and/or the approval of his/her Division Dean. Under exceptional circumstances, a student may be allowed to enroll in more than 20 semester hours provided a request is made in writing to the Vice President of Academic and Student Services and supported by written statements from the student's advisor and Division Dean.

During the summer session, a student is restricted to two regular courses each summer term or 12-14 semester hours for the entire summer session. Students wishing to enroll in 15 semester hours must have a 3.0 grade point average or higher and/or the approval of the appropriate Division Dean. Under exceptional circumstances, a student may be allowed to enroll in more than 15 semester hours provided a request is made in writing to the Vice President of Academic and Student Services and supported by written statements from the student's advisor and Division Dean.

Academic Standing

Students are considered to be "in good academic standing" if they maintain a semester minimum grade point average (GPA) of 2.00; are eligible to re-enroll at the College; and are not on academic suspension or dismissal status.

Honors Institute

In keeping with the college's commitment to provide educational opportunities consistent with the ability and interests of the individual student, DCC invites motivated students to enroll in its Honors Institute. This program consists of individually contracted Honors projects in regularly-sectioned courses, Honors Courses, and an Honors Symposium that includes two courses related by a common theme in addition to a corresponding one credit hour weekly Honors seminar.

Students may earn "Honors Scholar" designation on their diplomas and transcripts by completing a minimum of 12 credit hours through a variety of options that include Honors Projects, Honors courses, or an Honors Symposium that includes a one credit hour Honors seminar. This designation requires that the student achieve a grade point average (GPA) of 3.0 or greater. All Honors work must be completed one week prior to the graduation ceremony. Students may earn Honors designation on transcripts only by completing less than 12 hours of Honors work.

Students are eligible for Honors work if they meet all of the following criteria:

1. Non-Developmental Studies
2. A 3.25 or higher high school Grade Point Average (GPA)
3. A 3.0 or greater overall GPA in non-Honors courses
4. Satisfy prerequisites of each Honors Community course
5. Special life experiences or aptitude for the course(s) and the endorsement of two DCC faculty members

Honors Projects are based on projects negotiated with faculty and the Honors Institute Chair. These projects can be done in any non-Honors course and typically focus on topics of special interest to the student, requiring appropriate additional or alternative assignments, which go beyond regular coursework.

Students may also earn Honors credit by participating in an Honors Symposium. An Honors Symposium consists typically of two core courses linked by a common theme. The work is challenging and is designed to enhance the student's intellectual capacities. Students enrolling in an Honors Symposium can expect stimulating and rigorous assignments, which expand the ability to write, think critically and independently, research accurately, and make reasonable inferences.
Symposium themes, such as "human nature," or "environment in crisis" cut across discipline lines and demonstrate to the student that some issues and problems require the contributions of multiple disciplines. A limited enrollment of 15 students for Honors Symposium courses ensures the opportunity to increased student-to-student and student-to-faculty interaction.

Students wanting more information about the Honors Institute should contact the Arts and Science Division, 434.797.8462.

Academic Honors

President's Honors List: A student who is enrolled for six or more credit hours for the semester during which the honor is extended, has compiled a cumulative grade point average of at least 3.0, a semester grade point average of 3.75 or higher, and has completed a minimum of 24 semester hours at Danville Community College will be placed on the President's Honors List.

Vice President's Honors List: A student who is enrolled for six or more credit hours for the semester during which the honor is extended; has compiled a cumulative grade point average of at least 3.0 and a semester grade point average of 3.0 to 3.74; and has completed a minimum of 24 semester hours at Danville Community College will be placed on the Vice President's Honors List.

Academic Warning

Students who fail to attain a minimum GPA (grade point average) of 2.00 for any semester shall be placed on academic warning. Students should see their advisor/counselor and take advantage of academic support services provided by the College.

Academic Probation

Students who fail to maintain a cumulative GPA (grade point average) of 1.50 shall be on academic probation until such time as their cumulative average is 1.75 or better. The statement "Academic Probation" shall be placed on their permanent records. Students on probation are ineligible for appointive or elective office in student organizations unless special permission is granted by the Vice President of Academic and Student Services or another appropriate college administrator. Students may be required to carry less than a normal load for the following semester and are required to consult with their academic advisor/counselor. Students shall be placed on probation only after they have attempted 12 semester credits.

Academic Suspension

Students on academic probation who fail to attain a semester GPA (grade point average) of 1.50 or better shall be placed on suspension only after they have attempted 24 semester credits. Academic suspension shall be for one semester. The statement "Academic Suspension" shall be placed on the students' permanent records. Students who are placed on academic suspension and wish to appeal should follow the appeal process established by the College. Suspended students may be reinstated at the conclusion of the suspension period by following the process established by the College. Students who have been reinstated from academic suspension must achieve a 2.00 GPA or better for the semester of their reinstatement and must earn at least a 1.75 GPA in each subsequent semester of attendance. The statement "Subject to Dismissal" shall be placed on the students' permanent records. Students who have been reinstated from academic suspension will remain subject to dismissal until their cumulative GPA is raised to a minimum of 1.75. Reinstated students may be required to carry less than a normal course load the following semester and are required to consult with their advisor/counselor.

Academic Dismissal

Students who do not attain at least a 2.00 GPA (Grade Point Average) for the semester of reinstatement following academic suspension shall be academically dismissed. Students who achieve at least a 2.00 GPA for the semester of their reinstatement following academic suspension must earn at least a 1.75 GPA in each subsequent semester of enrollment. Failure to attain a 1.75 GPA in each subsequent semester until the cumulative GPA reaches 1.75 shall result in academic dismissal. The statement "Academic Dismissal" shall be placed on the students' permanent records. Academic dismissal is normally permanent. In exceptional circumstances, students may appeal and be reinstated following processes established by the College. Students who have been reinstated after academic dismissal will remain subject to dismissal until their cumulative GPA is raised to a minimum of 1.75. Reinstated students may be required to carry less than a normal course load the following semester and are required to consult with their advisor/counselor.

Academic Renewal

Students, who return to the College after a separation of five (5) years, or more, may petition for academic renewal. The request must be in writing on the Academic Renewal Selection Form available in the Admissions Office.

The purpose of this policy shall be to adjust the cumulative grade point average (GPA) of eligible students who have enrollments from 1984 and forward.

If a student is determined to be eligible for academic renewal, "D" and "F" grades earned prior to reenrollment will be deleted from the cumulative and curriculum grade point average (GPA), subject to the following conditions:

1. Prior to petitioning for academic renewal the student must demonstrate a renewed academic interest and effort by earning at least a 2.5 GPA in the first 12 semester hours completed after reenrollment.
2. All grades received at the College will be a part of the student's official transcript.
3. Students will receive degree credit only for courses in which grades of "C" or better were earned prior to academic renewal, providing that such courses meet current curriculum requirements.
4. Total hours for graduation will be based on all course work taken at the College after readmission, as well as former course work for which a grade of "C" or better was earned, and credits transferred from other colleges or universities.
5. The academic renewal policy may be used only once and cannot be revoked once approved.

All students should be warned about the pitfalls of "Academic Renewal." (Example: A student may have a "D" in a course that is needed for graduation, but cannot get credit for the course if it is part of Academic Renewal. The course will have to be repeated.)

A student denied "Academic Renewal" may appeal the decision to a committee of at least three people. This committee will be chaired by the Dean of Student Success and Academic Advancement, and the other two committee members will be appointed annually by the Dean of Student Success and Academic Advancement. A written appeal should be sent to the Dean of Student Success and Academic Advancement within seven (7) days of denial.

Prerequisites and Corequisites

Many courses at DCC are associated with other courses referred to as "prerequisites" and "corequisites." The basic idea behind these associations is that in order to be successful in a particular course, the student must have acquired or be in the process of acquiring certain other skills or knowledge.

A prerequisite is a course that a student must take before enrolling in a particular course. A corequisite is a course which a student must take while they are taking another course if they have not already completed that course. For example, Biology 102 has Biology 101 as a prerequisite. Students must successfully complete Biology 101 before taking Biology 102. MTE 3, MTE 4, and MTE 5 are corequisites for Biology 101. One must take these courses while taking Biology 101 if one has not completed them. Students should register only for those courses for which they have completed the prerequisite requirements and must register for corequisite courses as needed. If a student does not know what the prerequisites or corequisites are for a course, faculty advisers will be able to provide this information.

For more information, please see the list of prerequisites for each course included in this catalog.

GPA for Repeat Courses

The GPA of a student will reflect only the last grade received for repeat courses which were initially taken in the Summer of 1994 or later. "General Usage" courses such as 099, 199, etc. are not counted as repeat courses. Repeat courses not figured in the GPA will be designated on the transcript with the words "repeated course" under the class.

Attendance

It is the philosophy of Danville Community College that student and faculty interactions are critical to the learning process. Class attendance enhances this process. Regular attendance is thus expected of students. Students missing twenty-five percent (25%) or more of the total time allocated for classes and/or labs may be administratively withdrawn from the course upon recommendation of the instructor. Students who are administratively withdrawn prior to the completion of 60% of the classes and/or labs will be issued a grade of "W." After that point, students who are administratively withdrawn will be issued a grade of "F." Faculty have the discretion to establish more restrictive policies which will be published in the course outline. Faculty also have the option to excuse a student when documented, mitigating circumstances prevent the student from attending a class or lab session. Students should be aware that failure to attend classes will negatively affect their financial aid award.

Examinations

Students are expected to take all examinations, including final examinations, at the regularly scheduled time. Exceptions cannot be made without permission of the instructor.

Repeating a Course

A student is normally limited to two enrollments in the same credit course. If special circumstances warrant consideration of a third enrollment, the student must submit the appropriate Third Enrollment Form to the Admissions Committee. Please note all requests for third (3rd) enrollments into classes must be "submitted and acted upon" before the first day of classes for the term of enrollment. After reviewing the request, the Committee will notify the student in writing of the decision.

Academic Honesty

Students will be expected to maintain complete honesty and integrity in their experiences in the classroom. Any student found guilty of dishonesty in academic work is subject to disciplinary action

1. The College may initiate disciplinary proceedings against a student accused of any form of academic dishonesty including, but not limited to, the following:
   - **a.** Copying from another student's test paper or other academic work.
   - **b.** Using materials not authorized by the person giving the test.
   - **c.** Collaborating, without authority, with another student during an examination or in preparing academic work.
   - **d.** Knowingly using, buying, selling, stealing, transporting, or soliciting, in whole or part, the contents of an un-administered test
   - **e.** Substitution for another student, or permitting another student to substitute for oneself, to take a test or prepare other academic work.
   - **f.** Bribing another person to obtain an un-administered test or information about an un-administered test..
   - **g.** The appropriation of another's work without acknowledging the incorporation of another's work in one's own written work (plagiarism).
2. A student who receives a failing grade ("F") in a course as a result of academic dishonesty (such as plagiarism) may not withdraw from that course with a "W" or receive a refund. This policy applies to any student in a particular course deemed to have committed an act of academic dishonesty during any part of a semester, and regardless of whether he/she has turned in any graded work. Mitigating circumstances do not apply in such cases. However, a student may follow the appeal process outlined in the DCC Student Handbook to appeal the failing grade.
3. Procedures for discipline due to academic dishonesty are found in the DCC Student Handbook, available in the Admissions/Counseling Offices and on the DCC website.

Workforce Services

Workforce Services includes credit and non-credit courses and activities designed to meet occupational, professional, and personal interests and needs. These activities begin at various times throughout the year and vary in length according to need. Non-credit activities, by law, are self-supporting.

Danville Community College has a vital interest in the economic development of its service region. Through its Workforce Services organization, the College provides a wide variety of educational opportunities for companies and organizations. Services include on-campus or on site tailored training programs; short courses, workshops, and seminars; high-tech training using state-of-the-art equipment; management and supervisory development training; basic skills training; teleconferencing; and use of College facilities for company-sponsored training. The Regional Center for Advanced Technology and Training (RCATT) houses many of the workforce services programs. For more information, contact 434.797.6437.

Apprenticeship Training

Apprenticeship training is coordinated through Danville Community College in partnership with the Virginia Department of Labor and Industry. Apprenticeship is a voluntary training system which assists businesses and their employees with obtaining training in the technologies. Apprentices learn the "how to" of their occupation on the job and learn the "why" in related technical instruction taught in the classroom. For more information, contact 434.797.8494.

Continuing Education

Continuing Education includes special courses for college credit and non-credit activities for which the Continuing Education Unit (CEU) is awarded. These courses and activities are intended primarily for adults who want to upgrade their technical skills, improve their employability, increase their earnings, acquire new skills, or meet educational requirements for job certification. For more information, call 434.797.8430.

Community Services

Community Services includes non-credit activities for which Continuing Education Units (CEU's) are not awarded. They consist of courses in crafts, leisure-time activities, as well as exhibits and special community projects. For more information, call 434.797.8430.

Middle College

The Middle College offers individuals aged 18-24 years old without a high school diploma or GED an opportunity to obtain a GED certificate and provides academic and career readiness training. The program includes several components, the main two being GED Preparation, and Workforce Preparation, which incorporates earning a Career Readiness Certificate (CRC). Middle College also helps students with completion of the financial aid process; participation in career counseling; selecting a desired program of study at DCC; and receiving a certificate, diploma or associate degree. For additional information, call 434.797.6433.

Southern Piedmont Educational Opportunity Center

The Southern Piedmont Educational Opportunity Center is a federally funded grant program that provides free educational assistance to low-income adults and first generation college students. The EOC offers: assistance in completing admission and financial aid applications, information on G.E.D. programs and postsecondary institutions, career counseling and assessments, and academic advising. For more information about the SPEOC, call 434.797.8577 or stop by the office located on the first floor of the Wyatt Building.

Other Programs

Career Pathways

Career Pathways offers a secondary/postsecondary educational career path that is seamless and has integrated options for work-based learning in high school and continuing through college. If students choose the Career Pathways path, they have the option to enter the workforce after completing a technical degree/certificate/diploma program at DCC or further their education to pursue a four-year degree.

Career Pathways links academic and technical studies and uses input from business, industry, government, and the community in order to build a curriculum that leads to successful employment. Career Pathways students may be eligible to earn credit for work completed in high school under existing articulation agreements. Students interested in Career Pathways options should consult their high school counselors and/or the Career Pathways Coordinator at 434.797.8520. There is also a website that students may access that will provide additional information.

TRiO Upward Bound

The TRiO Upward Bound Program at DCC is a federal pre-college program designed to assist economically disadvantaged and/or first generation students complete high school and to enter and succeed in postsecondary education immediately after high school graduation. TRiO Upward Bound offers extensive academic instruction as well as counseling, mentoring, tutoring, a summer bridge program, summer residential program, and other support services. Students interested in the TRiO Upward Bound program should consult their high school counselor and/or DCC's TRiO Upward Bound Program Office at 434.797.8562.

Whittington W. Clement

Learning Resources Center

The Whittington W. Clement Learning Resources Center (LRC) provides information and instructional support services for the college community. Centrally located on the DCC campus, the Learning Resources Center opened to students, faculty, and the community in October 1994. Housing the Library, Learning Assistance Center (LAC), Audio-Visual Services, Tutoring Center, and the Teaching, Learning and Technology Center, the LRC incorporates the latest in educational technology to offer a unique mix of traditional and nontraditional resources for learning and teaching. For more information, please call 434.797.8453.

Library Services

The Mary M. Barksdale Library houses a collection of more than 58,000 items including books, non-print media, periodicals, government documents, and other materials to support the instructional programs of the College. As a member of VIVA, students and faculty have online access to databases that include thousands of digital and print journals, books, and reference sources as well as access to the Internet. Audio-visual equipment is available for previewing audio and video programs. The Robert V. Shaver Film Collection is the newest addition to the permanent collections. The Library offers strong reference support and the staff is committed to instruction in the use of resources, both on an individual and group basis. For more information on library services and information skills instruction, please call 434.797.8555.

Learning Assistance Center

The Learning Assistance Center (LAC) is located on the upper level of the Learning Resources Center. The mission of this large multipurpose area is to provide support and resources for teaching and learning. An open computer lab is available for students, staff, and public users. The LAC also provides make-up testing and testing for distance learning courses. Students are encouraged to use the LAC for group study. For more information, please call 434.797.8404.

Audio-Visual Services

Located on the lower level of the LRC, this department provides installation and maintenance of audio-visual equipment as well as faculty and staff training for the College. For more information, call 434.797.8454.

Distance Learning

Coordinated through the Learning Resources Center, the College's distance learning program gives students the opportunity to attend accredited college classes in a flexible way. The college employs sound and acceptable practices for determining the amount and level of credit awarded for courses, regardless of format or mode of delivery. Distance learning students use a variety of learning resources including videos, textbooks, study guides, Interactive Television, and the Internet to complete their coursework and earn college credits at home or at convenient off-campus locations. Distance learning courses are designed to be comparable to traditional on-campus courses. The primary difference between traditional courses and distance learning courses centers on the degree of freedom and responsibility the student accepts when taking a distance learning course. For some, this aspect makes distance learning courses an ideal way of continuing their education because it alleviates many time constraints and scheduling conflicts.

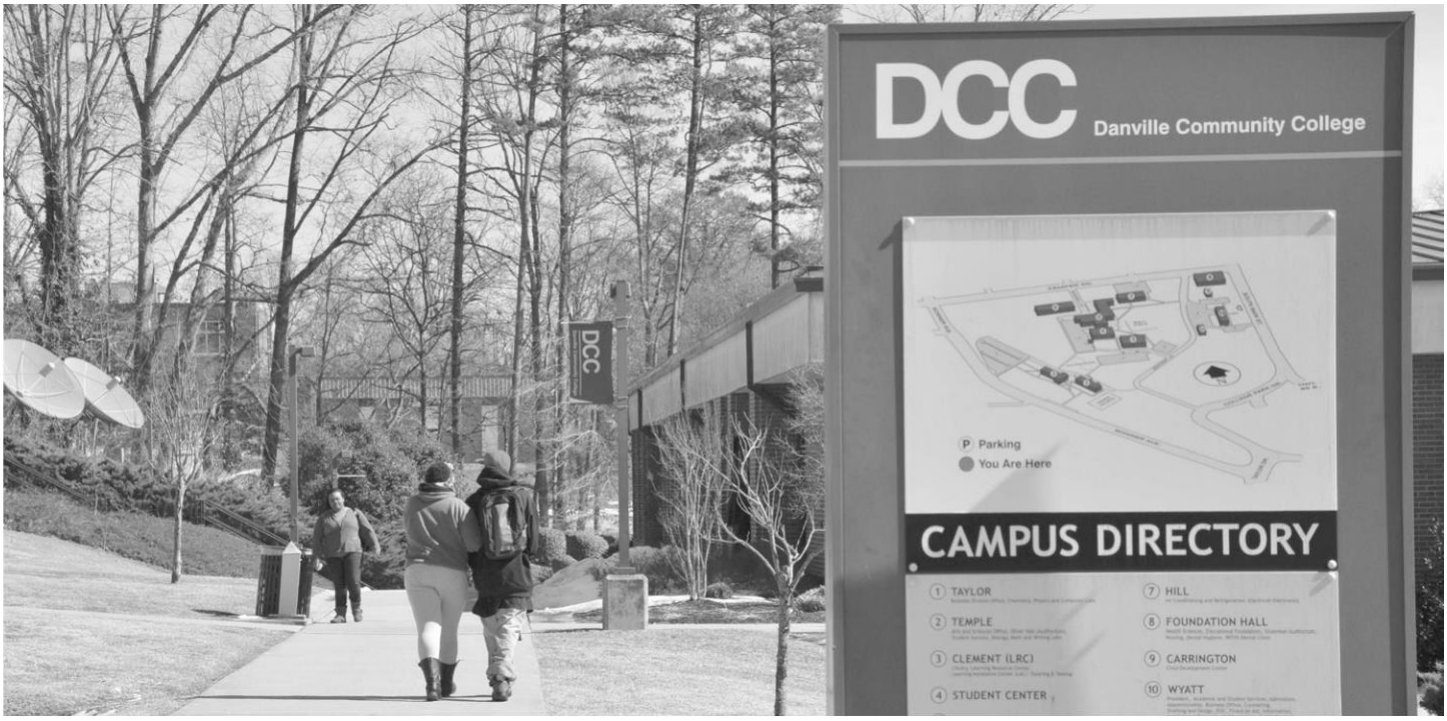
All distance learning courses have an assigned instructor. In addition, distance learning students have access to appropriate learning resources and student-support services.

Teaching, Learning and Technology Center

The Teaching, Learning and Technology Center (TLTC) provides assistance to faculty who are developing curriculum materials and want to utilize instructional technologies in their teaching. Located in the lower level of the Learning Resources Center (LRC), the College's instructional design specialist works directly with those instructors who are interested in developing applications to support both traditional and distributed learning courses. The instructional designer also provides training for faculty and staff in the use of information technology. For more information, call 434.797.8557.

Tutoring Center

The Tutoring Center provides free tutoring to currently enrolled DCC students who seek assistance with their DCC coursework. Tutoring is provided by trained professional and peer tutors. Both one-on-one peer tutoring and small group tutoring are available. DCC's Tutoring Center is nationally certified by the College Reading and Learning Association. The Tutoring Center is located on the upper level of the Learning Resources Center. For more information on tutoring services, call 434.797.6432.



Student Services

Counseling

As a service to current and prospective students, the College has counselors and faculty advisors who are committed to helping students with their academic, personal, career, and vocational plans. As part of this assistance, students are provided appropriate tests, inventories, college transfer information, and occupational/technical information regarding financial assistance or employment.

Disability Services

Danville Community College believes in promoting an atmosphere free of inequity and partiality in which all students have access to educational opportunity. DCC believes in creating an inclusive and welcoming community for all students. Danville Community College is committed to ensuring that all qualified students with disabilities have the opportunity to take part in educational programs and services on an equal basis. The College is committed to removing architectural barriers, but also strives to ensure that students with disabilities receive access to education and opportunities in this academic community. DCC facilitates access to reasonable accommodations for students with disabilities in accordance with their documented disabilities.

In order that the College may assess each student's needs and plan most effectively for his or her academic experience, the student should contact the Counseling Office at 434.797.8572.

Freshman Preview

New students at Danville Community College are required to attend Freshman Preview, which includes opportunities for students and their parents/spouses to meet college administrators, faculty and staff, and learn more about campus resources. Included are campus tours, meetings with college officials, information about departments/divisions, campus policies, student registration and scheduling procedures.

The students will also have the opportunity to interact with other new and current students as they participate in Freshman Preview activities. In addition, information about academic and student organizations will be available. Parents/spouses are invited to attend the Parent Preview, a special information session to assist with a student's transition to college.

Academic Support (SAILS)

Danville Community College has implemented an Early Alert System used by each of Virginia's community colleges. This system enables the colleges to communicate electronically with students regarding their academic performance.

Consumer Information

Literature is available in the Admissions/Counseling Office on the following areas: post-graduate employment and college transfer success; curriculum retention and completion; related educational expenses; student rights and responsibilities; financial aid policies, procedures, and the award process.

Alliance for Excellence

The Alliance for Excellence is a program that supports the academic endeavors of African-American students. The Alliance is a partnership between the African-American churches and Danville, Central Virginia, Patrick Henry, and Virginia Western Community Colleges. This collaborative effort promotes an awareness of higher education opportunities and stresses the importance of academic excellence.

Financial Aid

Danville Community College is committed in its belief that qualified students should have an opportunity to pursue educational objectives, regardless of financial resources. Full-time and part-time students may qualify for financial aid. Classes may be taken in the day or in the evening.

To be considered for financial assistance, students must apply by completing the Free Application for Federal Student Aid (FAFSA) and have the results submitted to the Financial Aid Office. In addition, the student must enroll in an eligible curriculum and make satisfactory academic progress in the program of study. Contact the Financial Aid Office at 434.797.8567 for more information and application form.

Note: Students without a high school diploma or its equivalent may become eligible to receive Title IV funding upon satisfactory completion of six credit hours or the equivalent coursework that are applicable toward a degree or certificate offered by the institution. Students are ineligible to receive Title IV aid while earning the six credit hours.

Federal Work-Study Program

This program provides an opportunity for a student who shows sufficient financial need to work while attending college. Numerous jobs are available each year on campus. Students who are enrolled at least half time and not working outside of campus may work an average of 12-15 hours per week. Students are paid bi-weekly according to the number of hours worked.

Return to Title IV Funds Policy For Financial Aid Recipients

Federal regulations require Danville Community College to have a written policy for the return of federal (Title IV) financial aid by students who withdraw during a term for which federal financial aid was awarded. This policy applies to all financial aid recipients who withdraw from the College, are dismissed from the College, or who stop attending before completing 60% of the enrollment period. Title IV programs subject to this policy are Federal Pell, Federal SEOG, CSAP, ACG, and Direct Federal Student Loan and PLUS Loans.

Financial aid recipients are required to attend all classes in which they enroll. Students who fail to begin attendance are not eligible to receive any portion of the financial aid awarded and may be required to repay all financial aid funds used for tuition, fees, or bookstore charges as well as any cash received for the non-attended course(s).

A student's enrollment status at the end of the drop/add period determines the student's financial aid for the term. Students who stop attending should withdraw from the College following official withdrawal procedures as outlined in this College Catalog. Financial aid students must notify the Financial Aid Office before withdrawing.

Federal Pell Grant Program

Full-time and part-time students who are enrolled in eligible curricula may receive non-repayable aid under this program, provided they demonstrate financial need.

Federal Supplemental Educational Opportunity Grant Program

Students who show financial need may qualify for this program. This is a non-repayable grant.

Federal Family Education Loan Program

Students who do not receive sufficient grant aid to attend Danville Community College may request a student loan under this program. Request forms are available in the Financial Aid Office. Students who wish to apply for a Federal Student Loan must also apply for federal assistance by completing the Free Application for Federal Student Aid.

Other State Grants

Commonwealth Grant (COMA)

The Commonwealth Award (COMA) Grant is a campus-based state grant program. Preference is given to students with exceptional need. To be eligible, recipient must be domiciled in Virginia and enroll for at least six (6) credits.

Virginia Guaranteed Assistance Program (VGAP)

The VGAP Grant is a campus-based state-funded program. In order to be considered a student must be: a first-time freshman, a dependent, a high school graduate with a high school grade point average of at least 2.50, a Virginia resident, and demonstrate financial need. Recipients must be enrolled as a full-time student to qualify. Recipients must maintain a minimum of a 2.0 grade point average to remain eligible for their VGAP award each semester and must complete a minimum of 24 semester hours each academic year to remain eligible for consideration during the next academic year.

Part-time Tuition Assistance Program (PTAP)

The Part-time Tuition Assistance Program Grant is a campus-based Virginia Community College System state grant program. These grants are based on need and are awarded to eligible students who are enrolled for 1 to 6 credits a semester. These grant awards are for tuition and fees only.

Scholarships

DCC Scholarships are awarded through the College and the DCC Educational Foundation Office. Generally, only one application form is needed to apply for these scholarships. The applications are available in the Educational Foundation Office located in Foundation Hall, the DCC Financial Aid Office, located in the Wyatt Building, the high school guidance counselors' offices and on the DCC Educational Foundation's website. The DCC Educational Foundation reserves the right to limit the amount of each award to the endowment's annual return from investments. Scholarship listings are based on information available February 1, 2014. For more information, contact the Educational Foundation Office at 434.797.8495 or 434.797.8437. Information is also available on the DCC Educational Foundation's website: http://www.dcc. vccs.edu/Foundation/foundation.htm.

Michael Abbott Memorial Scholarship

This scholarship was established by Michael's sister, Kate-Lynn Parker to honor and remember her late brother. To be eligible a student must be a freshman, graduating from Chatham High School; enrolled as full-time or part-time student in the Air Conditioning and Refrigeration program with a minimum 2.5 grade point average.

- Maintained high moral character
- Demonstrated a concern for others
- High ideals
- Good citizenship
- Possesses leadership qualities
- Participated in community outreach
- Demonstrated a financial need

Ahmed Children Scholarship

This scholarship is awarded to a full-time or part-time student who has enrolled for self-improvement with intention of completing a program or has plans for a degree. The recipient must maintain a 2.5 or better GPA and have financial need.

Alliance One International Endowed Scholarship

Funded by Alliance One International in 2000, the endowed scholarship is given to a full-time student who is in good academic and social standing with the college. Preference is given to students who are dependents of employees of Alliance One International or its predecessor companies. Second preference is given to students who are dependents of other local tobacco industry employees. Third preference is given to students who have lived for at least one year in Danville, Pittsylvania County or the surrounding area. In instances where multiple candidates meet the eligibility requirements, determination shall be based on a combination of the student's financial need and past academic achievement.

American National Bank and Trust Company Scholarship

This scholarship was made possible by American National Bank and Trust Company. The award is presented to an entering freshman who is enrolling full time in a two-year program of study at DCC. The same student will be given preference for the award during his/her second year. The student must demonstrate a clear commitment to completing the academic program in a timely manner and cannot be eligible for other types of financial assistance.

Wayne Andrews Scholarship

This scholarship was created by Wayne Andrews at the conclusion of the 2012 DCC Educational Foundation Golf Tournament. Mr. Andrews is a Gretna, VA resident. This scholarship will be awarded to a part-time or full-time DCC student who demonstrates scholastic ability and good citizenship.

Ashby-Pryor Endowed Scholarship

This scholarship was established in memory of Fred James and Pernie Sizer Ashby and Claude Edison and Mary Early Pryor. It is awarded to a DCC student each fall who is enrolled in at least nine credit hours and who demonstrates scholastic ability and good citizenship.

Baggerly Administration of Justice Scholarship

The Baggerly Administration of Justice Scholarship was established by William T. and Christine S. Baggerly to support and add educational assistance to our community's active duty law enforcement officer. The scholarship will be awarded annually to a student who demonstrates the following criteria:

1. First year or second year student enrolling in Administration of Justice (AAS) with a specialization in Law Enforcement, Corrections, Protective Services and/or Cybercrime Investigation
2. Scholastic achievement of at least a 2.0 GPA
3. Preference will be given based on the following criteria:
   a. Active Duty, Pittsylvania County Sheriff's Office
   b. Active Duty, Danville Police Department
   c. Student currently enrolled in the Administration of Justice program
4. Scholarship will pay for tuition, books and fees only

Barkhouser Endowed Scholarship

Richard and Kit Barkhouser established the Barkhouser Endowed Scholarship in 1998 to support a full-time freshman at DCC. The first-year student must reside within the DCC service region or in Caswell County, NC, and must demonstrate scholastic achievement, have at least a 2.50 high school GPA, and exhibit leadership potential.

Barksdale Honors Scholarship (Graduation Scholarship)

The estate of Ms. Mary M. Barksdale endowed the Barksdale Honors Scholarship in 2000. DCC graduates who are transferring to accredited four-year colleges or universities must be considered by the College as "most likely to succeed." The recipients must have compiled exceptional records, both in academics and in extracurricular activities. Recipients also must have displayed leadership qualities on campus or in the community which influence positively the actions of others.

Barksdale - Rorrer Study Abroad Endowed Scholarship

The Barksdale-Rorrer Study Abroad Endowed Scholarship was established by Ms. Mary M. Barksdale, a DCC librarian until her retirement. The purpose is to enable DCC students to experience the culture and history of other countries thus broadening and promoting international understanding. The scholarship also honors former DCC history professor, Kinney Rorrer. Consideration for the scholarship includes financial need and academic achievement. Students must take the study tour as a credit course. Applications are available from Dr. Mark Wallace in the History Department at 434.797.8471.

Amy Jo Murray Bell Memorial Scholarship

The Amy Jo Murray Bell scholarship was established by family and friends in memory of Bell who attended DCC and later transferred to the Danville School of Radiology. The scholarship will be awarded annually to a student who is enrolled in the First Year Studies program with plans to complete training in radiology. The recipient must also have maintained a minimum of a 3.0 grade point average in high school or college. Preference will be given to an individual who is a single parent and has participated in community service activities.

Carrington and Happy Bidgood Scholarship for Business and Marketing

The Carrington and Happy Bidgood Scholarship for Business and Marketing was established in memory to honor and recognize the late Mr. Carrington Bidgood and Mrs. Happy Bidgood. In order to be eligible, the student must be enrolled in one of the following programs:
Business Management or Marketing (both AAS degrees). The student must also meet the following criteria:

- Must have academic promise with a commitment to complete college
- Maintained high moral character
- Demonstrated a concern for others
- High ideals
- Good citizenship
- Possesses leadership qualities
- Participated in community outreach
- Demonstrated a financial need

O.T. Bonner Memorial Scholarship

The O. T. Bonner Memorial Scholarship was established in 1996 by Dr. John Bonner in memory of his father, O. T. Bonner, an educator who served as the first chair of the Danville Community College Board. The award is presented to a fulltime student at DCC.

Bucknam Scholarship

The Bucknam Scholarship, created in 1999 by Gregory and Tracy Bucknam and given in memory of Ms. Mary Barksdale, is an annual award. The recipient must be a resident of the Patrick Henry Boys Home, have graduated from high school during the same year in which the first scholarship award is received (current graduate), have maintained at least a 2.50 GPA during high school, and be enrolled full-time in any program of study at DCC. If the recipient maintains at least a 2.50 GPA at DCC during the first year, the student will be eligible to receive the Bucknam Scholarship for the second year.

Elizabeth B. Bustard Endowed Scholarship

The Elizabeth B. Bustard Endowed Scholarship is awarded to a full-time freshman who is committed to high ideals and demonstrates leadership and good citizenship. Scholastic achievement of at least a 3.00 GPA is the final criterion for this award.

James Bustard Endowed Scholarships (Graduation Scholarship)

These scholarships, established in memory of James Bustard, a friend of the College, are presented annually to graduating DCC students who plan to transfer to an accredited four-year college or university. Other award criteria include commitment to high ideals, leadership, good citizenship and scholastic achievement.

Alexander Berkeley Carrington, Jr. and Ruth Simpson Carrington Charitable Trust Scholarships

The Carrington Charitable Trust Scholarships are awarded to two full-time students who demonstrate a commitment to completing the academic program in a timely manner and who have financial need.

James T. Catlin, Jr. - Kiwanis Scholarship (Graduation Scholarship)

The James T. Catlin, Jr.-Kiwanis Scholarship is presented to a student who has completed two years of study at DCC; is a legal resident of Virginia Community College Region Number 12; and is transferring as a full-time student to a senior institution in pursuit of a baccalaureate degree. The purpose of the award is to recognize scholarship, to further the educational development toward leadership and citizenship of DCC students and to honor the memory of James T. Catlin, Jr. The scholarship recipient is selected by a Danville Community College Scholarship Committee with the approval of the Board of Directors of the Kiwanis Club of Danville, Virginia. The basis of selecting the recipient shall be: (1) financial need, (2) scholastic achievement, (3) leadership, and (4) citizenship.

Chatham Rotary Club Scholarship

The Chatham Rotary Club Scholarship is available to a student who is a resident of Pittsylvania County and enrolled full-time at DCC. The selection is based on academic merit and financial need.

CIT Group/Factoring Scholarship

The CIT Group/Factoring Scholarship was created by the CIT Group, Inc., located in Danville, VA. The scholarship will be given to a Danville area resident, a full-time sophomore student that demonstrates a financial need. The student must also demonstrate academic promise, leadership potential with on-going commitment to community service. Individuals receiving other assistance from the CIT Group will not be considered for award.

Climate Control, Inc. Endowed Scholarship

The Climate Control, Inc. Endowed Scholarship was established by the company's Board of Directors and Mr. John Cannon. Preference is given to children of employees of Climate Control, Inc. and then to Halifax County residents. To be eligible, a student must be enrolled full-time in a degree, diploma, or certificate program. The award is renewable for a second year, provided the recipient maintains a 2.50 GPA and reapplies.

College Board Academic Excellence Scholarships

The Danville Community College Board has established two-year, full tuition scholarship to be awarded annually at each of the area's six public high schools. Eligibility will be based solely upon the class rank: the top five students at George Washington High School and Halifax County High School; and the top two graduates at Chatham, Dan River, Gretna, and Tunstall High Schools. Information about these scholarships can be obtained from the respective high school Counseling Offices.

College Board Recognition of Achievement Scholarships

The Danville Community College Board has established scholarships to be awarded to a graduate of each of the six public high schools in the College's service region. The recipient of each award is recommended by the high school on the basis of academic potential and not financial need. These scholarships are awarded annually.

Commonwealth Legacy Scholarship Program

The Commonwealth Legacy Scholarship program was established in 2006 by the Virginia Foundation for Community Colleges to increase access to higher education and to develop student leadership potential. Subsequent scholarships and awards may be given to a student attending DCC for the first time. The recipient must demonstrate academic excellence during high school; be a full-time, associate degree seeking student with plans to graduate from a Virginia Community College; demonstrate a willingness to promote community college education and the Commonwealth Legacy Scholarship Program; demonstrate a willingness to mentor future scholars; and demonstrate a commitment to developing leadership potential.

Roger Cook Memorial Scholarship

This scholarship is awarded to an incoming female student enrolled in Business and/or Marketing. The student must be a Tunstall High School graduate who has maintained a minimum 2.0 grade point average.

- Maintained high moral character
- Demonstrated a concern for others
- High ideals
- Good citizenship
- Possesses leadership qualities
- Participated in community outreach
- Demonstrated a financial need
- Corning Incorporated Endowed Scholarship

The Corning Incorporated Endowed Scholarship is presented each year to a rising sophomore who has demonstrated academic excellence. The recipient must be a full-time student (12 credit hours) enrolled in Electronics, Information Systems Technology, or Accounting.

Philip & Frances Daly Annual Scholarships

This scholarship was established for a first or second-year student enrolled full-time, with a minimum high school grade point average (GPA) of 3.0 and/or DCC GPA of 2.5. The recipient must have maintained a high moral character, demonstrated concern for others, high ideals, good citizenship, and possesses leadership qualities; participated in community service, and demonstrated financial need.

Philip and Frances Daly Memorial Scholarship

The Philip and Frances Daly Memorial Scholarship was created to honor the Daly's legacy. Mr. and Mrs. Daly will be remembered for their commitment to the betterment of lives in the Danville/Pittsylvania County community. The annual award is to be used for tuition and/or books using the following criteria:

- First year or second-year student enrolled full-time
- Student must have maintained in high school a GPA of 3.0 and/or at DCC maintained a GPA of 2.5.
- Student must demonstrate a financial need and is not eligible for Federal Aid.
- The preference for this award will be given to Daly Seven Hotel employees and children of Daly Seven employees.
- Additional preferences will be given to a student that has performed at least one year of community service either in a school sponsored or community based activity and/or that has athletic promise.
- Preference will be given to a resident of Danville and Halifax or Pittsylvania County communities.

P.Niles and Carol Daly Scholarships

The P. Niles and Carol Daly Scholarships are presented to entering freshmen who are enrolled full-time and need financial assistance. Preference is given to Daly Seven Hotel employees and children of Daly Seven employees. The recipients must reside within the local area, must maintain a minimum 2.5 GPA, and exhibit leadership potential and good citizenship.

Dan River Inc. Endowed Scholarship

The recipient of the Dan River Inc. Endowed Scholarship must be a full-time student who demonstrates a clear commitment to completing a degree program or transfer program at Danville Community College.

Danville Regional Medical Center Retiree Scholarship for Nursing

The Danville Regional Medical Center (DRMC) Retiree Scholarship was established to honor and remember the retired staff of DRMC. The many years of commitment, tradition and excellence given to DRMC over their tenure will now be highlighted with the creation of this scholarship. The DRMC Scholarship is intended to provide financial assistance for an incoming nursing student. In order to be eligible, the recipient must meet the following criteria:

- Be enrolled as a full-time nursing student
- Must have academic promise with a commitment to complete college, either at DCC or a four-year institution
- Demonstrates high moral character and concern for others
- High ideals and leadership qualities
- Good citizenship and participation in community outreach
- Demonstrates a financial need

The Danville Community College Delius - Rorrer History Medallion Scholarship

The Delius Rorrer History Medallion Scholarship was established in 1999 was established by the Delius in Danville Festival Organizers under the sponsorship of the Danville Historical Society in 1986 and the Lady Astor Preservation Trust in 1997, in commemoration of Frederick Delius, late 19th and early 20th century British composer, and in honor of C. Kinney Rorrer, DCC Assistant Professor of History. In efforts to honor Delius-Rorrer, the scholarship will be awarded annually to a student who demonstrates the following criteria:

- Outstanding History Student
- First or Second Year Student

Danville Kiwanis Club Scholarship

The Danville Kiwanis Club Scholarship will provide awards for each of the two years a student is enrolled. The award covers tuition and books to a full-time or part-time DCC student who demonstrates financial need, scholastic ability, and good citizenship.

Danville Lions Foundation Endowed Scholarship

The Danville Lions Foundation Endowed Scholarship was established for full-time or part-time students who demonstrate visual or hearing impairments or other disabilities. The award(s) may be made for tuition, books, and fees. Tuition assistance is also available through the Danville Lions Foundation Endowment to train local teachers in sign language and other communications skills for the hearing impaired.

DRMC Scholar Award

The Danville Regional Medical Center (DRMC) Scholar Award was established in 2011 by Danville Regional Medical Center and LifePoint Hospitals. The intent of this scholarship is to award the best nursing students an opportunity to learn at Danville Community College without the stress of the financial burden of college costs. This scholarship will be awarded to nursing students who showcase the highest potential in their field of study. Between 12 and 16 students can be eligible for this annual award that is renewable for their second year of nursing program study. There are other specific requirements that each student must adhere to before accepting this scholarship, which will be outlined upon selection. A separate application process must be completed and submitted to the DCC Nursing Faculty for approval as well as the standard DCC Educational Foundation Scholarship Application. The criteria below will be used for the selection process:

- 3.2 Entrance GPA
- Community Service involvement with letter of verification of service
- Scholarship dependent on acceptance into the RN program

- Preference will be given to residents from the College's service area (i.e. City of Danville, Pittsylvania County and Halifax County)
- Preference will be given to students with proven leadership roles
- Three reference letters required should be from an instructor, employer and facilitator of community service organization (no letter should be written by a family member). Letters of reference should be sealed with a signature and date on the seal
- Student must submit an essay discussing his/her reasons for entering a healthcare profession which will include present and future goals
- Any student unable to complete the program for any reason will repay the scholarship as defined by the donor
- Upon graduation, the student must return a minimum of two years of service to DRMC as a RN (obligation is contingent upon available employment at DRMC or an approved LifePoint Hospital)
- Should a student decide not to accept a position offered by DRMC upon graduation the student must repay all scholarship costs incurred during program attendance to the DCC Educational Foundation.
- Student should submit any honors or previous awards received
- Student must submit complete official transcripts with application from any institution attended
- Everything must be submitted together in the application packet or application will be considered incomplete. Any incomplete application will not be considered for scholarship

Danville Virginia Tech Alumni Scholarship (Graduation Scholarship)

The Danville Virginia Tech Alumni Scholarship is presented annually to a graduating DCC student who plans to transfer to Virginia Tech as a full-time student. The award is based on commitment to high ideals, leadership, good citizenship, and a GPA of 3.00 or better in the graduate's curriculum.

Davenport Scholarship

The Davenport Scholarship was established by Mr. and Mrs. Ben Davenport, Jr., to benefit the child of an employee of Banister Bend Farms, Chatham Communications, Chatham Security Inc., Davenport Energy, First Piedmont Corporation, or Piedmont Transport. The student must be enrolled in a degree, diploma, or certificate program; and the basis of selection will be: scholastic achievement, financial need, and good citizenship. In order to receive the scholarship for a second semester, the student must maintain a 2.50 GPA for the first semester. The amount of the award will not exceed tuition for 16 hours per semester.

D. Randolph "Randy" Davis Memorial Scholarship

This scholarship is for a male playing a college-sponsored sport or a full-time student enrolled in the Accounting curriculum. The recipient must demonstrate scholastic ability, good citizenship and financial need.

Dewberry Endowed Scholarship

The Dewberry Endowed Scholarship was established by Mr. Sidney O. Dewberry, Chairman of the Board of Directors and Founder of Dewberry, and his respected employees to provide financial assistance to a student enrolled in a Transfer Associate Degree Program at DCC. The recipient must meet the following criteria:

- Four Year Degree seeking student with academic promise and a commitment to complete his/her Engineering degree at a four year institution in the State of Virginia
  A. George Mason or Virginia Tech Engineering transfer student (first choice)
  B. University of Virginia, Old Dominion University, Virginia Commonwealth University and/or Virginia Military Institute Engineering transfer student (second choice)
- An Engineering student enrolled in the Associate in Applied Science (A.A.S) two year degree program that would enter the engineering field directly after graduation from Danville Community College (third choice)

All applicants will be considered on the following criteria after the before mentioned are met:

- Demonstrates a financial need
- Maintains high moral character and high ideals
- Possess leadership qualities
- Good citizenship and participates in community outreach

Robert and Jim Dunaway Scholarship

The award is made in memory of Robert and Jim Dunaway. Robert graduated from Danville Community College, Virginia Tech, and the University of North Carolina and pursued a career as an accountant. He received the McGovern General Excellency Scholarship when he graduated from DCC in 1988. Jim worked 12 years for the Pittsylvania County Sheriff's Office as a deputy.

Two scholarships will be awarded to recipients based upon the following criteria:

1. Recipient must be a second-year student enrolled in a business transfer program (focusing on accounting), who has maintained at least a 3.0 GPA and plans to transfer to a four-year institution with preference given to a student planning to attend Virginia Tech. Preference will also be given to a student who graduated from Tunstall High School.
2. Recipient must be a second-year student enrolled in the Administration of Justice program who has maintained a minimum 3.0 GPA. Preference will be given to a student or an immediate family member who is employed by the Pittsylvania County Sheriff Department.

Other requirements include: community involvement and demonstrated leadership potential and financial need even though the recipient may not qualify for financial aid. This award may be used for tuition, books, and fees.

Excelsis Research Scholarship

John Primiano, CEO of Excelsis Research, Inc., established this award in 1994 as the Danville Community College Science Scholarship. Two full-time students majoring in Science who demonstrate scholastic ability, financial need, and good citizenship will receive a scholarship.

Stephanie Ferguson Memorial Scholarship

Created in memory of Stephanie Ferguson by her parents and friends in 1991, the scholarship was first awarded in 2000. The recipient must be a current graduate of Dan River High School, maintain at least a 2.50 GPA, enrolled as a first-year student in the Child Development, Liberal Arts, or Science program, participated in extracurricular activities during high school exemplifying leadership, and exhibited a great determination to succeed.

Thelma E. Forney Endowed Scholarship

The Thelma E. Forney Endowed Scholarship has been established as a memorial to a deeply respected individual who was employed at Danville Technical Institute and Danville Community College for 27 years. The scholarship is awarded to a full-time student in the Administrative Support Technology Program, or in any other diploma-certificate program at DCC. Selection is based upon potential ability and financial need.

Henrietta G. Geyer Dental Hygiene Scholarship

Created in memory of Henrietta G. Geyer by her grandson, this award is presented to a recent graduate from George Washington High School who intends to pursue a career in dental hygiene. The recipient must also have achieved a 2.5 grade point average or higher in high school and have financial need.

Mickey D. Geyer Nursing Scholarship

Created in memory of Mickey D. Geyer by her son, this award will be presented to a recent graduate from George Washington High School who intends to pursue a career in nursing. The recipient must also have achieved a 2.5 grade point average or higher in high school and have financial need.

Roy and Joan Gignac Endowed Scholarship

This scholarship is provided for a second-year student enrolled in electronics. If no candidate meeting this criterion is available, then the scholarship may be awarded to a student enrolled in Marketing or Business Administration. The student must also be a resident of Danville or Pittsylvania County, and preferably have a brother or sister who is attending an accredited institution of higher education as a full-time student. A 2.80 GPA in the curriculum is required for each of the two semesters that the scholarship is utilized. The scholarship must be used within 12 months of the date it is awarded and can only be used for tuition and fees. The student must demonstrate a clear commitment to completing the academic program in a timely manner and have a record of good citizenship.

Walter L. and E. Stuart James Grant Memorial Endowed Scholarships

The scholarships are awarded to children and immediate family members (defined as living in the same household) of Danville Register and Bee employees. In the event that there are no applicants from immediate family members of employees, then consideration will be given to a current Danville Register and Bee carrier in good standing or the spouse, son, or daughter of a current carrier (good standing to be determined by the Danville Register and Bee) or former carrier who gave up a route in good standing. To receive the award, the recipient must agree to assist for three hours per week with the Estelle H. Womack Collection housed at the Danville Science Center. The full-time student must show evidence of financial need and the ability to successfully complete college-level academic requirements. Recipients are eligible to reapply for successive years.

Graphic Imaging Excellence Scholarship

In 2001, an anonymous donor established a scholarship which will be awarded each semester to a second-year student enrolled in the Graphic Imaging Technology program. The recipient must have financial need, maintained a 2.50 or better GPA, and exhibited academic promise in the printing field.

Robert Wayne Grasty Memorial/High Street Baptist Church Scholarship

The Robert Wayne Grasty Memorial/High Street Baptist Church Scholarship was established to provide financial assistance to a student, enrolled in the Administration of Justice or Business Management curricula seeking an Associate of Applied Science Degree. The recipient must meet the following criteria:

- Preference given to a High Street Baptist Church member
- Demonstrates a financial need
- Must have academic promise with a commitment to complete college
- Maintains high moral character and high ideals
- Possess leadership qualities
- Good citizenship and participates in community outreach

Norman D. Haar Endowed Scholarship

The Dr. Norman D. Haar Endowed Scholarship has been established in memory of an exceptional DCC Professor of Psychology. In order to be eligible, a student must have successfully completed Developmental Studies requirements and entered his/her chosen curriculum.

Hancock-Dees-Murray-Sacred Heart Church-School Scholarship

The Hancock-Dees-Murray-Sacred Heart Church-School Scholarship was established in 1996 by Pat and Cathy Daly in honor of Marguerite “Eddie” Hancock, former principal of Sacred Heart School. The scholarship is awarded to a Sacred Heart School Alumnus, a member of Sacred Heart Church, or a resident of the City of Danville, Virginia who demonstrates financial need or is no longer receiving parental support.

Rebekah L. Heldreth Memorial Scholarship

The Rebekah L. Heldreth Memorial Scholarship has been established in memory of an exceptional young lady. In order to be eligible, the recipient must be a female senior graduating from Chatham High School who has achieved a 3.0 GPA for her senior year in high school and has academic promise with a commitment to complete college, maintained high moral character, demonstrated concern for others, high ideals, good citizenship and possess leadership qualities, participated in community service, demonstrated financial need and enrolled full-time in the transfer Science program of study.

Dr. Harold Henry – Educational Foundation Scholarship

The Dr. Harold Henry – Educational Foundation Scholarship was created in 2012 to honor one of the great professors and administrators from DCC. Dr. Henry has committed his life to the betterment of the Danville/Pittsylvania County community. The annual award is to be used for tuition and/or books using the following criteria:

First year or Second year student enrolled full-time.

- Student must have maintained in high school a GPA of 3.0 and/or at DCC maintained a GPA of 2.5.
- Student must demonstrate a financial need and is not eligible for Federal Aid.
- Preference will be given to a student that has performed at least one year of community service either in a school sponsored or community based activity.
- Preference will be given to a resident of Danville and Halifax or Pittsylvania County communities.

Bobbie R. Ingram Educational Fund for Women

The Bobbie R. Ingram Educational Fund for Women was established to recognize the late Mrs. Bobbie Reid Ingram. This scholarship will provide a lasting memory of the impact she made in the lives of students here at Danville Community College until her retirement in 2001. In 1981, she began her 20-year affiliation with DCC as a part-time “Mom” and as a student development office assistant. Mrs. Ingram provided invaluable support for student activities and was always there to offer a sympathetic and empathetic ear. A full-time female student possessing the same qualities as Mrs. Ingram will be awarded this scholarship annually.

Intertape Polymer Group Scholarships

The Intertape Polymer Group Scholarships provide awards to children of employees of Intertape Polymer who are enrolled in a degree, diploma, or certificate program. The recipients must demonstrate scholastic achievement, financial need, and good citizenship.

Ms. Nancy Fleshman Jiranek Memorial Scholarship

Established by the Danville Reading Center to honor and remember the late Ms. Nancy Jiranek. Must be enrolled as a full-time or part-time student in Early Childhood Education or Development or Pre-Teacher Education or General Education curriculums. Student must:

1. Maintained high moral character
2. Demonstrated a concern for others
3. High ideals
4. Good citizenship
5. Possesses leadership qualities
6. Participated in community outreach
7. Demonstrated a financial need

Thelma Swann Johnson Memorial Endowed Scholarship

The Thelma Swann Johnson Memorial Endowed Scholarship was established in 2001 by Harry Johnson in memory of his wife, Thelma Swann Johnson. The scholarship is awarded to a sophomore who has maintained a 3.00 or better GPA and has enrolled full-time in a two-year program. The recipient must have participated in multiple activities during the first year at DCC, exemplified leadership within the community and at the College, and exhibited great determination and will to succeed.

Vincent P. Kania Scholarship

This scholarship is awarded to a part-time or full-time student who demonstrates scholastic ability, good citizenship and financial need.

Kolton Brim Karnes Memorial Scholarship

The Kolton Brim Karnes Memorial Scholarship was established by Kolton's family, friends, and community as a living tribute to a young life that was dramatically taken from this earth without reason. In efforts to honor Kolton, the scholarship will be awarded annually to a student who demonstrates the following criteria:

1. Incoming freshman or second year student enrolling or enrolled in Fire Science or Administration of Justice programs
2. Preference will be given to students in Fire Science program
3. Scholastic achievement of at least a 3.0 GPA
4. Demonstrated concern for others, high ideals, good citizenship
5. Participated in community service

E.Budge and Carolyn Kent Scholarship

This scholarship is awarded to part-time or full-time student who demonstrates scholastic ability, good citizenship and financial need.

Harry T. Kolendrianos Endowed Scholarship

The Dr. Harry T. Kolendrianos Endowed Scholarship was endowed in 2012 by the proceeds made from the annual DCC Half Marathon/8K Race sponsored by Virginia Bank and Trust Company. Virginia Bank and Trust Company, the leading sponsor, wanted to recognize their fellow board member and retired DCC professor for his great work at DCC, with the bank, and in the community. The following criteria will be used in awarding the annual scholarship:

1. First year or Second year student enrolled full-time.
2. Student must have maintained in high school a GPA of 3.0 and/or at DCC maintained a GPA of 2.5.
3. Student must demonstrate a financial need and is not eligible for Federal Aid.
4. Preference will be given to a student who has performed at least one year of community service either in a school-sponsored or community-based activity
5. Preference will be given to a resident of Danville and Pittsylvania County communities.

Nathan Lester Excellence Endowed Scholarship

The Nathan Lester Excellence Endowed Scholarship has been established by The Lester Family. The award will be made to a goal-directed, motivated young person who has displayed a positive sense of excellence in art, music, or another academic arena. The recipient should be someone who might be unable to attend college without some financial assistance.

Fred Lloyd III Memorial Scholarship

The family and friends of long-time DCC History professor, Fred Lloyd, III, established a scholarship in his memory in 2002. The scholarship is awarded to a rising sophomore enrolled full-time in a transfer program (Liberal Arts, Science, or Business Administration). The recipient must have maintained at least a 2.5 GPA and exhibited good citizenship, character, and sound values that have been demonstrated through leadership and civic involvement.

Mildred H. Smoot McCall/SHS Class of '45 Memorial Endowed Scholarship

Established in August 2002 by Robert McCall in memory of his wife, this scholarship will be awarded to a first or second-year student who has maintained at least a 2.50 GPA while in high school and during the first year at DCC. The recipient is enrolled in either full-time or part-time as a program-placed student in a transfer program.

McGovern Endowed General Excellency Award (Graduation Scholarship)

The McGovern Endowed General Excellency Award is presented each year at graduation. This scholarship is the result of a gift by Dr. and Mrs. Francis H. McGovern of Danville, Virginia. The recipient of this award will be a student who has completed two years at Danville Community College; has fulfilled the requirements of an Associate of Arts and Science Degree; is a legal resident of Virginia Community College Region Number 12; and is transferring to a senior institution in pursuit of a baccalaureate degree. The purpose of this award is to recognize scholarship and to further the educational development toward leadership and citizenship of Danville Community College students. The basis of selecting the recipient shall be: (1) scholastic achievement; (2) leadership; (3) citizenship.

James R. Meissner II Memorial Scholarship

The James R. Meissner II Memorial Scholarship was established by Mrs. Judith Meissner in January 1998 in memory of her husband who was a long-time faculty member in the Precision Machining Technology program. The scholarship will be awarded to a full-time freshman or sophomore who is enrolled in the Precision Machining Technology program and who has maintained at least a 3.00 GPA.

Clyde and Joyce Midkiff Endowed Scholarship

The Clyde and Joyce Midkiff Endowed Scholarship is awarded to a graduate of Gretna Senior High School, enrolling full-time at Danville Community College. The award is applicable to tuition and books in the academic year in which the award is made. The award is based on financial need.

Ethel C. and Henry A. Mitchell Memorial Foundation Scholarship

The Ethel C. and Henry A. Mitchell Memorial Foundation Scholarship was established at DCC in 2002. The scholarship will be awarded to three first-year African-American students at DCC who have maintained a high school GPA of at least 2.50; have enrolled in Public Service, Child Development, or a Liberal Arts program; have demonstrated financial need; and have performed at least one year of community service, either school-sponsored or community-based. Preference will be given to residents of the Almagro and surrounding communities within the City of Danville limits.

Ann and Frank Mobley Endowed Scholarship

The Ann and Frank Mobley Endowed Scholarship is presented to an incoming full-time student from Pittsylvania County, with preference being given to a Tunstall High School student. Need, scholastic achievement of at least a 3.00 GPA for the last year in school, academic promise, and good citizenship are among the criteria for selection.

Robert E. Morgan Memorial Endowed Scholarship

The Robert E. Morgan Memorial Endowed Scholarship was established in memory of Robert E. "Bob" Morgan, a long-time professor of Electrical/ Electronics at Danville Technical Institute and DCC. The award will be made to a student in the Electrical/Electronics curriculum who shows potential for successfully completing the program and does not qualify for other financial assistance.

Lyle Carter Motley, Sr. Endowed Scholarship

The Lyle Carter Motley, Sr. Endowed Scholarship was established in memory of Lyle C. Motley, a broadcaster of WMNA in Gretna, VA. The award will be made to a student who has graduated from any Pittsylvania County High School. The recipient must be enrolled in the Electronics program and have maintained at least a 3.0 GPA during high school or during the first year at DCC. Preference will be given to a student who is interested in working in the communications field such as radio or television.

Vera B. Murphy Memorial / John M. Langston High School Reunion Committee Scholarship

This scholarship was established in memory of a former Danville principal and educator, Vera B. Murphy. The award will be made to a graduating high school senior who will enroll full-time at DCC, has maintained a 2.5 or better GPA, and resides in Danville, Pittsylvania County or Halifax County.

Shaun William Murray Memorial Scholarship

The Shaun William Murray Memorial Scholarship was established by family and friends to recognize the former DCC student who died October 29, 2004. The award is given to a second-year student who is enrolled in the Liberal Arts program with plans to major in fine arts, or enrolled in the Graphics Imaging Technology program. The recipient must have maintained at minimum of 3.0 GPA in high school or in college. Preference is given to a recipient who has participated in community service activities, and who has lived in North Danville and attended any one of the following three schools: Woodrow Wilson, Irvin Taylor, or O.T. Bonner schools.

Kenneth L. Neathery Memorial Endowed Scholarship

The Kenneth L. Neathery Endowed Memorial Scholarship has been established at DCC to provide students with educational opportunities. Mr. Neathery devoted many years of service to the College. His deep concern for students and his belief in the worth of each individual guided his every action. This scholarship shall be awarded to a full-time program-placed business student at DCC. The scholarship may be awarded to a student in any curriculum who demonstrates scholastic achievement and a commitment to high ideals.

Don Nodtvedt Boys and Girls Club Scholarship

The Don Nodtvedt scholarship was created in 2012 to honor Don Nodtvedt and his accomplishments in Danville/Pittsylvania County. Mr. Nodtvedt, recently retired Boys and Club Director, committed his life to the betterment of the Danville/Pittsylvania County community. The annual award is to be used for tuition and/or books using the following criteria:

1. First year or Second year student enrolled full-time.
2. Student must have maintained in high school a GPA of 3.0 and/or at DCC maintained a GPA of 2.5.
3. Student must demonstrate a financial need and is not eligible for Federal Aid.
4. Preference will be given to a student who has performed at least one year of community service either in a school-sponsored or community-based activity.
5. Preference will be given to a resident of Danville and Pittsylvania County communities.

Wayne and Nancy Oakes Scholarship

This scholarship is awarded to part-time or full-time student who demonstrates scholastic ability, good citizenship and financial need.

Lawrence Olds Memorial Endowed Scholarship

The Lawrence Olds Memorial Endowed Scholarship was established as a living tribute to an individual dedicated to the education of the community. The scholarship will be awarded annually to a student who demonstrates academic potential and good citizenship.

Rexford E. O'Neil Endowed Scholarship

The Rexford E. O'Neil Endowed Scholarship, named in memory of DCC's long-time registrar, is awarded to an entering freshman enrolled fulltime in an associate degree or diploma program. The award is restricted to tuition and fees. The recipient should be a student who does not qualify for other types of financial assistance and shows promise of educational success.

Peoples Mutual Telephone Endowed Scholarship

The Peoples Mutual Telephone Endowed Scholarship, established in 1989 by the E. B. Fitzgerald III family, is awarded annually and may be used for tuition and fees. The recipient shall be selected in accordance with the following criteria:

1. Up to six semesters and three summer sessions provided the student maintains at least a 2.50 GPA, has entered a curriculum, remains in the program, demonstrates good citizenship, and reapplies annually.
2. If no candidate qualifies under the above, then the scholarship shall be awarded to a student who has resided in the Peoples Mutual Telephone service area for one year prior to the award.

Peoples Mutual Telephone Company, Inc. - Tech Prep Scholarship

Peoples Mutual Telephone Company, Inc. an independent telephone firm located in Gretna, Virginia, expanded its scholarship endowment in 1998 in order to provide a scholarship for a graduate of the Tech Prep program who has maintained at least a 2.50 GPA and who will continue his/her education at DCC. Preference for the scholarship will be given to a Gretna High School student or to a student from Pittsylvania County.

Nelson and Thelma Pippin Scholarship for Vocational and Career Education

Created in honor of Nelson and Thelma Pippin by their children, this award is presented to students enrolled full-time in the following programs: precision machine technology, air conditioning and refrigeration (HVAC), advanced manufacturing, electrical concepts or welding. The recipient must have a grade point average (GPA) of 2.8 or higher. Priority selection in order goes to graduates from the following area schools: (1) Gretna High School or Faith Christian School; (2) any other Pittsylvania County School; (3) Danville City School; and (4) Halifax County School.

Edna S. Powell Family Memorial Scholarship

The Edna S. Powell Family Memorial Scholarship was established by Shannon L. Hair to honor and recognize his family. In order to be eligible, the recipient must be a senior graduating from a high school in the college's service area and who has achieved a 3.0 GPA or better for his/her senior year. He/she must have academic promise with a commitment to complete college, maintained high moral character, demonstrated a concern for others, high ideals, good citizenship, possess leadership qualities, participated in community outreach, demonstrated a financial need and will be enrolled as a full-time student. In efforts to show tribute to the Powell Family, the scholarship will be awarded annually to a student who demonstrates the previous criteria.

Shirley Day Primiano Scholarship

The Shirley Day Primiano Scholarship has been established by Dr. Shirley Primiano, a local educator. The award may be used for tuition and books, and is given to a full-time or part-time student. The selection of the recipient will be based upon financial need, scholastic ability, and good citizenship.

Project Celebration Scholarship

Established in December 2008, this scholarship is awarded to a current George Washington High School graduate with financial need and entering DCC as a full or part-time student.

Robert H. Ramey, Jr. Endowed Scholarship

The Robert H. Ramey, Jr. Endowed Scholarship is available to a student in a degree, certificate or diploma program and must maintain at least a 2.5 grade point average prior to the award and during the academic year.

1. Preference will be given to a male student who attends any unit of the Boys and Girls Clubs within the city limits of Danville, VA.
2. Second preference will be given to a minority student, preferably a male who is enrolled in an industrial/technical program.
3. Third preference will be based on financial need.

Dr. B. Carlyle Ramsey Scholar Award

The B. Carlyle Ramsey Scholar Award is presented to students who demonstrate financial need and are not eligible for Federal Aid. The recipient must perform 50 hours of community service during the semester of award at an approved non-profit agency within the College's service area.

Sandra Lee Riddle/RACO Endowed Honor Scholarship

This scholarship shall be awarded to a graduate of Gretna Senior High School or someone who has lived within ten miles of Gretna for five years. The award may be used for tuition and books in the academic year the award is made. The recipient must be a full-time student entering a curriculum at DCC. Preference will be given in the following order:

1. A student planning to enter a registered nursing program
2. A business student
3. A student in other programs

In order to use this scholarship for a second semester, a full-time student must earn at least a 2.50 GPA for the first semester of the scholarship.

Rippe Endowed Scholarship for Women in Science and Business

Established in 1992 by Rippe's and Ben Rippe, this scholarship is awarded to a full-time female student enrolled in a college transfer program, majoring in business or science. The selection criteria is based on the educational ability of the student.

Riverdan Benevolent Fund Endowed Scholarship

The Riverdan Benevolent Fund Endowed Scholarship has been established for Dan River Inc. employees and their dependents. The award may be used for tuition, books, and fees in the academic year in which the award is made. Length of continuous employment at Dan River Inc. is a factor in determining eligibility. This award is also available to sons, daughters, and spouses of deceased employees, who at the time of death had three or more years of continuous service.

Roberts-Hunt Endowed Scholarship

The Roberts-Hunt Endowed Scholarship is awarded to a student who is a resident of South Boston or Halifax County, and is made possible by a gift of Dr. and Mrs. Lucien W. Roberts.

Fredrick Morris Robertson Memorial Scholarship

This scholarship is awarded to an incoming or returning student enrolled full-time in the Drafting & Design program. The recipient must demonstrate scholastic ability, good citizenship and financial need.

James A. Robertson Scholarship

The James A. Robertson Scholarship was established through the generosity of James and Ann Robertson in 1992. Upon Mr. Robertson's death in 2001, the scholarship was first awarded in 2002. Multiple scholarships are awarded annually to students who have financial need.

George Rogers – Educational Foundation Scholarship

The George Rogers – Educational Foundation Scholarship was created in 2012 to honor one of the great technical professors from DCC. Mr. Rogers has committed his life to the betterment of the Danville/Pittsylvania County community. The annual award is for tuition and/or books using the following criteria:

1. First year or second year student enrolled full-time.
2. Student must have maintained in high school a GPA of 3.0 and/or at DCC maintained a GPA of 2.5.
3. Student must demonstrate a financial need and is not eligible for Federal Aid.
4. Preference will be given to a student who has performed at least one year of community service either in a school-sponsored or community-based activity.
5. Preference will be given to a resident of Danville and Halifax or Pittsylvania County communities.

Schoolfield High School Reunion Committee Endowed Scholarship

The Schoolfield High School Reunion Committee Endowed Scholarship was established in 2001 through the generosity of members and alumni of Schoolfield High School. The scholarship will be awarded to a current high school graduate who has maintained at least a 3.00 GPA while in high school, has financial need, has been involved in community and school-related activities and demonstrated leadership potential. The student may be enrolled in any DCC program either full time or part time.

Wendell O. Scott Memorial Scholarship

The Scott family and the Wendell Scott Scholarship Foundation initiated the Wendell O. Scott Memorial Scholarship fund in 1994 with the first academic award presented in 1999. The award is given to a student enrolled in the automotive/auto body program or a related technical program. The student must maintain at least a 2.50 GPA and have athletic potential.

Peyton Sellers Champion Award

Peyton Sellers, a DCC 2004 motorsports management graduate, received the 2005 Dodge Late Model Weekly Championship. Because of his outstanding leadership, a $1,000 award has been established in his name and the first award made in 2006-2007. To be eligible, the recipient must be a current high school graduate from Danville, Halifax County or Pittsylvania County, majoring in a technical program. The recipient must have academic promise and possess and display leadership potential.

Herbert R. Silverman, M.D. and Evelyn N. Silverman Scholarship Fund

The Herbert R. Silverman, M.D. and Evelyn N. Silverman Scholarship Fund provides scholarships for full-time students enrolled in DCC's Nursing programs. To be eligible, a student must be a permanent resident of the City of Danville or Pittsylvania County; demonstrate a financial need for the scholarship; demonstrate a commitment to obtain a nursing degree and, thereafter, pursue a career in nursing; and be a good citizen with the highest ethical and moral character.

Charles and Jennifer Snead Family Scholarship

The Snead Family scholarship was created anonymously to honor the Snead Family. Charles Snead, a local accountant and his wife Jennifer, a local educator have committed their lives to the betterment of the Danville/ Pittsylvania County community. The annual award is to be used for tuition and/ or books using the following criteria:

1. First year or second year student enrolled in either the Accounting program (Associate of Applied Science) or the Associate of Arts and Science Degree Program – English Transfer Program.
2. Student must have maintained in high school a GPA of 3.5 and/or at DCC maintained a GPA of 3.5.
3. Student must demonstrate a financial need and is not eligible for Federal Aid.
4. Preference will be given to a student who has performed at least one year of community service either in a school-sponsored or community-based activity.
5. Preference will be given to a resident of Danville and Pittsylvania County communities.

Obra E. and Shirley J. Spangler Endowed Scholarship

The Obra E. and Shirley J. Spangler Endowed Scholarship Fund was established in 1996. A recipient must be enrolled in the printing program; have maintained at least a 2.50 GPA; and have demonstrated good citizenship through community involvement.

Betty Starr Scholarship

This scholarship was created by Betty Starr at the conclusion of the 2012 DCC Educational Foundation Golf Tournament. Mrs. Starr is a Danville, VA resident. This scholarship will be awarded to a part-time or full-time DCC student who demonstrates scholastic ability and good citizenship.

Stendig-Miller Family Endowed Scholarship

Stendig-Miller Family Endowed Scholarship was established by Mr. and Mrs. Joseph Stendig and the late Mrs. Minnie Miller. It is awarded annually to a student entering DCC, enrolled full time or part time in a program. The award is to be used for tuition and books. Selection is determined by financial need and the student's strong commitment to acquiring an education.

Bobby Stinespring Jr. Memorial Scholarship (Graduation Scholarship)

The Bobby Stinespring Jr. Memorial Scholarship was established in 2007 to honor the memory of Bobby Stinespring, Jr. for a DCC student planning to attend Virginia Tech. In efforts to honor Bobby, the scholarship will be awarded annually to a student who demonstrates the following criteria:

1. Financial Need
2. High School participation in girls softball

Christopher Daniel Turner Scholarship

The Christopher Daniel Turner Scholarship was first awarded in 1997 in memory of an outstanding young man who died tragically during his military service. The award was established by his parents and provides for tuition, books, and fees. The scholarship is given to a student who has been a Law Enforcement Explorer in Post 911, Danville, VA for at least six months, resides in Danville or Pittsylvania County, and is enrolled or enrolling in the Administration of Justice program. The recipient must demonstrate financial need and have a GPA of at least 2.50.

Melvin C. Vernon, Jr. and Michael Solomon Memorial Scholarship

Established in 2012-2013 by Jean Carol Harper Vernon and sons Melvin Vernon III and R. Hutchings Vernon to honor the memory of Melvin C. Vernon, Jr., a member of the original Foundation Board, and Michael Solomon (April 3, 1945 - May 29, 2010), who possessed outstanding ability to engage his DCC students in various ways to sustain the environment especially through design and passive solar architecture. The scholarship should support a student who shows an interest in architecture, construction, engineering or related subjects.

Virginia Bank and Trust Company Endowed Scholarship

Established by the Virginia Bank and Trust Company, this tuition scholarship is presented to a rising sophomore who has completed 30 semester hours in Business Management or Marketing at DCC. The student is required to have a 2.75 GPA or above, reside in the Danville area (within 30 miles of the main office of Virginia Bank and Trust Company), and be taking at least 12 credit hours. The award will be based on need, scholastic ability, and good citizenship.

Jack I. White Endowed Scholarships

The Jack I. White Endowed Scholarships were established by a bequest from the estate of Miss Annie E. White in memory of her sisters, Miss Elizabeth H. White and Miss Juliette I. White. Recipients must be graduates of Dan River High School who demonstrate financial need and sufficient aptitude and commitment to complete a college education. One or more full tuition scholarships will be made each year. Announcement of the recipient(s) will be made at the Dan River High School Commencement.

Whittle Family Endowed Scholarship

The Whittle Family Endowed Scholarship, established by Mr. and Mrs. Henry D. Whittle, Jr., is an award for tuition and books. Selection of the recipient is based on need, scholastic ability, and good citizenship.

Wilkins and Co. Realtors Scholarship

Hampton Wilkins of Wilkins and Co. Realtors created the scholarship in 1999 to recognize a rising sophomore enrolled in the Marketing program who demonstrates academic ability and has maintained a 2.50 or better grade point average. Wilkins and Co. Realtors also provides funding for four students to take the Virginia Real Estate Licensing Exam.

Charles T. "Ted" Williams Veterans Scholarship

The Charles T. "Ted" Williams Veterans Scholarship was established to honor Mr. Ted Williams and his 23 years of military service and to recognize veterans on the DCC campus. Mr. Williams served two years in the U.S. Army (1945-1947) and 21 years in the U.S. Air Force (1951-1972) where he retired as Senior Master Sergeant. Mr. Williams also served during World War II, Korea and Vietnam. In order to be eligible, the recipient must meet the following criteria:

1. Be a veteran (part-time student or full-time student) where he or she was in active duty or a branch of the reserve.
2. Must have academic promise with a commitment to complete college
3. Demonstrates a high moral character and a concern for others
4. Good citizenship and high ideals
5. Possesses leadership qualities and participates in community outreach
6. Demonstrates a financial need

Ruth Williams Cancer Survivor Scholarship

The Ruth Williams Cancer Survivor Scholarship was established to honor Mrs. Ruth Williams, a breast cancer survivor. Mrs. Williams was diagnosed with this disease in 1995. Her disease has been in remission since 1996. In order to be eligible, the recipient must meet the following criteria:

1. Be a female student (part time or full time) who has fought cancer or who has been diagnosed with cancer while a student attending DCC
2. Nursing student preferred
3. Must have academic promise with a commitment to complete college
4. Maintains a high moral character and ideals
5. Demonstrates good citizenship and a concern for others
6. Possesses leadership qualities and participates in community outreach
7. Demonstrates a financial need

Plumer Wiseman Endowed Scholarship

The Plumer Wiseman Endowed Scholarship was established in memory of Mr. Plumer Wiseman, a dedicated volunteer at the Estelle H. Womack Museum of Natural History, by the John James Westbrook Society and the DCC Educational Foundation. The purpose of the award is to provide an opportunity for a full-time student to receive tuition assistance in return for working for six hours per week with the Estelle H. Womack Collection housed at the Danville Science Center. The student must have at least a 2.50 GPA in the major field and be working towards a degree, diploma, or certificate.

Womack Foundation Scholar Award Scholarship

The Womack Foundation Scholar Award Scholarship was created in 2012 with contributions made by the Womack Foundation. For over two decades the Womack Foundation has given the DCC Educational Foundation funds for emergency situations to be used for tuition and/or book payment for eligible students. This premise still exists for fifty (50) worthy students throughout the academic year. The following criteria must be met by each student accepting this scholarship:

1. Student must demonstrate a financial need and is not eligible for Federal Aid.
2. Student must volunteer and perform community service within the semester the scholarship is granted.
3. Student must arrange his/her volunteer hours (50 hours) with an approved non-profit agency (within the college's service area) before applying and accepting the scholarship award.
4. Student is only awarded one (1) $500.00 scholarship per semester and must re-apply after each semester to be eligible the following semester. The maximum scholarship award per student, upon eligibility will be for three (3) semesters total.

Zan and Bobbye Raye Womack Entrepreneur Scholar Award

The Zan and Bobbye Raye Womack Entrepreneur Scholar Award was established to provide financial assistance to a student who possesses an "entrepreneurial" spirit in his or her classwork, participates at his or her employment and has a personal desire to have his or her own business located within the College's service area. This student will also be expected to understand and at times take part in activities associate with the Barkhouser Free Enterprise Center.

Woodward Scholarship

The Woodward Scholarship will be awarded to a high school senior who has overcome obstacles in order to graduate and obtain a high school diploma. The recipient must have potential for success in post-secondary education and future work; enroll in any certificate, diploma, or degree program at DCC; and maintain at least a 2.00 GPA while enrolled at DCC. Recommendations will be solicited from the Regional Alternative Schools in Halifax County and Danville/ Pittsylvania County, the Southside Regional Group Home in Halifax; Patrick Henry Boys Home; and the directors of Social Services in Danville, Halifax, Pittsylvania, and Farmville.

Anita J. Wyatt Scholarship

The Anita J. Wyatt Scholarship was established by Ms. Wyatt to provide financial assistance to a student enrolled in either the Administrative Support Technology Program (AAS) or the Business Administration Program (AA&S). The recipient must meet the following criteria:

1. Demonstrates a financial need
2. Must have academic promise with commitment to complete college
3. Maintains high moral character and high ideals
4. Possess leadership qualities
5. Good citizenship and participates in community outreach

Garland M. Wyatt Endowed Scholarship

The Garland M. Wyatt Endowed Scholarship is presented to a student enrolled in a business related curriculum at DCC who demonstrates financial need.

Harry and Edith Wyatt and Vernon Wyatt Memorial Scholarship

The Wyatt Family Scholarship was established in memory to honor and recognize the late Mr. Harry Wyatt, Mrs. Edith Wyatt (parents) and the late Mr. Vernon Wyatt (brother). This scholarship was given by their daughter and sister, Ms. Anita J. Wyatt. In order to be eligible, the recipient must be enrolled in Administrative Support Technology (AAS degree) or Business Administration (AA&S degree). The student must also meet the following criteria:

1. Must have academic promise with a commitment to complete college
2. Demonstrates high moral character and a concern for others
3. Good citizenship and high ideals
4. Possesses leadership qualities and participates in community outreach
5. Demonstrates a financial need

Wyatt-Benton Endowed Scholarship

The Wyatt-Benton Endowed Scholarship was established by Landon and Kathryn Benton Wyatt in memory of their parents. The award is made to a rising sophomore, based on need, scholarship, and good citizenship.

Wyatt-Townes Family Endowed Scholarship

Honoring F.W. "Bill" Townes, III and Catherine "Kitty" Wyatt Townes, the Wyatt-Townes Family Endowed Scholarship was established in July 2010 by their children. In order to be eligible, the recipient must be a rising sophomore, have financial need, scholarship ability and good citizenship.

L. Wilson York Endowed Memorial Scholarship

The L. Wilson York Endowed Memorial Scholarship was established as a tribute to an outstanding member of the community who placed a high value on education. York served on the DCC Educational Foundation Board as treasurer, and was a member of the Scholarship Committee. The award is presented to a student who shows academic promise regardless of financial resources.

John H. Zechman Scholarship

The John H. Zechman Scholarship was established to honor Mr. John H. Zechman and in memory of Mr. and Mrs. J. Howard Zechman and Mr. and Mrs. Clyde C. Neal. Mr. John H. Zechman was employed at DCC as the Director of Finance and was instrumental in providing direction and leadership with faculty and staff. In addition to his qualities, he feels, as does his wife, the shortage in nursing staff will continue to cause problems in the Danville/Pittsylvania County region. This scholarship has been created to provide financial assistance for an incoming nursing student. In order to be eligible, the recipient must meet the following criteria:

1. Be enrolled as a full-time nursing student
2. Must have academic promise with a commitment to complete college, either at DCC or a four-year institution
3. Maintains high moral character and high ideals
4. Demonstrates good citizenship and a concern for others
5. Possesses leadership qualities and participates in community outreach
6. Demonstrates a financial need

Other Services

Other financial aid assistance and options may be added throughout the year. Students are encouraged to regularly contact the Financial Aid Office, the Educational Foundation Office, or check the DCC webpage (www.dcc.vccs.edu) for information on such programs and/or scholarships.

Full-time Academic Status

Official enrollment for each semester must be 12 semester hours or more, not audit, to permit certification of full-time student status for Veterans Administration or Social Security benefits, and most other purposes.

Veterans

Programs and courses of study (including Career Studies Certificates) at Danville Community College are approved by the Virginia Department of Education and the Veterans Administration for payment of veteran's educational benefits. Programs include the Montgomery GI Bill, Vocational Rehabilitation, and the Educational Benefits for Dependents and Spouses and Active Duty Tuition Assistance. For information about VA educational benefits, contact the DCC Veteran's Affairs Specialist at 434.797.8489 or the Veteran's Administration in Roanoke (the VA toll-free number is 1.800.827.1000). Free tuition is available for dependents of certain disabled or deceased (service related) veterans through the Virginia War Veterans Department.

Danville Community College is a member of the Servicemen's Opportunity College (SOC) Network and therefore recognizes that learning occurs in extra-institutional and non-instructional settings. As an SOC institution we award credit for CLEP, DSST, ECE and DANTES as appropriate for each veteran student's program of study. We also recognize each service's military transcript and evaluate each individual veteran for those experiences/schools/training that may be applicable to the student veterans program. All veterans receive a physical education credit for their basic training. DCC is dedicated to ensuring that we recognize the experience, training and education that veterans have received as a result of their service to their nation and will on a case-by-case basis evaluate each individual to ensure that they receive the maximum credit allowable under the Virginia Community College regulations.

Post 9/11 GI Bill (Chapter 33)

The Post-9/11 GI Bill is for individuals with at least 90 days of aggregate service on or after September 11, 2001, or individuals discharged with a service-connected disability after 30 days. Individuals must have received an honorable discharge to be eligible for the Post-9/11 GI Bill. For more information: http:// www.gibill.va.gov/GI_Bill_Info/benefits.htm.

Transfer of Post 9/11 GI Bill Benefits to Dependents (TEB)

For the first time in history, service members enrolled in the Post 9/11 GI Bill program are able to transfer unused educational benefits to their spouses or children effective August 1, 2009. For more information on how to apply for TEB: http://www.gibill.va.gov/GI_Bill_Info/Ch33/Transfer.htm.

Academic Residency Requirement for Active Duty Service Members: Danville Community College limits academic residency to no more than twenty-five (25) percent of the degree requirements for all associate degrees for active-duty service members. Academic residency can be completed at any time while active-duty service members are enrolled. Reservists and National Guardsmen on active-duty are covered in the same manner.

Career Services

The College maintains a Career Center located in the Admissions/Counseling Office. The services are available to students who desire to secure part-time or full-time employment while attending college or after graduation. Services are also available for DCC alumni. Occupational information on job requirements is provided. Additionally, there is a career services website for students, alumni, and employers. Students and alumni may have resumes posted on the website and employers may view the resume. Also, employers may post current job openings to the website. The website can be accessed at www.dcc.vccs.edu/ CareerCenter/career_center.htm.

The Career Center offers resume writing assistance and instruction on interview techniques. Students who are undecided about career options may take advantage of career assessments. The Career Center offers a Career and Networking Fair each spring for DCC students and alumni in which area and regional employers discuss current and future job openings. For more information about Career Center Services, please contact 434.797.8520.

Career Coaches

The College employs Career Coaches to meet the career planning and post-secondary needs of students. High school career coaches work within local high schools and provide students with individualized career and college planning. Community-based career coaches and adult career coaches provide career planning activities and access to college planning information to residents in the DCC service region. To learn more, contact 434.797.8520.

Student Activities

The student activities program is designed to provide a variety of meaningful educational, cultural, and social experiences. Clubs and organizations currently available* include:

- African-American Culture Club
- Alpha Beta Gamma (International Business Honor Society)
- Baseball Club (National Junior College Athletic Association – NJCAA, Div. II)
- Gospel Choir
- Makers Club
- National Technical Honor Society
- Networking Club
- Nursing Club
- Omega Alpha Omicron Chapter (Justice Club)
- Phi Theta Kappa (International Honor Society)
- Programming Club
- Student American Dental Hygienist Association
- Student Government Association
- Student Leadership Program
- Student Veterans Organization (SVO)
- TEACH Club (To Educate Always Creates Hope)

All clubs, organizations and activities have a staff advisor and/or sponsor. Official recognition is given only to scholastic, civic, athletic, professional and religious clubs and organizations which have been approved by the Student Government Association and the Dean of Student Success and Academic Advancement. Should a sufficient number of students desire a particular activity, they must petition the Student Government Association for official recognition.

*(*as of 3/1/14)*

Student Handbook

The student handbook describes student activities and organizations as well as student rights and responsibilities. It also lists the College rules and regulations. Students are bound by the policies set forth in the Student Handbook. The handbook is widely distributed across campus and is available in the Admissions Office and on the web site.

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.

Failure to meet standards of conduct acceptable to the College may result in disciplinary probation, depending upon the nature of the offense. The Student Handbook includes the complete College Initiated Code of Student Conduct and Discipline and explains the channels of communication available to students.

Bookstore

DCC's Bookstore is operated for the convenience of the students, faculty, and staff. Operating hours are posted each term. The bookstore offers a variety of products including books; supplies; and discounted computer items such as software, hardware, and other peripherals. Students and others interested in purchasing textbooks can receive an accurate listing of course material information including ISBN and retail prices by going to our webpage http://dccbookstore.dcc.vccs.edu/home.aspx. The Bookstore also sponsors the monthly Student Spotlight and an Excellence in Academics Scholarship.

Return and Refund Policy

Cash register receipts must be submitted for a refund. All refunds are made by check. The refund will be mailed within four to six weeks of the return date. New books and related materials must be in new, resalable condition to obtain a refund. Names should not be written in books until the student is sure he/ she will remain in the class. Receipts are required for state audit purposes. If a receipt is unavailable, exchanges may be permitted for equal value.

Textbooks

Textbooks may be returned for a refund until the last day of the add/drop period. An official drop form along with the dated bookstore receipt is required.

General Books

General books such as trade paperbacks, hardcover fiction, and non-fiction are non-refundable.

Calculators and Electronics

Refunds on calculators are not available. Defective items are not replaced after 30 days of purchase. Merchandise must be returned with its carton, related product materials (instructions, warranty, etc.) and the dated sales receipt.
For defective merchandise purchased and held for more than 30 days, the manufacturer or local service outlet must be contacted directly.

Computer Software

Computer software that is in its original shrink-wrap and is the current version may be returned within five days of the purchase date. There are no refunds on opened software.

General Merchandise

All merchandise purchased from the bookstore other than the above is non-refundable. Defective merchandise may be exchanged for like items.

Used Books

The Bookstore purchases and resells used books to provide more reasonable prices for students. Buy-back dates are posted around the campus prior to each book-buy. Used book purchases are based on the need for specific books.

Other Information

Parking and Traffic

All student, faculty, and staff vehicles that are parked on the campus must bear a current DCC parking sticker. Spaces for the faculty and staff are clearly marked with yellow lines, and they are reserved for faculty and staff only. Student parking spaces are marked with white lines. The College provides designated parking areas marked with blue lines to accommodate disabled students. Parking permits for the disabled are issued in the Office of the Vice President of Academic and Student Services. Only those issued by the College may be used for these spaces.

Parking permits are issued to students at the College Information Desk, located on the first floor of the Wyatt Building. Faculty and staff permits are available in the Office of the Vice President of Financial and Administrative Services.

The College has a 20 mile per hour speed limit within parking areas and 25 mile per hour speed limit on Neathery Lane. These limits are strictly enforced. Anyone violating these limits will have their parking privileges revoked. Security personnel will issue tickets for all parking violations.
Individuals receiving more than one ticket will be subject to the College-Initiated Code of Student Conduct and Discipline, which includes towing.

Drug and Alcohol Abuse Policy

Danville Community College is committed to providing a drug-free environment for its employees and students. It is a violation of College rules for students to manufacture, distribute, dispense, possess, or use controlled substances while participating in College-related activities, on or off campus. Students who are using or dealing drugs are subject to disciplinary procedures. Students who are convicted of drug-related offenses are required to notify the Vice President of Academic and Student Services within five (5) days of such conviction. Students who are involved with drugs or who have drug-related problems
are encouraged to contact the Dean of Student Success and Academic Advancement for assistance in obtaining treatment. (All such contacts will remain confidential.) For more information, see the Student Handbook/Calendar or contact the Dean of Student Success and Academic Advancement.

The College is committed to providing on-going educational information to students covering the effects and consequences of substance abuse.

Campus Security and Crime Awareness Annual Report

In compliance with the Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act (formerly known as the 1990 Student Right-to-Know and Campus Security Act), Danville Community College annually provides the following information to students, faculty, staff, the College Board, and the community:

- Procedures for Reporting Crimes and Other Emergencies
- Access to the Campus, Facilities, and Campus Security
- Campus Awareness Programs Relative to Safety and Security
- Vital Statistics
- College Policy on Alcohol and Illegal Drugs
- College Policy on Sexual Misconduct
- College Policy on Firearms and Other Weapons
- Emergency Response and Communication

The information is published in the Danville Community College Campus Security and Crime Awareness Annual Report. A printed copy of this information can be obtained from the Office of the Vice President of Financial and Administrative Services. The report is also published on the College's website at www.dcc.vccs.edu/aboutdcc/Security/security.htm.

Policy for Animals (Pets) on Campus

No pets or other animals are permitted on campus except for service animals used by persons with disabilities and animals used by the College for educational purposes. No animals may be left unattended on campus in parked vehicles.

Policy for the Prohibition of Sexual Misconduct, Sexual Assault, Sexual Harassment and Sexual Violence

Sexual misconduct, sexual assault, sexual harassment and sexual violence are contrary to the policies of the State Board for Community Colleges and Danville Community College. As a result, Danville Community College shall not tolerate any verbal or physical conduct of this nature. Danville Community College policy provides avenues (mechanisms) for reporting and resolving complaints. The Director of Public Relations and Minority Concerns has been designated as the College's Affirmative Action Officer and Title IX Coordinator. All reported violations will be investigated. The office is located in the Wyatt Building, Room 212; phone: 434.797.8458; or email aburney@dcc.vccs.edu.

All DCC students and employees are covered by this policy. The official College policy is published in the DCC Policy Manual and the DCC Student Handbook, and on the DCC website (www.dcc.vccs.edu). In addition, College employees will receive annual training and/or resources to ensure that legal concepts associated with sexual misconduct, sexual assault, sexual harassment and sexual violence are understood; that instances of sexual misconduct, sexual assault, sexual harassment and sexual violence are promptly investigated and remediated; and that support services are available for complainants.

Information Technology Resources

Danville Community College provides telecommunications centers, library technological infrastructure, and computing centers to support the academic programs of the College. Users of these resources are expected to abide by the established Computer Ethics Guidelines in this catalog.

Transfer Associate Degrees

Associate of Arts and Science
Business Administration
Liberal Arts
Educational Interpreter Training Specialization
Humanities Specialization
Social Science Specialization
Science

Associate of Science
Engineering

Since much of the coursework taken during the first two years of a Bachelor's Degree is in the area of general education, Danville Community College offers transferable courses to meet the first two years' requirements for a variety of four-year degree programs. Listed below are several illustrations of four-year degrees with the recommended two-year program at DCC that would serve as good preparation for transfer. This list is not all-inclusive. Please contact DCC's Counseling Office at 434.797.8460 or the Transition Counselor at 434.797.8469 for advice on a specific program at a particular university. You can also review our online resources at the following link: www.dcc.vccs.edu/transfer.

Four-Year Degree/Teaching Option	DCC Associate Degree Counterpart
Accounting	Business Administration
Actuarial Science	Business Administration
Agriculture	Science
Anthropology	Science
Business Administration	Business Administration
Chemistry	Science
Computer Science	Science
Communications	Liberal Arts – Humanities Specialization
Early Childhood Education	Liberal Arts
Economics/Finance	Business Administration
Engineering	Engineering
Civil, Electrical, Mechanical, Systems or any B.S.E. major	
English	Liberal Arts-Humanities Specialization
Forestry	Science
Hotel Management	Business Administration
Information Technology	Business Administration
International Relations	Liberal Arts-Social Science Specialization
Journalism Liberal Arts-Humanities Specialization	
Marketing	Business Administration
Nursing (B.S.)	Science
Paleontology	Science
Performing Arts	Liberal Arts-Humanities Specialization
Pharmacy	Science
Philosophy and Religion	Liberal Arts-Humanities Specialization
Physical Therapy	Science
Political Science	Liberal Arts-Social Science Specialization
Pre-Law	Liberal Arts-Any Specialization
Pre-Med	Science
Psychology	Liberal Arts-Social Science Specialization
Secondary Education	Depends on intended teaching field (see note below)
Social Work	Liberal Arts-Social Science Specialization
Sociology	Liberal Arts-Social Science Specialization
Speech Therapy	Liberal Arts
Sports Management	Business Administration
Sports Medicine	Science
Zoology	Science

Articulation and Guaranteed Admission Agreements

DCC students who intend to transfer to four-year colleges or universities may take advantage of DCC's Articulation or Guaranteed Admission Agreements as well as the Guaranteed Admission Agreements set up by the Virginia Community College System (VCCS). Qualified graduates seeking transfer to these schools will be admitted automatically with full third-year status upon application.

Admission to a given institution does not guarantee admission to particular degree-granting programs, majors, or fields of concentration. Admission to specific programs may require, for example, a minimum grade point average and specific prerequisite courses.

Students seeking transfer under one of these agreements must have graduated from DCC with a certain minimum grade point average (GPA). The required GPA is determined by each four-year college or university. Students may be required to sign a letter of intent to transfer to the desired institution, typically during their sophomore year.

DCC has Articulation or Guaranteed Admission Agreements with these colleges and universities:

American Public University System (Criminal Justice)
Averett University (General, Criminal Justice, Early Childhood Education, non-licensure Nursing)
Bluefield College
Davis and Elkins College
Eastern Kentucky University (College of Justice and Safety)
Excelsior College
Ferrum College (Criminal Justice)
Franklin University
George Mason University
James Madison University
J. Sargeant Reynolds Community College (JSRCC-DCC Joint Venture Respiratory Therapy and Medical Laboratory Technology Programs)
Longwood University (General and Business and Economics)
Montreat College
Radford University (General, Computer Science and Technology, Information Science and Systems)
University of Richmond (School of Continuing Studies)
University of Virginia (Engineering and Applied Science)
Virginia Commonwealth University (School of Business—Selected Majors)
Virginia State University
Virginia Union University
Virginia Western Community College (VWCC-DCC Joint Venture Dental Hygiene Program)

The Virginia Community College System (VCCS) has Guaranteed Admission Agreements with these colleges and universities:

Virginia's Public Colleges and Universities
Christopher Newport University
College of William and Mary
Longwood University
Norfolk State University
Old Dominion University
Radford University
University of Mary Washington
University of Phoenix
University of Virginia
School of Engineering and Applied Science, Nursing
University of Virginia's College at Wise
Virginia Commonwealth University
Virginia State University
Virginia Tech
College of Agriculture and Life Sciences
College of Engineering

Virginia's Private Colleges and Universities

Bluefield College
Emory and Henry College
Ferrum College
Hollins University
Liberty University
Lynchburg College
Mary Baldwin College
Randolph College
Regent University
Shenandoah University
Sweet Briar College
Virginia Union University
Virginia Wesleyan College

Other Colleges and Universities

ECPI University
ECPI University (Nursing)
Regis University
Strayer University
Troy University
Western Governors University (online Nursing)

This information is current as of 4/01/14. For the most current list, visit: http://www.vccs.edu/transfer

Further information on transfer and Guaranteed Admission Agreements can be found at:

DCC's Transfer Center: http://www.dcc.vccs.edu/transfer
State Council for Higher Education (SCHEV): http://www.schev.edu/students/transfer/default.asp
Virginia Community College System (VCCS): http://myfuture.vccs.edu/transfer

Transfer from VCCS colleges to public institutions is facilitated by the State Policy on Transfer. Students desiring additional information about transfer programs and courses should contact the Chief Transfer Officer at a specific institution. The State Council of Higher Education (SCHEV) monitors and coordinates statewide transfer policy and activities through the State Committee on Transfer.

Business Administration

Award: ASSOCIATE OF ARTS AND SCIENCE

Length: A full-time student may complete this program in four semesters.

Purpose: The Associate of Arts and Science Degree in Business Administration is designed for students who plan to transfer to a four-year college or university to complete a baccalaureate degree program in Business Administration, Accounting, Business Information Systems, Economics, Finance, Marketing, or Management.

Admission Requirements: In addition to the admission requirements established by the College, entry into this program requires completion of four units of high school English, three units of college preparatory mathematics, one unit of Laboratory Science, and one unit of Social Studies. If you meet the general admission requirements, a counselor will discuss with you the strengths and weaknesses of your academic background and your strengths and weaknesses as revealed by an appropriate placement test. You may correct any deficiencies in academic preparation in the College's Developmental Studies program.

Program Description: This program requires courses in the humanities, natural sciences and social sciences, in addition to the Principles of Economics, Principles of Accounting, Introduction to Information Systems, and Business Statistics, usually required in the first two years of a baccalaureate Business program. Courses should be selected to satisfy the requirements of the senior college or university to which you plan to transfer. You are urged to familiarize yourself with the college or university to which transfer is contemplated. A DCC counselor will help you in the initial planning of your program. You will also be assigned an academic advisor in the Business Department who will assist you in course selections at Danville Community College. In order to prepare for junior class standing at a four-year college or university, you must normally complete a program at the community college which is comparable in length and course content to the first two years of the program at the four-year institution. Upon satisfactory completion of this program at DCC, you will be awarded the Associate of Arts and Science Degree (AA&S) in Business Administration. DCC is accredited by Alpha Beta Gamma International Business Honor Society to initiate members into the honor society for business and related disciplines. For more information about the society, refer to http://www.abg.org.

Program Outcomes: Upon successful completion of this program, the student will:

1. Demonstrate an understanding of the ethical, legal, and regulatory parameters of business.
2. Calculate, compile, and analyze business data for problem solving. Demonstrate an awareness of appropriate current and emerging technologies to support business functions.
3. Use verbal, non-verbal, and written communication skills effectively.
4. Use critical thinking skills in problem analysis.
5. Demonstrate an awareness of economic and social issues and their impact on the business environment.

Program Requirements: To receive the degree, you must complete a minimum of 61 credits with a grade point average of 2.00 or better. The following outline represents a typical order of courses taken by full-time students. Part-time and/ or evening students may take courses in any desired sequence, except for sequence courses or others requiring prerequisites.

			Lecture Hours	Lab Hours	Course Credits
First Semester					
First Semester					
BIO	101	General Biology I or	3	3	4
CHM	101	General Chemistry or			
CHM	111	College Chemistry I			
ENG	111	College Composition I	3	0	3
HIS	101	History of Western Civilization I or			
HIS	121	U. S. History I	3	0	3
MTH	163	Precalculus I	3	0	3
SDV	100	College Success Skills	1	0	1
Total			**13**	**3**	**14**
Second Semester					
BIO	102	General Biology II or	3	3	4
CHM	102	General Chemistry I or			
CHM	112	College Chemistry II			
ENG	112	College Composition II	3	0	3
HIS	102	History of Western Civilization II or			
HIS	122	U. S. History II or	3	0	3
		Elective			
MTH	271	Applied Calculus I	3	0	3
BUS	147	Intro. to Business Info. Systems	2	2	3
Total			**14**	**5**	**16**
Third Semester					
ACC	211	Principles of Accounting I	3	0	3
BUS	221	Business Statistics I	3	0	3
ECO	201	Principles of Macroeconomics	3	0	3
EEE		Humanities Elective*	3	0	3
EEE		Social Sciences Elective*	3	0	3
PED/HLT		Physical Ed. /Health	0	2	1
Total			**15**	**2**	**16**
Fourth Semester					
ACC	212	Principles of Accounting II	3	0	3
BUS	227	Quantitative Methods	3	0	3
ECO	202	Principles of Microeconomics	3	0	3
EEE		Humanities Elective*	3	0	3
EEE		Elective	3	0	3
Total			**15**	**0**	**15**

Total Minimum Credits for the Associate of Arts and Science Degree in Business Administration.....61

**Note: Choice of elective courses should be based on senior institution requirement. Students should contact their faculty advisor for specific requirements.*

Liberal Arts

Award: ASSOCIATE OF ARTS AND SCIENCE

Length: A full-time student may complete this program in four semesters.

Purpose: The Associate of Arts and Science Degree program in Liberal Arts is designed for students who plan to transfer to a four-year college or university to complete a Bachelor of Arts degree program in any of the liberal arts. This Associate degree may also be appropriate for students who plan to complete a baccalaureate degree program with certification to teach elementary or secondary English, humanities, or social sciences.

Admission Requirements: In addition to the admission requirements established for the College, entry into this curriculum requires completion of four units of high school English; two units of college preparatory algebra; one unit of college preparatory geometry; one unit of laboratory science; and one unit of history. If

you meet the general admission requirements, a counselor will discuss with you the strengths and weaknesses of your academic background and your strengths and weaknesses as revealed by an appropriate placement test. You may correct any deficiencies in academic preparation in the College's Developmental Studies program.

Program Description: This curriculum requires courses in the humanities, natural sciences, mathematics, social sciences, and health and physical education. You are urged to acquaint yourself with the requirements of the major department in the college or university to which transfer is contemplated. A DCC counselor will help you in the initial planning of your program. You will also be assigned an academic advisor in the Division of Arts and Sciences who will assist you in schedule preparation for the time you are enrolled in the Liberal Arts curriculum at Danville Community College. In order to prepare for junior class standing at a four-year college or university, you must complete a program at the community college which is comparable in length and course content to the first two years of the program at the four-year institution. Upon satisfactory completion of the program at Danville Community College, you will be awarded the Associate of Arts and Science Degree in Liberal Arts.

Focus Courses: A sequence of four Focus Courses must be selected by a Liberal Arts student for presentation to the academic advisor. Approval by the advisor is required. The Focus Courses should be related to each other and should also be accepted in transfer to the four-year program of the student's choice.

Liberal Arts Program Outcomes:

All Liberal Arts programs, including specializations, are designed to prepare students to transfer to a four-year institution or enter the workforce. To this end, liberal arts graduates will demonstrate:

1. The ability to communicate effectively by means of listening, speaking, reading and writing.
2. The critical thinking skills of synthesizing and analyzing complex ideas.
3. An awareness and understanding of ethics, cultures, and society.
4. An understanding of individual and group development and behavior; and
5. An understanding of and competence in research methods and scientific inquiry.

Program Requirements: To receive an Associate of Arts and Science Degree in Liberal Arts, you must complete a minimum of 61-63 credits with a 2.00 or better grade point average. The following outline represents a typical order of courses taken by full-time day students. Part-time and/or evening students may take courses in any desired sequence, except for hyphenated courses or others requiring prerequisites in the course descriptions portion of this Catalog.

			Lecture Hours	Lab Hours	Course Credits
First Semester					
SDV	100	College Success Skills	1	0	1
ENG	111	College Composition I	3	0	3
MTH	163	Precalculus I	3	0	3
—		[1]Focus Course I			3
BIO	101	General Biology I or			
CHM	111	College Chemistry I or			
GOL	105	Physical Geology or			
CHM	101	General Chemistry	3	3	4
—		Approved Computer Elective	2-3	2-3	
Total			—	—	**16-17**
Second Semester					
ENG	112	College Composition II	3	0	3
MTH		Approved Mathematics Course	3	0	3
—		[1]Focus Course II			3
BIO	102	General Biology II or			
CHM	112	College Chemistry II or			
GOL	106	Historical Geology or			
CHM	102	General Chemistry II	3	3	4
—		Humanities or			
		Social Science Elective	3	0	3
Total			—	—	**16**
Third Semester					
ENG		Literature I (ENG 241 or ENG 243)	3	0	3
HIS	101	History of Western Civilization I or			
HIS	111	History of World Civilizations I or			
HIS	121	United States History I	3	0	3
SOC		[2]Social Science Requirement	3	0	3
—		1Focus Course III	3	0	3
HLT/PED		[3]Approved "Wellness" Elective	—	—	1
—		Humanities or Social Science Elective	3	0	3
Total			—	—	**16**
Fourth Semester					
ENG		Literature II (ENG 242 or ENG 244)	3	0	3
HIS	102	History of Western Civilization II or			
HIS	112	History of World Civilizations II or			
HIS	122	United States History II	3	0	3
SOC		[2]Social Science Requirement	3	0	3
—		[1]Focus Course IV	3	0	3
HLT/PED		[3]Approved "Wellness" Elective	—	—	1
Total			—	—	**13**

Total Minimum Credits for the Associate of Arts and Science Degree in Liberal Arts..... 61

[1]The four Focus Courses (minimum of 12 credits) must be approved by the academic advisor. Focus Courses should be planned as preparation for transfer into the four-year degree program of choice. Examples of Focus Course sequences would include the following:
ART 101-102, MUS 121-122, HIS 121-122-266-268, HLT 100-116-200-215, PHI 100, REL 200-210-230, PSY 201-202-215-230, PSY 201-202-235-236, ASL 101-102-201-202, SOC 201-202-235-236, SPA 101-102-203-204

[2]Students must complete a full-year of social science coursework by taking one of the following sequences: ECO 201 and ECO 202, or PLS 211 and PLS 212, or SOC 201 and SOC 202, or SOC 200 and one sophomore level sociology course excluding SOC 202, or PSY 201 and PSY 202, or PSY 200 and one sophomore-level psychology course excluding PSY 202. Courses used to complete the social science requirement will not count as Focus Courses. (PLS 241 and PLS 242 may substitute for PLS 211 and PLS 212).

[3]This credit can be satisfied by a single 2 or more credit course in Health, Physical Education, or Recreation.

Liberal Arts –
Educational Interpreter Training Specialization

Award: ASSOCIATE OF ARTS AND SCIENCE

Length: A student may complete this program in four semesters.

Purpose: The purpose of the Educational Interpreter Training Specialization is to prepare a student to transfer to a four-year college or university which may require a background in interpreter education, interpreting in a classroom environment, Deaf education, or other related fields. It also helps develop interpreting skills essential for the Virginia Quality Assurance Performance (VQAS) screening evaluation and to meet the Registry of Interpreters for the Deaf (RID) national certification requirement of an Associate degree for an interpreter for the Deaf community.

Admission Requirements: Students may register directly into the Associate of Arts and Science Degree Educational Interpreter Training Specialization who have signing skills as evidenced by:

1. VQAS level II certification or comparable certification as determined by the Program Director;
2. Completion of the Educational Interpreting Certificate or DCC's American Sign Language Certificate or comparable combination of courses at another institution as determined by the Program Director.

Students who do not possess either of the above criteria may enter the program by:

1. Completing a First Year Studies Certificate in which 15 semester hours are ASL classes, or
2. Completion of DCC's ASL Certificate, or
3. Successful completion of the WEIT program's entry assessment requiring average or above skills in signing, or
4. Completion of comparable coursework in ASL at other institutions.

Program Description: This specialization is a transfer degree designed to prepare students to function as educational interpreters in public or private school settings.

Liberal Arts Program Outcomes: In addition to the Liberal Arts program outcomes, graduates of this degree will also meet the following outcomes:

1. Upon completion of the Weekend Educational Interpreter Training (W.E.I.T.) Program, students will have basic entrance skills for interpreting/ transliterating in entry level interpreting settings with individuals who are Deaf and/or hard of hearing.
2. Upon completion of the Weekend Educational Interpreter Training (W.E.I.T.) Program, students will demonstrate critical thinking and appropriate ethical responses required by the Virginia Quality Assurance Screening (VQAS).
3. Students will complete the program with a comprehensive portfolio of job seeking tools, such as a resume, DVDs demonstrating interpreting and transliterating skills and 42 hours of documented supervised work experience.

Program Requirements: Students in this program will be required to attend classes at least one weekend per month (Saturday and Sunday) in order to participate in EIP courses. The program assumes that the student possesses a basic level of competence in American Sign Language prior to entry. The program is presented in response to increasing demands for higher levels of competence for interpreters in the Commonwealth's school systems and for the requirements deemed necessary by the national Registry of Interpreters for the Deaf (RID). To receive the Associate of Arts and Science Degree in Liberal Arts – Educational Interpreter Training Specialization, you must complete a minimum of 61-63 credits with a grade point average of 2.0 or better.

Upon completion of the WEIT Program, students will have the necessary skills and training to prepare them for the VQAS.

First Semester

			Course Credits
SDV	100	College Success Skills	1
ENG	111	College Composition I	3
MTH	163	Precalculus I	3
–		SOC or HUM Elective*	3-4
BIO	101	General Biology I	4
–		Approved Computer Elective	3
Total			**17-18**

Second Semester

ENG	112	College Composition II	3
–		SOC or HUM Elective*	3
EIP	181	Pre-Interpreting Skills I	1
EIP	200	Linguistics of American Sign Language: An Overview	1
BIO	102	General Biology II	4
–		Approved Math	3
Total			**15**

Third Semester

ENG	241	Survey of American Literature I or	
ENG	242	Survey of English Literature I	3
HIS	101	History of Western Civilization I or	
HIS	121	U. S. History I or	
HIS	111	History of World Civilization I	3
EIP	211	Sign-to-Spoken Interpreting I	1
EIP	212	Signed-to-Spoken Interpreting II	1
EIP	213	Signed-to-Spoken Interpreting III	1
EIP	214	Signed-to-Spoken Interpreting IV	1
–Approved SOC or PSY elective			
		(SOC 200, 201, PSY 200, 201, ECO 201)	3
–		HLT/PED	2-3
Total			**15-16**

Fourth Semester

ENG	242	Survey of American Literature II or	
ENG	244	Survey of English Literature II	3
HIS	102	History of Western Civilization II or	
HIS	122	U. S. History II or	
HIS	112	History of World Civilization II or	3
–Approved SOC or PSY requirement			
		(SOC 202, PSY 202, ECO 201, SOC 2xx, PSY 2xx)	

** Students may be advised to take the following courses under their Social Science or Humanities Elective requirement if the Program Director determines that the student needs to develop these linguistic skills prior to taking required EIP courses.*

EIP 231	Spoken-to-Signed Interpreting I	1
EIP 232	Spoken-to-Signed Interpreting II	1
EIP 233	Spoken-to-Signed Interpreting III	1
EIP 234	Spoken-to-Signed Interpreting IV	1
EIP Elective		1
Total		**14**

Total Minimum Credits for the Associate of Arts and Science Degree in Liberal Arts with a Specialization in Educational Interpreter Training..... 61 - 63

Liberal Arts –
Humanities Specialization

Award: ASSOCIATE OF ARTS AND SCIENCE

Length: A full-time student may complete this program in four semesters.

Purpose: The Associate of Arts and Science Degree in Liberal Arts with the Humanities Specialization is designed for students who plan to transfer to a four-year college or university and who intend to complete a Bachelor's degree in a humanities or related discipline. Humanities disciplines include English, philosophy, foreign languages, drama, religion, and speech. This program is also appropriate for students intending to pursue humanities-related fields which include communications and journalism as well as some of the fine arts such as theatre, music, and creative writing. Students interested in teaching in the above disciplines will find this program a good starting point for their careers.

Admission Requirements: In addition to the admission requirements established for the College, entry into this curriculum requires completion of four units of high school English, two units of college preparatory algebra and one unit of college preparatory geometry, one unit of laboratory science, and one unit of history. If you meet the general admission requirements, a counselor will discuss with you the strengths and weaknesses of your academic background and your strengths and weaknesses as revealed by an appropriate placement test. You may correct any deficiencies in academic preparation in the College's Developmental Studies program.

Program Description: This curriculum requires a broad range of general education requirements in mathematics, social science, natural science and

humanities. Like the Social Science Specialization it is designed to give the student maximum flexibility in the selection of courses to meet both the interests of the student and the demands of the institution to which the student intends to transfer. It is important for students to identify their preferred transfer institution as soon as possible and to work closely with their academic advisor to ensure transferability of their selected courses. In order to prepare for junior class standing at a four-year college or university, you must ensure that the curriculum completed in the first two years at Danville Community College is comparable to the first two years of study at the four-year institution. Upon satisfactory completion of the program at Danville Community College, you will be awarded the Associate of Arts and Science Degree in Liberal Arts.

Program Requirements: To receive an Associate of Arts and Science Degree in Liberal Arts – Humanities Specialization, you must complete a minimum of 61 credits with a grade point average of 2.00 or better. The following outline represents a typical order of courses taken by full time day students. Part-time and/or evening students may take courses in any desired sequence, except for hyphenated courses or others requiring prerequisites in the Course Descriptions section in this Catalog.

Humanities and Fine Arts Elective: The core of this program consists of a requirement that students complete at least two humanities courses in addition to two sophomore literature courses. Further, students must take at least two courses in fine arts. The combination of the humanities and fine arts requirement is intended to promote an understanding of the connections between humanities disciplines and the arts. Students may continue to explore these connections by using the liberal arts elective requirement of six credit hours to pursue greater depth in the fine arts or humanities. Again, selection of courses should be based on the students' interest and the demands of their intended transfer institution.

		Lecture Hours	Lab Hours	Course Credits
First Semester				
SDV 100	College Success Skills	1	0	1
ENG 111	College Composition I	3	0	3
MTH 151	Math for Liberal Arts I	3	0	3
–	Natural Science Course With Lab	3	3	4
–	Approved Computer Elective	3	0	3
–	Health and Wellness Elec.	—	—	1
Total		**—**	**—**	**15**
Second Semester				
ENG 112	College Composition II	3	0	3
MTH	Approved Transfer Level Math	3	0	3
–	Natural Science Course with Lab	3	3	4
–	Social Science Elect. I	3	0	3
–	[1]History Requirement I	3	0	3
Total		**—**	**—**	**16**
Third Semester				
–	Humanities Requirement I	3	0	3-4
–	Literature Requirement I	3	0	3
–	Liberal Arts Elective I	3	0	3
	Social Science Elective II	3	0	3
	[1]History Requirement II	3	0	3
Total		**—**	**—**	**15-16**
Fourth Semester				
–	Humanities Requirement II	3	0	3-4
–	Literature Requirement II	3	0	3
–	Liberal Arts Elective II	3	0	3
–	Fine Arts Elective I	3	0	3
–	Fine Arts Elective II	3	0	3
Total		**—**	**—**	**15-16**

Total Minimum Credits for the Associate of Arts and Science in Liberal Arts - Humanities Specialization.....61

[1]History I and II. Students must complete a full year sequence of U.S. History (HIS 121 and HIS 122), or Western Civilization (HIS 101 and HIS 102), or World Civilizations (HIS 111 and HIS 112).

Liberal Arts –
Social Science Specialization

Award: ASSOCIATE OF ARTS AND SCIENCE

Length: A full-time student may complete this program in four semesters.

Purpose: The Associate of Arts and Science degree in Liberal Arts with the Social Science Specialization is designed for students who plan to transfer to a four-year college or university and who intend to complete a Bachelor's degree in a social science discipline. Social Science disciplines include sociology, anthropology, psychology, history, political science, and economics. This program is also appropriate for students intending to pursue social science-related fields such as communications as well as some of the helping professions that include public administration, social work and counseling. Students interested in teaching in the above disciplines will find this program a good starting point for their careers.

Admission Requirements: In addition to the admission requirements established for the College, entry into this curriculum requires completion of four units of high school English, two units of college preparatory algebra and one unit of college preparatory geometry, one unit of laboratory science, and one unit of history. If you meet the general admission requirements, a counselor will discuss with you the strengths and weaknesses of your academic background and your strengths and weaknesses as revealed by an appropriate placement test. You may correct any deficiencies in academic preparation in the College's Developmental Studies program.

Program Description: This curriculum requires a broad range of general education requirements in mathematics, social science, natural science and humanities. Like the Humanities Specialization, it is designed to give the student maximum flexibility in the selection of courses to meet both the interests of the student and the demands of the institution to which the student intends to transfer. It is important for students to identify their preferred transfer institution as soon as possible and to work closely with their academic advisor to ensure transferability of their selected courses. In order to prepare for junior class standing at a four-year college or university, you must ensure that the curriculum completed in the first two years at Danville Community College is comparable to the first two years of study at the four-year institution. Upon satisfactory completion of the program at Danville Community College, you will be awarded the Associate of Arts and Science Degree in Liberal Arts..

Program Requirements: To receive an Associate of Arts and Science Degree in Liberal Arts - Social Science Specialization, you must complete a minimum of 61 credits with a grade point average of 2.00 or better. The following outline represents a typical order of courses taken by full-time students. Part-time and/ or evening students may take courses in any desired sequence, except for hyphenated courses or others requiring prerequisites in the Course Descriptions section of this Catalog.

Social Science Requirements and Electives: The distinguishing feature of this program is the requirement that a student complete a year-long sequence in three social science areas: history, sociology and psychology. Students also must select two social science electives that may include courses in the above areas or in different social sciences such as political science or economics. Two additional liberal arts electives allow the student to pursue more depth in a social science discipline, though these electives and humanities electives should be used to meet the demands of a transfer institution and to achieve breadth of exposure to other disciplines.

Science

Award: ASSOCIATE OF ARTS AND SCIENCE

Length: A full-time student may complete this program in four semesters.

Purpose: The Associate of Arts and Science Degree program in Science is designed for students who plan to transfer to a four-year college or university to complete a baccalaureate degree program in any of the sciences or related pre - professional programs. Students interested in pursuing pre-med or health care bachelor's programs will find this degree the best place to begin their studies. This Associate degree may also be appropriate for students who plan to complete a baccalaureate degree program with certification to teach elementary or secondary math, science, or technologies.

Admission Requirements: In addition to the admission requirements established for the College, entry into this curriculum requires completion of four units of high school English, three units of college preparatory mathematics, one unit of laboratory science, and one unit of social studies. If you meet the general admission requirements, a counselor will discuss with you the strengths and weaknesses of your academic background and your strengths and weaknesses as revealed by an appropriate placement test. You may correct any deficiencies in academic preparation in the College's Developmental Studies program.

Program Description: Although the major emphasis in this curriculum is on mathematics, and the biological and physical sciences, the curriculum also includes a range of courses in humanities and social sciences. You have sufficient flexibility to select appropriate courses to correspond to the requirements of the senior college or university to which you plan to transfer. You are urged to familiarize yourself with the requirements of the college or university to which transfer is contemplated. A DCC counselor will assist you in the initial planning of your program. In addition, an academic advisor in the Division of Arts and Sciences will assist you on a regular basis with your program plan. In order to prepare for upper division (junior class) standing at a senior college or university, you should complete a program at the community college that is comparable to the first two years of the program at the senior college or university. Upon satisfactory completion of this program, you will be awarded the Associate of Arts and Science Degree.

Program Outcomes: Upon successful completion of this program, students will be able to:

1. Understand how the disciplines of Science and Math differ from other disciplines.
2. Demonstrate proficiency in conducting experiments and recording and interpreting data.
3. Demonstrate an understanding of the significance of math to all areas of Science.
4. Communicate appropriately within the respective disciplines of math and Science.
5. Work independently and collaboratively in the acquisition of scientific knowledge.

Program Requirements: To receive the Associate of Arts and Science Degree in Science, you must complete a minimum of 60 credits with a grade point average of 2.00 or better. The following outline represents a typical order of courses taken by full-time students. Part-time and/or evening students may take courses in any desired sequence, except for sequence courses or others requiring prerequisites.

			Lecture Hours	Lab Hours	Course Credits
First Semester					
SDV	100	College Success Skills	1	0	1
ENG	111	College Composition I	3	0	3
BUS	147	Business Info. Systems or Transfer Computer Class	3	0	3
MTH	151	Mathematics for Liberal Arts I or higher (excluding MTH 158)	3	0	3
Science w/ Lab		Biology, Chemistry, Physics, or Geology	3	3	4
		[1]History I			
HIS	101	History of Western Civilization I or			
HIS	111	History of World Civilizations I or			
HIS	121	United States History I	3	0	3
Total			—	—	**17**
Second Semester					
ENG	112	College Composition II	3	0	3
HIS	102	History of Western Civilization II or			
HIS	112	History of World Civilizations II or			
HIS	122	U.S. History II	3	0	3
Humanities or Fine Arts I		Religion, Philosophy, Art, CST, Literature, or Music	3	0	3
Science w/ Lab		Biology, Chemistry, Physics, or Geology	3	3	4
MTH	157	Elementary Statistics or			
MTH	240	Statistics or			
MTH	241	Statistics I	3	0	3
Total			—	—	**16**
Third Semester					
SOC	200	Principles of Sociology or			
SOC	201	Intro. to Sociology I	3	0	3
PSY	200	Principles of Psychology or			
PSY	201	Intro. to Psychology I	3	0	3
Social Science Elective I		History, Economics, Political Science, Sociology or Psychology	3	0	3
Liberal Arts Elective			3	0	3
Humanities or Fine Arts Elective II		Religion, Philosophy, Art, Speech, Theatre, Literature, or Music	3	0	3
Total			—	—	**15**
Fourth Semester					
SOC	202 or sophomore level Sociology (SOC 215 or SOC 268)		3	0	3
PSY	202 or sophomore level Psychology (PSY 230 or PSY 215)		3	0	3
Social Science Elective II		Any transfer level social science	3	0	3
Liberal Arts Elective II			3	0	3
HLT or PED		Any transfer level health or physical education class	1-3	0-3	1-2
Total			—	—	**13-14**

Total Minimum Credits for the Associate of Arts and Science in Liberal Arts – Social Science Specialization.....61

[1]History I and II. Students must complete a full year sequence of U.S. History (HIS 121 and HIS 122), or Western Civilization (HIS 101 and HIS 102), or World Civilizations (HIS 111 and HIS 112).

			Lecture Hours	Lab Hours	Course Credits
First Semester					
ENG	111	College Composition I	3	0	3
SDV	100	College Success Skills	1	0	1
HIS	101	History of Western Civ. I or	3	0	
HIS	121	United States History I	3	0	3
MTH	163	[1]Precalculus I or			
MTH	166	[1]Precalculus with Trig.	3-4	0	3-4
		Natural Lab Science	3	3	4
HLT/PED		[3]Approved "Wellness" Elective			1
Total			—	—	**15-16**
Second Semester					
ENG	112	College Composition II	3	0	3
HIS	102	Hist. of Western Civ. II or			
HIS	122	United States History II	3	0	3
MTH	240	[1]Statistics Requirement	3	0	3
		Natural Lab Science	3	3	4
		Approved Elective	3	0	3
Total			—	—	**16**
Third Semester					
ENG		[4]Literature I	3	0	3
		[5]Social Science Requirement	3	0	3
		[2]Natural Lab Science	3	3	4
		Approved Elective	3	0	3
		[2]Natural Lab Science	3	3	4
Total			—	—	**17**
Fourth Semester					
ENG		[4]Literature II	3	0	3
		[5]Social Science Requirement II	3	0	3
		[2]Natural Lab Science	3	3	4
		Approved Elective or Field Requirements	—	—	2-4
Total			—	—	**12-14**

Total Minimum Credits for the Associate of Arts and Science Degree in Science.....60

[1]Other math courses are acceptable here. The MTH 273-MTH 274 Calculus sequence may be elected by students. In addition, students can take MTH 271 in place of statistics or take a calculus course to meet the second semester math requirement. As with all transfer degrees, students should select the math sequence which will be most helpful in transferring to their four year college.

[2]Students must complete 20 credit hours of lab science coursework. This work must include 8 credit hours taken at the sophomore level and must include at least one full year lab sequence. Acceptable 100-level sequences are:
CHM 111-112 College Chemistry I-II
BIO 101-102 General Biology I-II
BIO 141-142 Human Anatomy and Physiology I-II
GOL 105 Physical Geology and GOL 106 Historical Geology
Acceptable 200-level laboratory science sequences are: BIO 231-232 Human Anatomy and Physiology i-II
BIO 256 General Genetics and BIO 205 General Microbiology CHM 241-242 Organic Chemistry I-II with lab
PHY 201-202 General College Physics I-II
PHY 241-242 University Physics I-II

[3]This credit can be satisfied by a single 1 or more credit course in Health, Physical Education, or Recreation.
[4]Acceptable literature sequences are:
ENG 241-242 Survey of American Literature I-II
ENG 243-244 Survey of English Literature I-II
ENG 251-252 Survey of World Literature I-II
[5]Students must complete a full year of social science coursework by taking one of the following sequences:
ECO 201 and ECO 202, or
PLS 211 and PLS 212, (PLS 241 and PLS 242 may substitute for PLS 211 and PLS 212), or
SOC 201 and SOC 202, or SOC 200 and one sophomore level sociology course excluding SOC 202, or PSY 201 and PSY 202, or PSY 200 and one sophomore level psychology course excluding PSY 202.

Pre-Teacher Education Program

Danville Community College is a participant in the Virginia Community College System Chancellor's Pre-Teacher Education Program. This program consists of courses which have been agreed to by many four year colleges and universities within the Commonwealth as being adequate preparation for their teacher education programs.

The pre-teacher education program provides students with a number of benefits. First, students can be assured that their course of study in the program is approved by the transfer institution. Second, students' access to housing, communications and financial aid will be weighed equally with the institution's own students. Third, students may be able to participate in an institution's early registration. Fourth, admission of a VCCS graduate to an institution's teacher education program will be given equal consideration with native students. Fifth, SAT and ACT requirements will be waived. Sixth, students will enjoy a seamless transition to the transfer school and will be eligible for special tuition scholarships. Students at DCC who are interested in participating in this program will register in the AA&S Liberal Arts-Humanities Specialization degree program. While in that program, they must complete the courses below.

Students must complete the courses with a 2.5 grade point average or better and pass the Praxis I examination in order to secure the benefits mentioned above. Students must also complete and sign a letter of intent to pursue the Pre-Teacher Education program which specifies the school to which they intend to transfer. This letter is signed by the transfer school's representative, the DCC Advisor (Dewitt Drinkard, Temple Building, Room 112, 434.797.8485), and the student. This announces to the transfer school your engagement in the program.

The following colleges are current participants in this program:

George Mason University
James Madison University
Liberty University
Longwood University
Mary Baldwin College
Norfolk State University
Old Dominion University
Radford University
University of Virginia -Wise
Virginia Commonwealth University
Virginia State University
Virginia Union University

	Course Credits
1. ENG 111 College Composition I	3
2. ENG 112 College Composition II	3
3. CST 110 Intro. to Speech Communication	3
4. One sophomore literature class selected from the list below:	3
ENG 241 Survey of American Literature I	
ENG 242 Survey of American Literature II	
ENG 234 Survey of English Literature I	
ENG 244 Survey of English Literature II	
ENG 251 Survey of World Literature I	
ENG 252 Survey of World Literature II	
5. One humanities class selected from the list below:	3
ART 101	
ART 102	
ART 105	
ART 201	
ART 202	
MUS 121	
MUS 122	
6. One of the below pairs of Math courses:	6
MTH 163 and MTH 240 or MTH 151 and MTH 152	
7. GEO 210 People and the Land: Intro to Cultural Geography	3
8. One of the below pairs of history courses:	6
HIS 121 and HIS 122 or HIS 101 and HIS 102	
9. PLS 135 American National Politics	3

10. One of the below economics courses: ECO 201 Principles of Macroeconomics or ECO 202 Principles of Microeconomics	3
11. Approved Computer Course	3
12. BIO 101 General Biology I	4
13. BIO 102 General Biology II	4
14. Approved health course	2
15. SDV 100 College Success Skills	1
16. EDU 200 Intro. to Teaching as a Profession	3
Total Credits	**63**

Associate of Science Degree
Engineering (Transfer Associate Degree)

Award: ASSOCIATE OF SCIENCE

Length: A full-time student may complete this program in four semesters.

Purpose: The purpose of this degree is to prepare students to transfer to a four-year college or university to complete a bachelor's degree in engineering.

Admission Requirements: In addition to the admission requirements established for the College, entry into this curriculum requires completion of four units of high school English, three units of college preparatory mathematics, one unit of laboratory science, and one unit of social studies. If you meet the general admission requirements, a counselor will discuss with you the strengths and weaknesses of your academic background. You may correct any weaknesses in academic preparation in the College's Developmental Studies program. While not required, it is recommended that students have taken chemistry and/or physics in their high school curriculum along with intermediate algebra and trigonometry.

Program Description: The Associate of Science Degree in Engineering is a transfer degree designed to prepare students for upper level engineering courses. This curriculum ensures that students possess a firm foundation in the areas of mathematics and natural science which is essential for success in virtually every area of engineering. Students who plan on becoming professional engineers, regardless of their area of specialization or major, are required to apply principles of mathematics and science, to solve problems, create new systems, and envision new processes to meet the demands and resolve issues of a continually evolving global economy. Students who have a strong interest in math and science and who wish to have rewarding careers in industry and government that directly confront these problems should consider this degree as their first step in the engineering profession.

Program Outcomes: The Danville Community College Engineering program is designed to prepare students to transfer to a four-year institution. To this end, engineering graduates will demonstrate:

1. The ability to apply engineering problem-solving methodology
2. The ability to apply knowledge of math, sciences and engineering principles to engineering problems
3. The ability to conduct experiments and analyze and interpret data
4. The ability to function in a team and to communicate effectively and professionally
5. The ability to understand professional and ethical responsibility

Program Requirements: To receive the Associate of Science Degree in Engineering, you must complete a minimum of 66 credits with a grade point average of C or better. Students should strive to receive a B average or better for purposes of transfer to a four- year engineering program. Students must take prerequisite courses first before proceeding to more advanced courses. Additional Information: This program is rigorous. Students must either enjoy mathematics and natural science, or at least feel comfortable doing the level of work in these areas that this program demands. This level of knowledge and skill is essential in electrical, chemical, mechanical, civil and other engineering sciences that may be the focus of one's junior and senior level courses. Students who are not prepared in mathematics in particular are encouraged to take preparatory courses first and to proceed at a slower pace in order to increase their likelihood of success in these courses.

The Virginia Community College System has guaranteed admission agreements with both the University of Virginia and Virginia Tech for students who are successful in this program. This program was also designed as part of the University of Virginia's "Produced in Virginia" initiative which aims to increase the number of engineers graduated in the Commonwealth. Eligible students may also apply for scholarship support from a National Science Foundation grant received by Danville Community College, Central Virginia Community College, and the University of Virginia.

		Lecture Hours	Lab Hours	Course Credits
First Semester				
ENG 111	College Composition I	3	0	3
[1]MTH 273	Calculus I	4	0	4
EGR 120	Introduction to Engineering	2	0	2
CHM 111	College Chemistry I	3	3	4
EGR 126	Comp. Programming for Engineers	3	0	3
SDV 101	Orientation to Engineering	1	0	1
Total		—	—	**17**
Second Semester				
PHY 241	General University Physics I	3	3	4
ENG 112	College Composition II	3	0	3
[1]MTH 274	Calculus II	4	0	4
CHM 112	College Chemistry II	3	3	4
PED/HLT	Approved Wellness Elective	1	0	1
Total		—	—	**16**
Third Semester				
MTH 277	Vector Calculus	4	0	4
PHY 242	General University Physics II	3	3	4
[2]EGR 140	Engineering Mechanics – Statics	3	0	3
SS EEE	Social Science Elective I	3	0	3
HUM EEE	Humanities Elective I	3	0	3
Total		—	—	**17**
Fourth Semester				
MTH 279	Ordinary Differential Equations	4	0	4
[2]EGR 245	Engineering Mechanics – Dynamics	3	0	3
[2]EGR 246	Mechanics of Materials	3	0	3
SS EEE	Social Science Elective II	3	0	3
HUM EEE	Humanities Elective II	3	0	3
Total		—	—	**16**

Total Minimum Credits for the Associate of Science Degree in Engineering.....66

[1]Students who are not prepared for Calculus should begin with Precalculus with Trigonometry (MTH 166). Students may also wish to strengthen their algebraic skills with MTH 158, College Algebra. These students should also consider following a three or four year sequence to complete this program.

[2]Students may substitute college-level engineering or supportive discipline courses for engineering disciplines such as electrical engineering to meet these requirements. These substitutions must be approved by the Dean of the Arts and Sciences Division and Engineering faculty.

Note: The Arts and Sciences Division maintains on its website three and four year plans for students who must work part-time or full-time work schedules. In general, students who work part-time should plan on following the three year sequence. Students who are working full-time should plan on following the four year sequence.

Students planning to transfer to Virginia Tech should also plan to take MTH 177.

Associate of Applied Science Degrees

Accounting
Administration of Justice
- **Law Enforcement Specialization**
- **Corrections Specialization**
- **Protective Services Specialization (Private Security)**

Administrative Support Technology
- **General Office Specialization**
- **Medical Office Specialization**

Business Management
- **Management Specialization**
- **Graphic Imaging Management Specialization**
- **Automotive Management Specialization**

Dental Hygiene
(awarded by Virginia Western Community College)

Early Childhood Education
General Engineering Technology
Health Science
- **Practical Nursing Specialization**

Information Systems Technology
- **Comuter Programming Specialization**
- **Gaming and Mobile Application Development Specialization**
- **Networking Specialization**
- **PC Technology Specialization**

Marketing
- **Marketing Specialization**
- **Warehousing and Distribution Specialization**
- **Electronic Commerce Specialization**

Medical Laboratory Technology
(awarded by J. Sargeant Reynolds Community College)

Nursing
Radiologic Technology*
Respiratory Therapy
(awarded by J. Sargeant Reynolds Community College)

Technical Studies
- **Advanced Manufacturing Engineering Technology**
- **Integrated Systems Technology ***
- **Nanotechnology Technician**
- **Wood Science Technology**
  - **Product Design and Development Specialization**

The Associate of Applied Science Degree is designed for the student who does not plan to pursue a four-year program of study, but still seeks an educational experience that includes courses other than those directly related to the chosen field. Along with the courses that are directly related to the chosen field of study, students will take a variety of general education courses such as English, speech, psychology, science or mathematics, and physical education or wellness. The types of jobs that you might expect to obtain upon completion of the degree requirements are listed on the following catalog pages. Also included are the specific requirements for completing each program of study.

pending approval

Accounting

Award: ASSOCIATE OF APPLIED SCIENCE

Length: A full-time student may complete this program in four semesters.

Purpose: The Associate of Applied Science Degree program in Accounting is designed for persons who seek employment in the accounting field immediately upon completion of the program. Persons seeking initial employment in the accounting field and those in accounting seeking advancement may benefit from this program.

Occupational Objectives: The following occupational titles represent examples of possible employment opportunities:

Accounting
Accounting Technician
Accounting Trainee
Junior Accountant
and many more...

Admission Requirements: In addition to the admission requirements established for the College, entry into this program requires completion of four units of high school English and one unit of high school mathematics. If you meet the general admissions requirements, a counselor will discuss with you the strengths and weaknesses of your academic background and your strengths and weaknesses as revealed by an appropriate placement test. You may correct any deficiencies in your academic preparation in the College's Developmental Studies program.

Program Description: The first two semesters (first year) of the Associate of Applied Science Degree program in Accounting are similar to other programs in business. In the second year, you will pursue your specialty in Accounting. You are urged to consult with the Counseling Office and your faculty advisor in planning your program and selecting electives. Upon satisfactory completion of the four-semester program, you will be awarded the Associate of Applied Science Degree in Accounting. Some courses within this program may be applied to a four-year program at the discretion of the admitting institution. However, if your objective is to obtain a four-year degree in Accounting, you should enroll in DCC's Business Administration program.

Program Outcomes: Students who successfully complete this program will:

1. Perform financial accounting functions from financial transactions to the completion of the accounting cycle using proper format and procedure based on GAAP.
2. Analyze, prepare, and communicate financial information, using proper format and procedure, for management decision-making.
3. Understand legal and functional types of business organizations and how financial and managerial accounting concepts apply to each.
4. Perform financial and managerial accounting functions and applications in both manual and computerized formats.
5. Utilize current income tax resources to prepare personal income tax returns in both manual and computerized formats.

Program Requirements: To receive the Associate of Applied Science Degree in Accounting, you must complete a minimum of 67 credits with a grade point average of 2.00 or better. The following outline represents a typical order of courses taken by full-time students.

			Lecture Hours	Lab Hours	Course Credits
First Semester					
ACC	111	Accounting I	3	0	3
BUS	100	Introduction to Business	3	0	3
ITE	115	Computer Applications and Concepts	3	0	3
ENG	111	English Composition I	3	0	3
PLS Elective		or			
PSY Elective			3	0	3
SDV 100		College Success Skills	1	0	1
Total			**16**	**0**	**16**
Second Semester					
ACC	112	Accounting II	3	0	3
ACC	110	Introduction to Computerized Accounting	2	0	2
BUS	121	Business Math I or	3	0	3
MTH	121	[1]Fundamentals of Math I			
ITE	215	Adv. Computer Applications and Integration	4	0	4
ECO	120	Survey of Economics	3	0	3
ENG	112	College Composition II	3	0	3
Total			**18**	**0**	**18**
Third Semester					
ACC	221	Intermediate Accounting I	4	0	4
ACC	261	Prin. of Federal Taxation	3	0	3
BIO/NAS or MTH		[2]Science or Math Elective	3	0	3
BUS	240	Business Law	3	0	3
HLT/PED		Health/Physical Ed.	0	2	1
HUM		Humanities Elective	3	0	3
Total			**16**	**2**	**17**
Fourth Semester					
ACC	222	Intermediate Accounting II	4	0	4
ELE		Elective	3	0	3
Students may select 3 of the 4 following courses:					
ACC	231	Cost Accounting	3	0	3
ACC	241	Auditing	3	0	3
ACC	262	Prin. of Federal Taxation II	3	0	3
FIN	215	Financial Management	3	0	3
Total			**16**	**0**	**16**

Total Minimum Credits for the Associate of Applied Science Degree in Accounting.....67

[1]One unit of high school algebra or MTH 3 is required as a prerequisite for MTH 121.

[2]Students who take MTH 121 may substitute an approved business elective for the BIO or NAS elective.

Administration of Justice

Award: ASSOCIATE OF APPLIED SCIENCE

Length: A full-time student may complete this program in four semesters (two years).

Purpose: The Administration of Justice (ADJ) program is designed to prepare individuals for careers in law enforcement, corrections and protective services (private security). The curriculum serves the interests of career-oriented students and provides courses to meet the needs of in-service personnel. The A.A.S. degree does not substitute for attendance at a basic police academy required by Virginia's local and state law enforcement agencies. Transferability of ADJ coursework to four-year colleges or universities is contingent on the academic credit transfer policies of those institutions. The ADJ Program Coordinator and/or Counseling personnel will facilitate inquiries of ADJ majors, including possible transfer limitations of DCC ADJ coursework, regarding four-year programs in Administration of Justice/Criminal Justice, or related academic programs.

Occupational Objectives: The following occupational titles represent examples of possible law enforcement, corrections and/or protective service (private security) civilian or military employment opportunities:

Air Force Office of Special Investigations (AFOSI)
Air Force Security Forces
Commercial and Industrial Security Officer
Correctional Officer
Deputy Sheriff
Dispatcher
Insurance Investigator
Jail Deputy
Loss Prevention Manager
Military Police
Military Intelligence
Police Officer
Security Supervisor
Virginia State Trooper
Youth Care Worker

Admission Requirements: In addition to DCC's admission requirements, entry into the ADJ Program requires proficiency in high school English and mathematics. Applicants with deficiencies will be required to enroll in a DCC developmental English and/or mathematics course. All applicants must consult with the ADJ Program Coordinator for assistance in planning his or her ADJ curriculum, including program options - Specializations I, II, or III (see Program Requirements). Students who are sure that they will pursue bachelor-level studies should seek guidance from the ADJ Program Coordinator and/or a DCC Counselor regarding college transfer policies.

Program Outcomes: Students who successfully complete this program will demonstrate:

1. An in-depth knowledge of various sources of crime data (e.g. FBI-based Uniform Crime Reporting system) and analytical skills necessary to evaluate "strengths" and "weaknesses" of crime data reporting
2. Assessment skills applied to community-police programs and evaluative measures to be applied to the merits of police-sponsored community crime prevention efforts
3. Knowledge of each component of the criminal justice system – police, judiciary, corrections and protective services (private security) – and articulation of various sub-components of the criminal justice system ranging from prosecutor, defense attorney and probation – parole duties to functions performed by public safety offices such as the public defender and sheriff
4. Knowledge of the role diversity plays in decision-making at all levels of America's criminal justice system
5. Knowledge of the global nature of crime to include the impact of crime and the prosecution of criminal offenders who utilize not only the United States, but also international destinations from Europe to Asia to further a terrorist goal, commit cybercrime, or reap huge profits associated with criminal enterprises
6. Knowledge of stress reduction techniques including a meaningful and consistent physical fitness conditioning program
7. Knowledge of the importance of volunteering one's talents for the overall improvement of one's community
8. Knowledge of the need for uncompromising ethical and moral standards
9. Exemplary written and oral communications skills
10. Excellent information literacy skills

Program Requirements: To receive the Associate of Applied Science degree in Administration of Justice, a student must complete 67- 69 credits with a grade point average of 2.0, or better. More than one-half of the curriculum includes courses in administration of justice. Remaining courses are considered general education classes to be taken from disciplines such as natural science (or math), sociology, psychology and so on. Instruction includes both the theoretical concepts and practical applications needed for future success in public safety. Students who plan to transfer DCC courses into a four-year program in criminal justice/administration of justice are strongly urged to consult with the ADJ Program Coordinator and the Counseling Office as the student may be advised to substitute coursework for some classes listed in the suggested four-semester ADJ Program. The following sample program represents a typical order taken by full time ADJ majors. Part-time students may take courses in any desired sequence. In all cases, prerequisites must be met.

Depending on the interests of the Administration of Justice major, he or she should select one of the following three specializations allowing for a concentration of coursework in:

Law Enforcement Specialization
Corrections Specialization
Protective Services Specialization (Private Security)

Danville Community College's ADJ Program is part of the Tech Prep Initiative. Students who have successfully completed certain high school courses may qualify for advanced standing and receive free credit in equivalent college courses. For additional details regarding Tech Prep, see your ADJ Program Coordinator and/or Tech Prep Coordinator.

Finally, the applicant must also consult with the ADJ Program Coordinator to learn if he or she would meet the specialized requirements set by criminal justice agencies. Minimal criminal justice agency requirements include:

1. Excellent physical and mental health;
2. Normal hearing and color vision. Eye functions must be normal (visual acuity must not be less than 20/40 in either eye without correction;
3. Weight should be in proportion to height;
4. Excellent moral character;
5. No conviction of any crime involving moral turpitude or conviction of any felony;
6. An excessive number of traffic citations would be cause to exclude an applicant from consideration by most all criminal justice agencies;
7. U.S. citizenship.

Note: An extensive background investigation will be conducted by the criminal justice agency to confirm the foregoing. Any student who has been convicted of a felony or any offense involving moral turpitude or violence should consult with the ADJ faculty advisor to determine if this degree is appropriate.

College Credit for Academy Training: After an ADJ student completes 35 or more credits required for graduation, 21 and 15 credits respectively will be awarded to the ADJ major, as follows:

Virginia State Police Academy

3 credits - ADJ 100, Survey of Criminal Justice
3 credits - ADJ 130, Criminal Law
3 credits - ADJ 236, Criminal Investigation
9 credits - ADJ coursework*
3 credits - Wellness Elective
Total: 21 credits

Virginia Department of Criminal Justice Services Regional Academies

3 credits - ADJ 100, Survey of Criminal Justice
3 credits - ADJ 130, Criminal Law
3 credits - ADJ 236, Criminal Investigation
3 credits - ADJ coursework*
3 credits - Wellness Elective
Total: 15 credits

*Possible ADJ coursework could include:

ADJ 116, Special Enforcement Topics
ADJ 227, Constitutional Law
ADJ 215, Report Writing

Administration of Justice – Law Enforcement Specialization

			Lecture Hours	Lab Hours	Course Credits
First Semester					
SDV	100	College Success Skills	1	0	1
ENG	111	English Composition I	3	0	3
SOC	200	Principles of Sociology or			
SOC	201	[3]Intro to Sociology I	3	0	3
ADJ	100	Survey of Criminal Justice	3	0	3
ADJ	130	Intro. to Criminal Law	3	0	3
ADJ	116	Special Enforcement Topics	3	0	3
Total			—	—	**16**
Second Semester					
NAS	105	Natural Science Topics for Modern Society or			
		[4]Other approved Lab or Math course	—	—	3-4
ENG	112	College Composition II	3	0	3
SOC	202	Intro to Sociology II or			
		Approved Sophomore-Level Sociology	3	0	3
ADJ	131	Legal Evidence	3	0	3
ADJ	227	Constitutional Law for Justice Personnel	3	0	3
ADJ	236	Prin. of Criminal Investigation	3	0	3
Total			—	—	**18-19**
Third Semester					
PSY	200	Principles of Psychology or			
PSY	201	Intro. to Psychology I	3	0	3
Elective		Non-ADJ Elective	3	0	3
SPA	103	Basic Spoken Spanish or			
SPA		[1]Appr. Spanish Course	3-4	0	3
SOC	235	Juvenile Delinquency	3	0	3
ADJ	171	Forensic Science I	3	3	4
Total			—	—	**15-16**
Fourth Semester					
HUM	165	Controversial Issues in American Society or			
CST	100	[2]Principles of Public Speaking	3	0	3
[5]Approved Computer Elective			3	0	3
ADJ	296	Internship	3	0	3
SOC	236	Criminology	3	0	3
ADJ	215	Report Writing	3	0	3
PED/HLT		Approved Wellness Elective	3	0	3
Total			—	—	**18**

Total Minimum Credits for the Associate of Applied Science Degree in Administration of Justice (Law Enforcement Specialization)..... 67-69

[1]Such as SPA 150, Spanish For Law Enforcement
2Students may substitute CST 100 here if it is required by the transfer school.

[3]SOC 200 includes material covered in both SOC 201 and SOC 202. The student must enroll in either the SOC 201 and SOC 202 sequence, or enroll in SOC 200 with another sophomore level, non-introductory sociology course. SOC 200 will fulfill the general sociology requirement at the four-year college/university level. Students must check the academic transfer policy of the four-year school regarding transferability of SOC 201 to fulfill the general sociology requirement.

[4]Students intending to transfer should take a lab science and at least MTH 151 (Mathematics for the Liberal Arts I).

[5]BUS 147 (Intro to Business Information Systems) is recommended if the student intends to transfer to a four-year college or university.

Administration of Justice – Corrections Specialization

			Lecture Hours	Lab Hours	Course Credits
First Semester					
SDV	100	College Success Skills	1	0	1
ENG	111	English Composition I	3	0	3
SOC	200	Principles of Sociology or			
SOC	201	[3]Intro to Sociology I	3	0	3
ADJ	100	Survey of Criminal Justice	3	0	3
ADJ	130	Intro. to Criminal Law	3	0	3
ADJ	140	Intro. to Corrections	3	0	3
Total			—	—	**16**
Second Semester					
NAS	105	[4]Natural Science Topics for Modern Society or			
		[4]Other approved Lab or Math course	—	—	3-4
ENG	112	College Composition II	3	0	3
SOC	202	Intro to Sociology II or			
		Approved Sophomore-Level Sociology	3	0	3
ADJ	131	Legal Evidence	3	0	3
ADJ	227	Constitutional Law for Justice Personnel	3	0	3
ADJ	145	Corrections and Community	3	0	3
Total			—	—	**18-19**
Third Semester					
PSY	200	Principles of Psychology or			
PSY	201	Intro. to Psychology I	3	0	3
Elective		Non-ADJ Elective	3	0	3
SPA	103	Basic Spoken Spanish or			
SPA		[1]Appr. Spanish Course	3-4	0	3
SOC	235	Juvenile Delinquency	3	0	3
PSY	215	Abnormal Psychology	3	0	3
Total			—	—	**15-16**

Fourth Semester

HUM	165	Controversial Issues in American Society or			
CST	100	[2] Principles of Public Speaking	3	0	3
		[5]Approved Computer Elective	3	0	3
ADJ	296	Internship	3	0	3
SOC	236	Criminology	3	0	3
ADJ	215	Report Writing	3	0	3
PED/HLT		Approved Wellness Elective	3	0	3
Total			**—**	**—**	**18**

Total Minimum Credits for the Associate of Applied Science Degree in Administration of Justice (Corrections Specialization)..... 67-69

[1]Such as SPA 150, Spanish for Law Enforcement
2Students may substitute CST 100 here if it is required by the transfer school.

[3]SOC 200 includes material covered in both SOC 201 and SOC 202. The student must enroll in either SOC 201 and SOC 202 as a series, or enroll in SOC 200. SOC 200 will fulfill the general sociology requirement at the four-year college/university level. Students must check the academic transfer policy of the four-year school regarding transferability of SOC 201 to fulfill the general sociology requirement.

[4]Students intending to transfer should take a lab science and at least MTH 151 (Mathematics for the Liberal Arts I).

[5]BUS 147 (Intro to Business Information Systems) is recommended if the student intends to transfer to a four-year college or university.

Administration of Justice –

Protective Services Specialization (Private Security)

First Semester

			Lecture Hours	Lab Hours	Course Credits
SDV	100	College Success Skills	1	0	1
ENG	111	English Composition I	3	0	3
SOC	200	Principles of Sociology or			
SOC	201	[3]Intro to Sociology I	3	0	3
ADJ	100	Survey of Criminal Justice	3	0	3
ADJ	130	Intro. to Criminal Law	3	0	3
ADJ	150	Introduction to Security Administration	3	0	3
Total			**—**	**—**	**16**

Second Semester

NAS	105	Natural Science Topics for Modern Society or			
		Other approved Lab or 4Math course			3-4
ENG	112	College Composition II	3	0	3
SOC	202	Intro to Sociology II or			
		Approved Sophomore-Level Sociology	3	0	3
ADJ	131	Legal Evidence	3	0	3
ADJ	227	Constitutional Law for Justice Personnel	3	0	3
ADJ	257	Loss Prevention	3	0	3
Total			**—**	**—**	**18-19**

Third Semester

PSY	200	Principles of Psychology or			
PSY	201	Intro. to Psychology I	3	0	3
Elective		Non-ADJ Elective	3	0	3
SPA	103	Basic Spoken Spanish or			
SPA		[1]Appr. Spanish Course	3-4	0	3
SOC	235	Juvenile Delinquency	3	0	3
ADJ	234	Terrorism and Counter-Terrorism	3	0	3
Total			**—**	**—**	**15-16**

Fourth Semester

HUM	165	Controversial Issues in American Society or			
CST	100	[2]Principles of Public Speaking	3	0	3
		[5]Approved Computer Elective	3	0	3
ADJ	296	Internship	3	0	3
SOC	236	Criminology	3	0	3
ADJ	215	Report Writing	3	0	3
PED/HLT		Approved Wellness Elective	3	0	3
Total			**—**	**—**	**18**

Total Minimum Credits for the Associate of Applied Science Degree in Administration of Justice Protective Services Specialization (Private Security) 67-69

[1]Such as SPA 150, Spanish for Law Enforcement
[2]Students may substitute CST 100 here if it is required by the transfer school.

[3]SOC 200 includes material covered in both SOC 201 and SOC 202. The student must enroll in either SOC 201 and SOC 202 as a series, or enroll in SOC 200 or another non-introductory sophomore level sociology course. SOC 200 will fulfill the general sociology requirement at the four-year college/ university level. Students must check the academic transfer policy of the four-year school regarding transferability of SOC 201 to fulfill the general sociology requirement.

[4]Students intending to transfer should take a lab science and at least MTH 151 (Mathematics for the Liberal Arts I).

[5]BUS 147 (Intro to Business Information Systems) is recommended if the student intends to transfer to a four-year college or university.

Administrative Support Technology

Award: ASSOCIATE OF APPLIED SCIENCE

Length: A full-time student may complete this program in four to five semesters, depending upon the specialization chosen.

Purpose: The Associate of Applied Science Degree program in Administrative Support Technology is designed to educate and train students wishing to enter or advance in an office support career. With two specializations offered under the Administrative Support Technology umbrella, students are given the opportunity to select a course of study that will meet their occupational objectives.

Occupational Objectives: Possible employment opportunities include:

- Administrative Assistant
- Executive Secretary
- Medical Secretary
- Medical Coding/Billing Specialist
- Medical Insurance Coder
- Office Manager

Admission Requirements: In addition to the admission requirements established for the College, entry into this program requires completion of four units of high school English and one unit of high school mathematics. If you meet the general admission requirements, a counselor will discuss with you the strengths and weaknesses of your academic background and your strengths and weaknesses as revealed by an appropriate placement test. You may correct any deficiencies in academic preparation in the College's Developmental Studies program.

Program Description: Designed for completion in two years, the specializations of the Administrative Support Technology program combine instruction in critical areas related to successful career advancement within the office support area.

The General Office Specialization provides broad-based knowledge and skills needed in many different types of businesses.

The Medical Office Specialization offers training needed to work in a medical environment with specific training in medical insurance coding and medical transcription. The medical courses are usually taught during the evenings. A coding student who makes below a "C" in a HIM course is strongly encouraged to retake the course. A transcription student who makes below a "C" in any AST or HIM course is strongly encouraged to retake the course.

DCC is accredited by Alpha Beta Gamma International Business Honor Society to initiate members into the honor society for business and related disciplines. For more information about the society, refer to http://www.abg.org.

Program Outcomes: Students who successfully complete this program will:

1. Demonstrate knowledge of various administrative support functions to perform satisfactorily in an office environment.
2. Communicate effectively orally and in writing.
3. Demonstrate proficiency in using word processing software to accurately format a variety of business correspondence.
4. Perform mathematical calculation to accurately complete financial and accounting functions used in an office environment.
5. Key with a level of speed and accuracy acceptable to perform satisfactorily to industry standards.
6. Demonstrate knowledge of alphabetic and numeric filing rules.

Program Requirements: To receive the Associate of Applied Science Degree, you must complete a minimum of 66 credits in the General Office Specialization or a minumum of 68 credits for the Medical Office Specialization. Students must have a cumulative grade point average of 2.0 or better to graduate. The following outlines represent a typical order of courses taken by full-time day students. Part-time and/or evening students may take courses in any desired order, except for sequence courses, or courses requiring prerequisites.

Administrative Support Technology – General Office Specialization

			Lecture Hours	Lab Hours	Course Credits
First Semester					
AST	101	Keyboarding I	2	0	2
AST	103	Keyboarding I Lab	0	2	1
ECO	100	Elementary Economics	3	0	3
ENG	134	Grammar for Writing and Speaking	3	0	3
BUS	121	Business Math I	3	0	3
ITE	116	Survey/Computer Software Appl	2	0	2
SDV	100	College Success Skills	1	0	1
Total			**14**	**2**	**15**
Second Semester					
AST	102	Keyboarding II	2	0	2
AST	104	Keyboarding II Lab	0	2	1
ITE	150	Database Software	3	2	4
BUS	235	Business Letter Writing	3	0	3
ENG	135	Applied Grammar	3	0	3
HLT/PED		Health/Physical Ed.	0	2	1
BIO/NAS or MTH		Science or Math Elective	3	0	3
Total			**14**	**6**	**17**
Third Semester					
ACC	111	Accounting I	3	0	3
AST	234	Records and Database Mgmt.	3	0	3
AST	243	Office Administration I	3	0	3
AST	238	MS Word	2	0	2
AST	239	MS Word Lab	0	2	1
AST	113	Speedbuilding	0	2	1
ITE	140	ITE Spreadsheet Software	3	0	3
Total			**14**	**4**	**16**
Fourth Semester					
ACC	110	Introduction to Computerized Acct. Peachtree	2	0	2
AST	244	Office Administration II	3	0	3
AST	201	Keyboarding III (Intern.)	2	0	2
AST	202	Keyboarding III Lab	0	2	1
AST	205	Business Communications	3	0	3
AST	253	Desktop Publishing	2	0	2
AST	255	Desktop Publishing Lab	0	2	1
SPA	103	Basic Spoken Spanish	3	0	3
SDV	106	Job Search Strategies	1	0	1
Total			**16**	**4**	**18**

Total Minimum Credits for the Associate of Applied Science Degree in Administrative Support Technology (General Office Specialization)..... 66

Administrative Support Technology – Medical Office Specialization

			Lecture Hours	Lab Hours	Course Credits
First Semester					
AST	101	Keyboarding I	2	0	2
AST	103	Keyboarding I Lab	0	2	1
ENG	134	Grammar for Writing and Speaking	3	0	3
BUS	121	Business Mathematics I	3	0	3
BIO	100	Basic Human Biology	3	0	3
HLT	143	Medical Terminology I	3	0	3
SDV	100	College Success Skills	1	0	1
Total			**15**	**2**	**16**
Second Semester					
AST	102	Keyboarding II	2	0	2
AST	104	Keyboarding II Lab	0	2	1
ECO	100	Elementary Economics	3	0	3
ITE	116	Survey/Computer Software Applications	2	0	2
ENG	135	Applied Grammar	3	0	3
HLT	144	Medical Terminology II	3	0	3
Total			**13**	**2**	**14**
Third Semester					
AST	234	Records and Database Mgt.	3	0	3
AST	238	MS Word	2	0	2
AST	239	MS Word Lab	0	2	1
HIM	130	Health Information Systems	3	0	3
HIM	106	ICD-10-CM Coding I	2	0	2
Total			**10**	**2**	**11**
Fourth Semester					
HIM	105	CPT Coding	2	0	2
HIM	107	ICD-10-CM Coding II	3	0	3
HIM	226	Legal Aspects of Health Record Doc. (1st half of Sem.)	2	0	2
AST	201	Keyboarding III (Internship)	2	0	2
AST	202	Keyboarding III Lab	0	2	1
AST	243	Office Administration I	3	0	3
HLT/PED		Health/Physical Education	0	2	1
Total			**12**	**4**	**14**

Fifth Semester

AST	244	Office Administration II	3	0	3
HIM	143	Managing Electronic Billing Medical Practice	3	0	3
HIM	253	Health Records Coding	3	0	3
SDV	106	Job Search Strategies	1	0	1
SPA	103	Basic Spoken Spanish	3	0	3
Total			**13**	**0**	**13**

Total Minimum Credits for the Associate of Applied Science Degree in Administrative Support Technology (Medical Office Specialization).....68

Business Management – Management Specialization

Award: ASSOCIATE OF APPLIED SCIENCE

Length: A full-time student may complete this program in four semesters.

Purpose: The Associate of Applied Science Degree program in Business Management is designed primarily for persons who seek employment in business immediately upon completion of the program. Both persons who are seeking their first employment position and those who are seeking promotion may benefit from this program.

Occupational Objectives: The following occupational titles represent examples of possible employment opportunities for graduates of the management specializations:

- Management Trainee
- Administrative Assistant
- Purchasing Agent
- Human Resource Supervisor
- Production Supervisor
- Small Business Owner/Manager
- Office Manager
- Assistant Manager

Admission Requirements: In addition to the admission requirements established for the College, entry into this program requires completion of four units of high school English and one unit of high school mathematics. If you meet the general admission requirements, a counselor will discuss with you the strengths and weaknesses of your academic background and your strengths and weaknesses as revealed by an appropriate placement test. You may correct any deficiencies in your academic preparation in the College's Developmental Studies program.

Program Description: The first two semesters (first year) of the Associate of Applied Science Degree program in Business Management are similar to other curriculums in business. In the second year you will pursue your specialty in Business Management. The program includes technical courses, courses in related areas, general education courses and electives. Instruction will include both the theoretical concepts and practical applications needed for success in business. You are urged to consult with the Counseling Office and your faculty advisor in planning your program and selecting electives. Upon satisfactory completion of the four-semester program, you will be awarded the associate degree in Business Management.

DCC is accredited by Alpha Beta Gamma International Business Honor Society to initiate members into the honor society for business and related disciplines. For more information about the society, refer to http://www.abg.org.

Program Outcomes: DCC Business Management—Management Specialization graduates will demonstrate the ability to:

1. utilize industry standard computer software products in business communication media such as written reports and business plans using word processing software (i.e., Microsoft Word) and business presentations using presentation software (i.e., Microsoft PowerPoint);
2. perform and interpret basic business math, accounting, and business statistical calculations;
3. understand the basic concepts associated with business ethics and the importance of developing and adhering to a strong set of generally-accepted ethical principles;
4. demonstrate basic principles of human relationship skills which can be used to successfully interrelate with customers, associates, employees, and superiors in a business setting;
5. understand how the principles of basic economics (e.g., supply and demand, the American free enterprise system, etc.) apply to successful business management practices;
6. understand basic legal and regulatory requirements for business and industry;
7. recognize the features, advantages, and disadvantages of business ownership categories (e.g., proprietorship, partnership, corporation, etc.);
8. understand standard methods for interviewing, hiring, training, motivating, and supervising employees;
9. recognize basic business strategy and philosophy development techniques (e.g., SWOT analysis, vision, mission, values, goals, objectives, etc.); and
10. evaluate marketing strategies for successful products and services.

Program Requirements: To receive the Associate of Applied Science Degree in Business Management, you must complete a minimum of 66 credits with a grade point average of 2.00 or better. The following outline represents a typical order of courses taken by full-time students.

First Semester

			Lecture Hours	Lab Hours	Course Credits
AST	117	Keyboarding for Computer Usage	1	0	1
BUS	100	Introduction to Business	3	0	3
BUS	121	Business Mathematics I	3	0	3
ITE	115	Introduction to Computer Applications and Concepts	3	0	3
ENG	111	College Composition I	3	0	3
MKT	100	Principles of Marketing	3	0	3
SDV	100	College Success Skills	1	0	1
Total			**17**	**0**	**17**

Second Semester

BUS	111	Principles of Supervision	3	0	3
BUS	122	Business Mathematics II	3	0	3
ITE	215	Advanced Computer Applications and Integration	4	0	4
BUS	236	Business Communications	3	0	3
ECO	120	Survey of Economics	3	0	3
Total			**16**	**0**	**16**

Third Semester

ACC	111	Accounting I	3	0	3
BUS	240	Business Law	3	0	3
BUS	165	Small Business Management	3	0	3
HLT/PED		Health/Physical Ed.	0	2	1
BUS	220	Introduction to Business Statistics	3	0	3
HUM		Humanities Elective	3	0	3
Total			**15**	**2**	**16**

Fourth Semester

ACC	110	Introduction to Computerized Accounting	2	0	2
BIO/NAS or MTH		Science or Math Elective	3	0	3
BUS	205	Human Resource Management	3	0	3
BUS	298	Seminar and Project	3	0	3
BUS	149	Workplace Ethics	1	0	1
MKT	170	Customer Service	1	0	1
BUS	209	Continuous Quality Improvement	3	0	3
BUS	295	Topics in Business	1	0	1
Total			**17**	**0**	**17**

Total Minimum Credits for the Associate of Applied Science Degree in Business Management (Management Specialization) 66

Business Management – Graphic Imaging Management Specialization

Award: ASSOCIATE OF APPLIED SCIENCE

Length: A full-time student may complete this program in two years, which includes one summer term.

Purpose: The Business Management – Graphic Imaging Management Specialization is designed for persons who seek employment in graphic imaging management or sales and marketing positions. Both persons who are seeking their first employment in a managerial position and those presently in management who are seeking promotion may benefit from this program.

Occupational Objectives: The following occupational titles represent examples of possible employment opportunities:

Owner - Manager
Department Manager
Management Trainee
Sales/Marketing Representative

Admission Requirements: In addition to the admission requirements established for the College, entry into the Graphic Imaging Management Specialization requires completion of four units of high school English, one unit of keyboarding, one unit of high school mathematics, and one unit of vocational printing/graphics. Students with deficiencies in academic preparation may correct weaknesses in the College's Developmental Studies program or through fundamental printing courses offered by the Graphic Imaging Department.

Program Description: The Graphic Imaging Management Specialization is similar to other curriculums in business; however, the program provides opportunity for you to pursue a specialization in printing technology. Instruction will include both the theoretical concepts and practical applications needed for success in the printing management/marketing field. You are urged to consult with your faculty advisor in planning your program and selecting electives.

Program Outcomes: DCC Business Management – Graphic Imaging Management Specialization graduates will demonstrate the ability to:

1. utilize industry standard computer software products in business communication media such as written reports and business plans using word processing software (i.e., Microsoft Word) and business presentations using presentation software (i.e., Microsoft PowerPoint);
2. perform and interpret basic business math, accounting, and business statistical calculations;
3. understand the basic concepts associated with business ethics and the importance of developing and adhering to a strong set of generally-accepted ethical principles;
4. demonstrate basic principles of human relationship skills which can be used to successfully interrelate with customers, associates, employees, and superiors in a business setting;
5. understand how the principles of basic economics (e.g., supply and demand, the American free enterprise system, etc.) apply to successful business management practices;
6. understand basic legal and regulatory requirements for business and industry;
7. evaluate marketing strategies for successful products and services;
8. understand the basics of electronic publishing;
9. discuss the concepts of color separation and lithographic chemistry; and
10. perform basic graphic imaging industry production planning and estimating tasks.

Program Requirements: To receive the Associate of Applied Science Degree in Business Management (Graphic Imaging Management Specialization), you must complete a minimum of 66 credits with a grade point average of 2.00 or better. The following curriculum outline represents a typical order of courses taken by full-time day students. Part-time students may take courses in any desired order except sequential courses or others requiring prerequisites.

			Lecture Hours	Lab Hours	Course Credits
First Semester					
AST	117	Keyboarding for Computer Usage	1	0	1
BUS	100	Introduction to Business	3	0	3
BUS	121	Business Mathematics I	3	0	3
ITE	115	Introduction to Computer Applications and Concepts	3	0	3
ENG	111	College Composition I	3	0	3
MKT	100	Principles of Marketing	3	0	3
SDV	100	College Success Skills	1	0	1
Total			**17**	**0**	**17**
Second Semester					
BUS	111	Principles of Supervision	3	0	3
ECO	120	Survey of Economics	3	0	3
ENG	115	Technical Writing	3	0	3
PNT	211	Electronic Publishing I	2	2	3
PNT	221	Layout and Design I	2	2	3
Total			**13**	**4**	**15**
Third Semester					
PNT	260	Color Separation	2	3	3
Total			**2**	**3**	**3**
Fourth Semester					
ACC	111	Accounting I	3	0	3
BUS	240	Business Law	3	0	3
HLT/PED		Health/Physical Education	0	2	1
ITE	215	Advanced Computer Applications and Integration	3	2	4
HUM		Humanities Elective	3	0	3
Total			**12**	**4**	**14**

Fifth Semester

ACC	110	Introduction to Computerized Accounting - Peachtree	2	0	2
BIO/NAS or MTH		Math or Science Elective	3	0	3
BUS	298	Seminar and Project	3	0	3
PNT	231	Lithographic Chemistry	2	0	2
PNT	245	Production Planning & Estimating	3	3	4
BUS	149	Workplace Ethics	1	0	1
MKT	170	Customer Service	1	0	1
BUS	290	Topics in Business	1	0	1
Total			**16**	**3**	**17**

Total Minimum Credits for the Associate of Applied Science Degree in Business Management (Graphic Imaging Management Specialization).....66

Business Management – Automotive Management Specialization

Award: ASSOCIATE OF APPLIED SCIENCE

Length: A full-time student may complete this program in four semesters and one summer term.

Purpose: The Business Management–Automotive Management Specialization is designed primarily for persons who seek employment in the automotive field immediately upon completion of the program. Both persons who are seeking their first employment position and those who are seeking promotion may benefit from the program.

Occupational Objectives: The following occupational titles represent examples of possible employment opportunities:

- Automotive Management/Support
- Service Advisor
- Service Manager
- Automotive Parts Sales
- Automotive Manufacturer Representative
- Automotive Sales
- Automotive Warranty Claims

Admission Requirements: In addition to the general admission requirements established for the College, entry into this program requires completion of four units of high school English and one unit of high school mathematics. If you meet the general admission requirements, a counselor will discuss with you the strengths and weaknesses of your academic background as revealed by an appropriate placement test. You may correct any deficiencies in the College's Developmental Studies program.

Program Description: The Automotive Management Program is designed for students who wish to pursue employment in management and support areas of automotive sales, repair, parts and manufacturing businesses. The program includes courses in automotive technology, general education and electives. Instruction will include both the theoretical concepts and practical applications needed for success in automotive management. You are urged to consult with the Counseling Office and your faculty advisor in planning your program and selecting electives.

Program Outcomes: DCC Business Management—Automotive Management Specialization graduates will demonstrate the ability to:

1. utilize industry standard computer software products in business communication media such as written reports and business plans using word processing software (i.e., Microsoft Word) and business presentations using presentation software (i.e., Microsoft PowerPoint);
2. perform and interpret basic business math, accounting, and business statistical calculations;
3. understand the basic concepts associated with business ethics and the importance of developing and adhering to a strong set of generally-accepted ethical principles;
4. demonstrate basic principles of human relationship skills which can be used to successfully interrelate with customers, associates, employees, and superiors in a business setting;
5. understand how the principles of basic economics (e.g., supply and demand, the American free enterprise system, etc.) apply to successful business management practices;
6. understand basic legal and regulatory requirements for business and industry;
7. evaluate marketing strategies for successful products and services;
8. discuss the principles of alternative fuels and hybrid vehicle design;
9. understand elementary principles of automotive electrical, fuel, and braking systems; and
10. apply customer service skills in an automotive business setting.

Program Requirements: To receive the Associate of Applied Science Degree in Business Management–Automotive Management Specialization, you must complete a minimum of 66 credits with a grade point average of 2.00 or better. The following outline represents a typical order of courses taken by full-time students.

First Semester

			Lecture Hours	Lab Hours	Course Credits
AST	117	Keyboarding for Computer Usage	0	2	1
BIO/NAS or MTH		Science or Math Elective	3	0	3
BUS	100	Introduction to Business	3	0	3
BUS	121	Business Mathematics I	3	0	3
ENG	111	College Composition I	3	0	3
ITE	115	Introduction to Computer Applications and Concepts	3	0	3
SDV	100	College Success Skills	1	0	1
Total			**16**	**2**	**17**

Second Semester

AUT	241	[1]Automotive Electricity I	3	3	4
AUT	265	[1]Auto. Braking Systems	2	3	3
ECO	120	Survey of Economics	3	0	3
ENG	115	Technical Writing	3	0	3
ITE	215	Advanced Computer Applications and Integration	3	2	4
Total			**14**	**8**	**17**

Third Semester

AUT	230	Introduction to Alternative Fuels and Hybrid Vehicles	3	3	4
Total			**3**	**3**	**4**

Fourth Semester

ACC	111	Accounting I	3	0	3
BUS	240	Business Law	3	0	3
MKT	100	Principles of Marketing	3	0	3
HLT/PED		Elective	0	2	1
HUM		Humanities Elective	3	0	3
Total			**12**	**2**	**13**

Fifth Semester

BUS	149	Workplace Ethics	1	0	1
ACC	110	Introduction to Computerized Accounting	2	0	2
AUT	122	Fuel Systems I	3	3	4
BUS	111	Principles of Supervision	3	0	3
BUS	205	Human Resource Management	3	0	3
BUS	295	Topics in Business	1	0	1
MKT	170	Customer Service	1	0	1
Total			**14**	**3**	**15**

Total Minimum Credits for the Associate of Applied Science Degree in Business Management (Automotive Management Specialization).....66

[1]Students may substitute AUT courses approved by the advisor.

Dental Hygiene

Award: ASSOCIATE OF APPLIED SCIENCE
(awarded by Virginia Western Community College)

Purpose: The curriculum is designed to prepare students as primary preventive oral health professionals licensed to practice dental hygiene. Upon successful completion of the program, graduates will be eligible to take national, regional, and state board examinations leading to licensure as a registered dental hygienist (RDH).

Note: Individuals who have a felony or misdemeanor conviction may not be allowed to take the licensing exam. This decision is made by the Virginia Board of Dentistry. For questions regarding this issue, call Virginia Board of Dentistry (804.367.4538).

Accreditation Status: The program has been accredited by the Commission on Dental Accreditation of the American Dental Association, a specialized accrediting body recognized by the United States Department of Education.

Occupational Objectives: A dental hygienist may practice in any of the following settings:

- Dental offices and dental clinics
- Federal, state, and local health departments
- Hospitals and nursing homes/home health organizations
- School districts or departments of education
- Educational programs for dental, dental hygiene, and dental assisting students
- Correctional facilities
- Private and public facilities for pediatric, geriatric, and other individuals/groups with special needs
- Health maintenance organizations/managed care organizations

Admission Requirements: Applicants to the Dental Hygiene program must have completed the following:

1. One unit each of high school or college biology and chemistry.
2. Completion of BIO 141-142, Anatomy and Physiology with grade of "C" or better.
3. Developmental Requirements: Students who do not place into college-level English on the placement test will be required to take developmental courses. Students who do not demonstrate proficiency on the placement test in the following mathematical units will be required to complete developmental courses: MTE 1, 2, 3, 4, 5, 6, 7, 8 and 9.
4. A grade of "C" or better is necessary in required high school/college units of math and science.

Prerequisites must be completed prior to the summer immediately preceding the fall entry semester. DCC students may register in its First Year Studies certificate in order to meet prerequisite requirements. The applicant's high school or college (if applicable) cumulative grade point average (GPA) must be at least 2.5 and is based on at least 12 credit hours of college credit in a 12-month timeframe. The GPA is determined at the end of fall semester prior to admission. Priority consideration will be given to applicants with a cumulative high school and/or college grade point average of 3.0 or above.

All qualified applicants must take the HOBET Test.

Admission Procedures: The Dental Hygiene program is open to qualified male or female applicants. Admission to the dental hygiene program is offered to qualified applicants on an annual basis at the Roanoke campus. Admission to the VWCC-DCC joint venture distance program site in Danville is offered to qualified applicants on a biennial basis during odd-numbered years; and to the VWCC -Lord Fairfax joint venture distance program site in Middletown on a biennial basis during even -numbered years. Deadline for submitting complete application materials is February 15 for the upcoming academic year. If the number of qualified applicants falls below the maximum enrollment, the application deadline may be extended. Applicants should be aware that meeting the curriculum admission standards does not guarantee program admission. Applicants will be notified in writing of the action taken by the Dental Hygiene Admissions Committee in May. Students interested in this program should consult the VWCC catalog for additional information on admissions, VWCC policy on Infectious Disease Status, Essential Dental Hygiene Functions, Clinical Environment, Student Responsibilities, Student Retention and Readmission Policy. The catalog can be accessed through the VWCC website (http://www.virginiawestern.edu/).

Program Outcomes (from VWCC):

1. Students will demonstrate a thorough understanding of infection control.
2. Students will demonstrate the ability to gather the appropriate medical history information from clients.
3. Students will demonstrate the ability to use dental hygiene skills to provide patient care to treat complex dental issues.

First-Year Curriculum

First Semester

			Lecture Hours	Lab Hours	Course Credits
BIO	141	[3]Human Anat. & Phys. I	3	2	4
DNH	111	Oral Anatomy	2	0	2
DNH	115	Hist./Head & Neck Anatomy	3	0	3
DNH	120	Management of Emergencies	2	0	2
DNH	130	Oral Radiography for the Dental Hygienist	1	3	2
DNH	141	Dental Hygiene I	3	6	5
SDV	108	[3]College Survival Skills (or SDV 100)	1	0	1
Total			—	—	**19**

Second Semester

DNH	142	Dental Hygiene II	2	9	5
DNH	145	General & Oral Pathology	2	0	2
DNH	146	Periodontics for the Dental Hygienist	2	0	2
DNH	216	Pharmacology	2	0	2
NAS	185	[3]Microbiology	3	2	4
Total			—	—	**15**

Summer Session

BIO	142	[3]Human Anatomy & Physiology II	3	2	4
ENG	111	College Composition	3	0	3
DNH	150	[1]Dental Hygienist	2	0	2
DNH	190	Coordinated Practice	2	3	3
DNH	235	Management of Dental Pain & Anxiety	1	2	2
Total			—	—	**14**

Second-Year Curriculum

Third Semester

DNH	214	[2]Practical Materials for Dental Hygiene	1	2	2
DNH	226	Public Health Dental Hygiene I	2	0	2
DNH	244	Dental Hygiene IV	1	12	5
PSY	230	[3]Developmental Psychology	3	0	3
Total					**12**

Fourth Semester

DNH	227	Public Health Dental Hygiene II	0	3	1
DNH	230	Office Practices and Ethics	1	0	1
DNH	245	Dental Hygiene V	1	12	5
HUM	EEE	[3]Humanities or Fine Arts Elective	3	0	3
Total			—	—	**10**

Total Minimum Credits for the Associate of Applied Science Degree in Dental Hygiene..... 70

NOTE: BIO 141 and 142 must be completed by the spring semester prior to program entry. Support courses (non-DNH courses) may be taken prior to entry. BIO 141, BIO 142, and NAS 185 must be repeated if they were completed more than five years prior to the date of admission into the program.

[1]Health and Wellness are emphasized throughout the Dental Hygiene Program, but specifically in DNH 150.

[2]Includes instruction in fundamental mathematical skills.

[3]Courses may be taken at Danville Community College prior to admission to the AAS Dental Hygiene program. DCC and Virginia Western Community College have agreed to a sequence of courses that will satisfy all non-DNH coursework requirements. This sequence may be taken through DCC's First Year Studies program.

Early Childhood Education

Award: ASSOCIATE OF APPLIED SCIENCE

Length: A full time student may complete this program in four semesters. Students who have developmental requirements may need more semesters to complete this program.

Purpose: The Early Childhood Education curriculum is designed for students who plan to work with children from birth through age eight years using developmentally appropriate practices. This curriculum provides the student with skills in areas documented by Virginia Competencies for Early Childhood Professionals. The Associate of Applied Science Degree program is primarily designed to benefit persons interested in employment in the care and education of young children immediately after completion of community college studies. However, several adjustments in program schedules are available to enable a student to prepare for transfer to a baccalaureate degree program in Early Childhood Education.

Occupational Objectives: The following occupational titles represent examples of possible employment opportunities:

- Child Care Center Director
- Child Care Center Teacher
- Teacher Aide/Assistant
- Child Care Center Teacher Assistant
- Recreation Aide or Program Leader
- Substitute Teacher

Admission Requirements: In addition to the admission requirements established by the College, entry into this curriculum requires a high school diploma or the equivalent. Students with academic weaknesses, as determined by the College's placement test, can correct these weaknesses by enrolling in Developmental Studies. Entry into the Associate of Applied Science Degree program in Early Childhood Education also requires the following:

1. A personal interview with a representative of the Early Childhood Education Department.
2. Special Requirement: Students who wish to enroll in the Early Childhood Education Certificate Program with the objective of obtaining employment in early childhood education settings are advised that excellent moral character is generally considered prerequisite to such employment. Background investigations will be conducted by the college laboratory school to confirm that students have not been convicted of a crime involving moral turpitude or any felony.
3. Program placed students must present documentation of a negative Tuberculosis (TB) screening.
4. The student must assume the cost of both the TB test and the Criminal Background Checks upon entry into the Early Childhood Program.
5. Students must possess sufficient physical strength, flexibility, and dexterity to perform education and care routines for children.

Program Description: The Early Childhood Education curriculum prepares individuals to work in services for children from birth through age eight years. The program includes courses in child education, behavior management, methods of teaching children, general education and electives. Instruction will include both theoretical concepts and practical applications needed for success in providing high quality services for children. Upon successful completion of the four-semester program, you will be awarded the Associate of Applied Science Degree (AAS) in Early Childhood Education.

Program Outcomes: Upon successful completion of this program, students will be able to:

1. Plan, implement and evaluate curriculum plans and learning environments for children based on developmental appropriateness and a thorough knowledge of child development.
2. Adhere to Virginia's Standards for Licensed Child Day Centers in the planning and evaluation of classroom and learning environments to ensure the health, safety and nutrition of children.
3. Communicate effectively and appropriately with children and families from all backgrounds to build respectful, reciprocal relationships and use appropriate positive guidance strategies with children in their care.
4. Assess children's progress using formal and informal observation and assessment tools and methods.
5. Complete a plan for the educational, physical, fiscal and human resources needed to operate a program for children.

Program Requirements: To receive the Associate of Applied Science Degree in Early Childhood Education you must complete a minimum of 67 credits with a grade point average of 2.00 or better. The following outline represents a typical order of courses taken by full time students.

			Lecture Hours	Lab Hours	Course Credits
First Semester					
SDV	100	College Success Skills	1	0	1
ENG	111	College Composition I	3	0	3
CHD	120	Intro. Early Childhood Education	3	0	3
CST	100	Principles of Public Speaking	3	0	3
CHD	145	Methods in Art, Music & Movement	2	2	3
CHD	165	Obs. and Part. In Early Childhood/Primary Settings	1	6	3
Total			**13**	**8**	**16**
Second Semester					
ENG	112	College Composition II	3	0	3
SOC	215	Sociology of the Family or Approved Elective	3	0	3
CHD	118	Language Arts for Young Children	2	2	3
CHD	166	Infant and Toddler Programs	3	0	3
PSY	235	Child Psychology	3	0	3
Total			**14**	**2**	**15**
Third Semester					
CHD	146	Math, Science and Social Studies for Children	2	2	3
CHD	119	Intro. To Reading Meth.	2	2	3
EDU	235	Health, Safety, & Nutrition for Children	3	0	3
CHD	210	Intro. to Exceptional Children	3	0	3
CHD	205	Guiding the Behavior of Children	3	0	3
CHD	216	Early Childhood Prog.,Schools and Social Change	3	0	3
Total			**16**	**4**	**18**

Fourth Semester

CHD	215	Models of Early Childhood Programs	3	0	3
CHD	270	Adm. of Early Childhood Programs	3	0	3
CHD	265	Adv. Obs. and Part. In Early Childhood/Primary Settings	1	6	3
CHD	298	Portfolio Development	1	0	1
HLT	106	First Aid Safety	2	0	2
BUS	121	Business Mathematics	3	0	3
ENG	250	Children's Literature or			
HUM/FA elective			3	0	3
Total			**16**	**6**	**18**

Total Minimum Credits for the Associate of Applied Science Degree in Early Childhood Education..... 67

All students are recommended to take ITE 115 (Introduction to Computer Applications and Concepts) in addition to courses required for the AAS degree.

Students planning to transfer to a four-year institution should make the following additions/changes in their curriculum:
MTH 151 Mathematics for Liberal Arts I is recommended for students planning to transfer to four-year institutions. Students may need to complete MTE 1 through MTE 5 prior to enrolling in this course, depending on placement scores.

The addition of BIO 101 General Biology is recommended for students planning to transfer to four-year institutions.

The addition of PSY 200 Principles of Psychology is recommended for students planning to transfer to four-year institutions.

The addition of ITE 115 (Introduction to Computer Applications and Concepts) is recommended for students planning to transfer to four-year institutions.

The addition of EDU 200 (Introduction to Teaching as a Profession) is recommended for students planning to transfer to four-year institutions.

General Engineering Technology

Award: ASSOCIATE OF APPLIED SCIENCE

Length: Two years. Part-time students determine their own pace.

Purpose: The Associate of Applied Science Degree in General Engineering Technology is designed to provide a broad base of math, science, and engineering knowledge which will prepare the graduate to enter the technical workforce upon graduation. Entry into the workplace would be at the Engineering Assistant level. The graduate will have knowledge in areas of Engineering Technology such as engineering materials, design drafting, engineering mechanics, manufacturing methods, electronics, and computer programming.

Occupational Objectives: Possible employment opportunities for graduates of this program include the following titles:

- Engineering Technician
- Quality Control Technician
- Industrial Engineering Technician
- Material Testing Technician
- Technical Salesperson

Admission Requirements: In addition to the admission requirements established for the College, this curriculum requires successful completion of four units of high school English; three units of high school mathematics (Algebra I, Algebra II and Geometry); two units of high school social studies; one unit of laboratory science, and one unit of Technical Drafting. If a student meets the general admission requirements, a counselor will discuss the student's academic strengths and weaknesses. Any academic deficiencies may be corrected in the College's Developmental Studies program.

Program Description: General Engineering Technology is a two-year curriculum combining a basic core of engineering courses. These courses are drawn from the field of Mechanical, Industrial, and Electronic Engineering. The first year includes studies in science, math, English, drafting, and general education courses. Although the first year is composed almost exclusively of engineering technology courses, these courses will prepare the student to enter the engineering field as an engineering technician upon graduation.

Program Outcomes: Upon successful completion of this program, students will:

1. Design, draw and build a model bridge then test the structural strength with the departments' structure tester.
2. Develop, design, create a drawing package, and fabricate a 3 dimensional working model of a functioning mechanical system.

Program Requirements: To receive an Associate of Applied Science Degree in General Engineering Technology you must complete a minimum of 65 credits with a 2.00 or better grade point average. The 65 credits are distributed according to the following outline. The outline represents a typical order of courses taken by full-time day students. Part-time and/or evening students may take courses in any desired sequence, except for hyphenated courses or others requiring prerequisites.

			Lecture Hours	Lab Hours	Course Credits
First Semester					
SDV	100	College Success Skills	1	0	1
ITE	140	Spreadsheets	3	0	3
DRF	114	Drafting I	1	6	3
MEC	100	Intro. to Engineering Tech.	1	2	2
MAC	131	Machining Technology	1	3	2
MTH	166	Precalculus w/Trig.	4	0	4
Total			**11**	**11**	**15**
Second Semester					
SDV	195	Electronic Portfolio	1	0	1
MTH	271	Calculus I	3	0	3
MEC	111	Materials for Industry	3	0	3
MEC	126	Computer Programming	1	2	2
ENG	111	English Composition I	3	0	3
HLT/PED		Physical Ed. Elective	0	2	1
Total			**11**	**4**	**13**
Summer Term I					
CAD	201	Comp. Aided Drafting and Design I	2	2	3
MEC	131	Mechanics I	3	0	3
MAC	126	Introduction to CNC	2	3	3
PHY	130	Tech. Physics	2	2	3
Total			**9**	**7**	**12**
Third Semester					
ETR	115	DC and AC Fundamentals	3	0	3
MEC	132	Mechanics II	3	0	3
CAD	233	SolidWorks	2	2	3
MEC	265	Fluid Mechanics	3	0	3
Total			**11**	**2**	**12**

Fourth Semester

MEC	211	Machine Design I	3	3	4
PSY/SOC/HUM		Elective	3	0	3
HUM		Elective	3	0	3
CST	100	Principles of Public Speaking	3	0	3
Total			**12**	**3**	**13**

Total Minimum Credits for the Associate of Applied Science Degree in General Engineering Technology..... 65

All students are recommended to take ITE 115 (Introduction to Computer Applications and Concepts) in addition to courses required for the AAS degree.

Technical Elective must be applicable to career objectives and approved by faculty advisor.

Health Science -
Practical Nursing Specialization

Award: ASSOCIATE OF APPLIED SCIENCE

Length: A full-time student may complete this program in four semesters (two years)

Purpose: The Health Science program with a Specialization in Practical Nursing is designed to prepare students for careers as practical nurses. In addition, this program requires students to develop a firmer foundation in positive health practices, anatomy and physiology, and applied mathematics than is required in typical practical nursing certificates. This degree should be chosen by students who wish to develop professionally in directions of health care education, community health, or more advanced nursing training and supervision. Upon completion of the program, graduates will be eligible to take the National Council Licensure Examination (NCLEX-PN).

Occupational Objectives: Opportunities for the Licensed Practical Nurse include employment in hospitals, nursing homes, clinics, day care centers, doctor's offices, industry, hospice, and private duty nursing.

Prerequisites/Admission Requirements:

1. High School diploma or GED
2. Non-developmental placement in English (writing and reading) and strong competence in basic arithmetic.
3. Successful completion of the Nursing Entrance examination
4. Current C.P.R. certification at the American Heart Association professional rescuer level.
5. Priority consideration will be given to students who have completed a sequence of preparatory college-level courses with a grade of "B" or better in three (3) attempts or less.
6. The First Year Studies Certificate for LPNs is beneficial for certain students but not required.
7. ENG 111 successfully completed with a grade of "C" or better.
8. MTH 126 successfully completed with a grade of "C" or better.
9. MTH 126 completed within the last year.
10. BIO 141 and BIO 142 successfully completed with a grade of "C" or better.
11. No student will be considered for admission who has previously failed to complete any allied health programs two or more times for academic reasons.
12. If accepted into the program, the student will be responsible for obtaining a physical exam, malpractice insurance and a criminal background check, all expenses to be incurred by the student.
13. Certain criminal convictions may prevent licensure as a nurse or certification as a nurse aide in Virginia. Criminal convictions may also prohibit employment in certain health care settings. Students convicted of any felony or any misdemeanor involving moral turpitude/barrier crimes do not qualify for the Nursing Program at DCC. The clinical facilities will not allow students to complete clinical hours and students will not be able to meet the Virginia Board of Nursing requirements of direct clinical hours, nor meet the credit requirement for graduation. Any student entering the program who has committed illegal offenses other than minor traffic violations should discuss these matters with the program head for clarification.

Note: This program is academically rigorous and there are more applicants than available seats. Therefore, admission is on a selective, not first -come, first-served basis. The selection process will focus on the student's past academic performance and the results of the entrance examination. It is recommended that students enroll initially in the First Year Studies program and then apply to this degree.

Individuals who are currently licensed as practical nurses may register for this program without applying for admission by contacting the Admissions Office. Transcripts from the institution where the student graduated in a practical nursing program are required.

Readmission Requirements: Students desiring to be readmitted to the program will follow the same procedures outlined above. Once a student is readmitted, there are additional requirements regarding repetition of previous coursework. A copy of these additional requirements may be obtained from the Practical Nursing Department following readmission. Students are allowed readmission once.

Program Outcomes: Within the scope of Nursing and utilizing the nursing process, the graduate will:

1. Participate in the assessment of the patient's physical and mental health.
2. Contribute to the development and implementation of the health care plan.
3. Communicate with patients, families, and other members of the health care team.
4. Identify legal-ethical issues, and self-limitations in the provision of patient care.
5. Identify ways to become an involved citizen within the community.
6. Engage in additional educational opportunities offered that will enhance growth.
7. Care for and respect patients regardless of cultural, racial, and socioeconomic differences.
8. Display dependability, cooperativeness, and initiative with peers, instructors and clinical staff.
9. Demonstrate safety, competence, and achievement in the discipline of Practical Nursing.
10. Demonstrate the necessary knowledge and skills to function as a novice in the care of all patients across the life span.

Program Requirements: To receive the Associate of Applied Science Degree in Health Science with a Specialization in Practical Nursing, students must complete 64-65 credits with a grade point average of 2.00 or better. In order to advance to the next semester, you must earn a grade of "C" or better in all course work. You must also demonstrate satisfactory attendance and performance in nursing clinical areas.

			Lecture Hours	Lab Hours	Course Credits
First Year					
Fall Semester					
NUR	100	Introduction to Nursing	1	0	1
MTH	126	Math for Allied Health	3	0	3
BIO	141	Human Anat. & Phys. I	3	3	4
HLT	141	Terminology	2	0	2
PNE	173	Pharmacology for PN	2	0	2
PNE	161	Nursing in Health Changes I	4	6	
Total			—	—	**18**

Spring Semester

PNE	162	Nursing in Health Changes II	5	15	10
PNE	174	Applied Pharmacology	0	6	2
BIO	142	Human Anat. & Phys. II	3	3	4
PNE	158	Mental Hlth. & Psy. Nursing	1	0	1
Total			—	—	**17**

Second Year

Fall Semester

PNE	163	Nursing in Health Changes III	4	15	9
PNE	135	Maternal Child	4	3	5
PNE	145	Trends	1	0	1
Approved Elective			3	0	3
Total			—	—	**18**

Spring Semester

HUM		Humanities Elective	3	0	3
PSY	230	Developmental Psychology	3	0	3
HLT	130	Nutrition and Diet Therapy or			
HLT	230	Principles of Nutrition and Human Development	2-3	0	2-3
ENG	111	College Composition I	3	0	3
Total			—	—	**11-12**

Total Minimum Credits for the Associate of Applied Science Degree in Health Science -- Practical Nursing Specialization..... 64-65

Information Systems Technology

Award: ASSOCIATE OF APPLIED SCIENCE

Length: A full-time student may complete this program in four semesters.

Purpose: Persons seeking initial employment in an Information Systems Technology position or those who are seeking advancement will benefit from these programs. In addition, those who are preparing for certification examinations will find the courses in these programs beneficial as well. With four specializations offered under the Information Systems Technology programs of study, students are given the opportunity to select a specialization that will meet their occupational objectives.

Occupational Objectives: The following occupational titles represent examples of possible employment opportunities:

- Game Programmer
- Mobile Application Designer
- Data Communications Specialist
- Data Miner
- Mobile Application Developer
- Network Administrator
- Network Engineer
- Network Support Specialist
- PC Support Technician
- Programmer
- Technical Game Designer
- Technical/Software Support Specialist

Admission Requirements: In addition to the admission requirements established for the College, entry into this program requires completion of four units of high school English and one unit of college preparatory high school algebra. If you meet the general admission requirements, a counselor will discuss with you the strengths and weaknesses of your academic background and your strengths and weaknesses as revealed by an appropriate placement test. You may correct any deficiencies in your academic preparation in the College's Developmental Studies program.

Program Description: Designed for completion in two years, all specializations of the Information Systems Technology Program combine instruction in critical areas related to successful career advancement within the Information Systems Technology area.

The Computer Programming Specialization includes technical programming courses, courses in related areas, and general education. Instruction includes both the theoretical concepts and practical applications needed for success in Information Systems Technology. "Hands on" training in an interactive setting is achieved through exercises and programming assignments. You are urged to consult with the Counseling Office and your faculty advisor in planning your program.

The Gaming and Mobile Application Developement Specialization includes courses which provide an emphasis on designing, creating and maintaining programs related to gaming, simulation and mobile applications. Courses provide instruction in game design and development using various languages and programming environments. The students will also experience writing programs for mobile applications using languages related to the newest cell phones on the market. Students will see the benefits of programming for training through applications for simulation.

The Networking Specialization Program includes courses which provide an emphasis on designing, creating and maintain local area networks and wide area networks. These courses provide instruction in Software Management, Voice Telephony Services, Switches, Firewalls, Routers, Servers, Workstations, and Virtualization Technologies. The Virtualization courses include VMware ICM, O&S, Virtual Desktop Infrastructure, Hyper-V, and SAN and NAS Storage Technologies all of which are an integral part of the curriculum and designed for student success. Through all of these courses, students will learn how to operate the newest networking equipment and software available today that will prepare them for numerous employment opportunities in the field of Information Technology.

The PC Technology Specialization includes courses in microcomputer software and systems applications. The program offers technical courses in microcomputer software and operations, courses in related areas, and in general education. Instruction includes both the theoretical concepts and practical applications needed for success using microcomputers. "Hands on" training in an interactive setting is achieved through exercises and assignments.

Program Requirements: To receive the Associate of Applied Science Degree, you must have a grade point average of 2.00 or better and a minimum of 65 credits for Computer Programming and Gaming and Mobile Application Development, and 66 credits for PC Technology and Networking Specializations. The following outlines represent a typical order of courses taken by full-time day students. Part -time and/or evening students may take courses in any desired order except for sequenced courses or courses requiring prerequisites.

Program Outcomes: Upon successful completion of the Information Technology programs at DCC, the student will:

1. Demonstrate proficiency in the fundamental information technology skills required to provide user support in business.
2. Implement and maintain computer-based information systems to support the decision-making function of management.
3. Apply analytical and problem solving skills for typical computer system designs, planning, implementation and support.
4. Design, code, test, debug, and document code for programs and other software needed for computer system implementation and maintenance.
5. Apply current industry standards, protocols, and techniques; and keep up with evolving technology to maintain professional proficiency.
6. Use vendor supplied instructional material and testing tools leading towards certification.

Information Systems Technology – Computer Programming Specialization

			Lecture Hours	Lab Hours	Course Credits
First Semester					
AST	114	[1]Keyboarding for Computer Usage	2	0	2
BUS	100	Introduction to Business	3	0	3
ENG	131	Technical Report Writing	3	0	3
ITE	115	Introduction to Computer Applications & Concepts	3	0	3
ITP	100	Software Design	3	0	3
MTH	121	Fundamentals of Math I or Approved MTH Elective	3	0	3
SDV	100	College Success Skills	1	0	1
Total			**18**	**0**	**18**
Second Semester					
ACC	111	Accounting I	3	0	3
ECO	120	Survey of Economics	3	0	3
HUM		Humanities Elective	3	0	3
ITD	134	PL/SQL or			
ITP	136	C# Programming I	4	0	4
ITE	150	Desktop Database Software	4	0	4
Total			**17**	**0**	**17**
Third Semester					
BUS	220	Introduction to Business Statistics	3	0	3
HLT/PED		Elective	0	2	1
ITE	221	OS Architecture and Design	3	0	3
ITP	112	Visual Basic.Net I	4	0	4
ITP	120	Java Programming I	4	0	4
Total			**14**	**2**	**15**
Fourth Semester					
BUS	236	Communications in Management	3	0	3
ITN	102	Introduction to Networked Client OS	3	2	4
ITP	212	Visual Basic. NET II	4	0	4
ITP	220	Java Programming II	4	0	4
Total			**14**	**2**	**15**

Total Minimum Credits for the Associate of Applied Science Degree in Information Systems Technology – Computer Programming Specialization.....65

[1]Students having prior keyboarding may request testing out.

Information Systems Technology – Gaming and Mobile Application Development Specialization

			Lecture Hours	Lab Hours	Course Credits
First Semester					
AST	114	[1]Keyboarding for Computer Usage	2	0	2
ITE	115	Introduction to Computer Applications & Concepts	3	0	3
ITP	100	Software Design	3	0	3
ITP	160	Intro. to Game Design & Dev.	3	0	3
MTH	121	Fundamentals of Math I or Approved Math Elective	3	0	3
SDV	100	College Success Skills	1	0	1
Total			**15**	**0**	**15**
Second Semester					
ART	180	Intro. to Computer Graphics or approved graphics course	3	0	3
ECO	120	Survey of Economics	3	0	3
ITP	224	Mobile Java ME – Programming	4	0	4
ITN	102	Intro to Networked Client OS	3	2	4
ITP	165	Gaming and Simulation	3	0	3
Total			**16**	**2**	**17**
Third Semester					
ENG	131	Technical Report Writing	3	0	3
HLT/PED		Elective	0	2	1
ITE	150	Desktop Database Software	4	0	4
ITP	120	Java Programming I	4	0	4
HUM		Humanities Elective	3	0	3
Total			**14**	**2**	**15**
Fourth Semester					
BUS	100	Introduction to Business	3	0	3
BUS	236	Communication in Management	3	0	3
ITD	120	Design Concepts for Mobile Applications	4	0	4
ITP	214	Windows Mobile Development	4	0	4
ITP	265	App. of Modeling & Simulation	4	0	4
Total			**18**	**0**	**18**

Total Minimum Credits for the Associate of Applied Science Degree in Information Systems Technology – Gaming and Mobile Application Development Specialization.....65

[1]Students having prior keyboarding may request testing out.

Information Systems Technology – Networking Specialization

			Lecture Hours	Lab Hours	Course Credits
First Semester					
AST	114	[1]Keyboarding for Comp. Usage	2	0	2
BUS	100	Introduction to Business	3	0	3
ITE	221	OS Architecture and Design	3	0	3
ITN	154	CISCO I	3	2	4
MTH	121	Fundamentals of Math I or Approved Math Elective	3	0	3
SDV	100	College Success Skills	1	0	1
Total			**15**	**2**	**16**
Second Semester					
ACC	111	Accounting I	3	0	3
BUS	236	Comm. in Management	3	0	3
ECO	120	Survey of Economics	3	0	3
ITN	102	Introduction to Networked Client OS	3	2	4
ITN	155	CISCO II	3	2	4
Total			**15**	**4**	**17**
Third Semester					
ENG	131	Technical Report Writing	3	0	3
ETR	115	D.C. and A.C. Fundamentals	3	0	3
HLT/PED		Elective	0	2	1
HUM		Elective	3	0	3
ITN	103	Administration of Networked Servers	3	2	4
ITN	156	CISCO III	3	2	4
Total			**15**	**6**	**18**
Fourth Semester					
ETR	149	PC Repair	3	0	3
ITN	104	Maintaining Servers in the Networked Infrastructure	3	2	4
ITN	157	CISCO IV	3	2	4
ITN	209	Introduction to Voice Over IP	4	0	4
Total			**13**	**4**	**15**

Total Minimum Credits for the Associate of Applied Science Degree in Information Systems Technology – Network Specialization.....66

[1]Students having prior keyboarding may request testing out.

Information Systems Technology – PC Technology Specialization

			Lecture Hours	Lab Hours	Course Credits
First Semester					
AST	114	[1]Keyboarding for Comp. Usage	2	0	2
BUS	100	Introduction to Business	3	0	3
ENG	131	Technical Report Writing	3	0	3
ITE	115	Introduction to Computer Applications & Concepts	3	0	3
ITX		IT Elective	3	0	3
MTH	121	Fundamentals of Math I or Approved Math Elective	3	0	3
SDV	100	College Success Skills	1	0	1
Total			**18**	**0**	**18**
Second Semester					
ACC	111	Accounting I	3	0	3
ITX		IT Elective	3	0	3
BUS	236	Communications in Management	3	0	3
HLT/PED		Elective	0	2	1
ITE	140	Spreadsheet Software	3	0	3
ITP	100	Software Design or IT Elective	3	0	3
Total			**15**	**2**	**16**
Third Semester					
ACC	110	Peachtree Accounting	2	0	2
BUS	220	Introduction to Business Statistics	3	0	3
HUM		Elective	3	0	3
ITE	221	OS Architecture and Design	3	0	3
ITP	112	Visual Basic.NET I	4	0	4
Total			**15**	**0**	**15**
Fourth Semester					
ITX		IT Elective	3	0	3
ECO	120	Survey of Economics	3	0	3
ETR	149	PC Repair	3	0	3
ITE	150	Desktop Database Software	4	0	4
ITN	102	Introduction to Networked Client OS	3	2	4
Total			**16**	**2**	**17**

Total Minimum Credits for the Associate of Applied Science Degree in Information Systems Technology – PC Technology Specialization.....66

[1]Students having prior keyboarding may request testing out.

Marketing – Marketing Specialization

Award: ASSOCIATE OF APPLIED SCIENCE

Length: A full-time student may complete this program in four semesters.

Purpose: The Marketing program is designed for students who are preparing for full-time employment in merchandising, retailing or related marketing occupations. Persons seeking initial employment in Marketing or those already employed in Marketing and seeking advancement may benefit from this program.

Occupational Objectives: The following occupational titles represent examples of possible employment opportunities:

Sales Representative
Buyer/Assistant Buyer
Manager/Manager Trainee
Department Manager
Real Estate/Insurance Sales
Small Business Management/Owner
Other Related Marketing Occupations

Admission Requirements: In addition to the admission requirements established for the College, entry into this program requires completion of four units of high school English and one unit of high school mathematics. If you meet the general admission requirements, a counselor will discuss with you the strengths and weaknesses of your academic background as well as your strengths and weaknesses as revealed by an appropriate placement test. You may correct any deficiencies in academic preparation in the College's Developmental Studies program.

Program Description: The program includes technical courses in marketing, related business courses and general education courses. Instruction will include both the theoretical concepts and practical applications needed for further success in Marketing. You are urged to consult with the Counseling Office and a faculty advisor in planning your program and selecting electives. Upon satisfactory completion of the program, you will be awarded the Associate of Applied Science Degree in Marketing.

DCC is accredited by Alpha Beta Gamma International Business Honor Society to initiate members into the honor society for business and related disciplines. For more information about the society, refer to http://www.abg.org.

Program Outcomes: DCC Marketing – Marketing Specialization graduates will demonstrate the ability to:

1. understand the role and practice of marketing within an organization, including theoretical and applied aspects of the marketing discipline;
2. demonstrate competency in presentation skills including organization, eye-contact, volume, pacing, and visual aids (i.e., PowerPoint);
3. apply a wide variety of computer software skills to business communication media such as written reports and business plans using word processing software and business presentations using presentation software;
4. perform and interpret basic business math calculations (e.g., mark-ups, interest rates, ratios, etc.) and business accounting principles, basic financial reports and book keeping fundamentals;
5. create marketing strategies and plans that utilize elements of the marketing mix, product mix, and/or media mix;
6. analyze marketing problems and issues facing companies and organizations and conceptualize possible alternative solution action plans;
7. understand the basic concepts associated with business ethics and the importance of developing and adhering to a strong set of generally-accepted ethical principles;
8. demonstrate basic principles of human relationship skills which can be used to successfully interrelate with customers, associates, employees, and superiors in a business setting;
9. understand basic economics, various economic systems, legal and regulatory requirements for business and industry and their impact on business; and
10. apply the strategic principles of selling to consumer buying behavior and marketing decisions as it relates to the marketing goals and objectives.

Program Requirements: To receive the Associate of Applied Science Degree in Marketing you will need to complete 66 credits with a grade point average of 2.00 or better. The following outline represents a typical order of courses taken by full-time students.

			Lecture Hours	Lab Hours	Course Credits
First Semester					
AST	117	Keyboarding for Computer Usage	1	0	1
BUS	100	Introduction to Business	3	0	3
BUS	121	Business Mathematics I	3	0	3
ENG	111	College Composition I	3	0	3
ITE	115	Introduction to Computer Applications & Concepts	3	0	3
MKT	100	Principles of Marketing	3	0	3
SDV	100	College Success Skills	1	0	1
Total			**17**	**0**	**17**
Second Semester					
BUS	111	Principles of Supervision I	3	0	3
BUS	122	Business Mathematics II	3	0	3
ITE	215	Adv. Computer App. & Integration	4	0	4
MKT	110	Principles of Selling	3	0	3
BUS	236	Communication in Management	3	0	3
Total			**16**	**0**	**16**
Third Semester					
ACC	111	Accounting I	3	0	3
BIO/NAS or MTH		Science or Math Elective	3	0	3
ECO	120	Survey of Economics	3	0	3
HLT/PED		Health/Physical Education	0	2	1
MKT	216	Retail Organization & Management	3	0	3
MKT	228	Promotion	3	0	3
Total			**15**	**2**	**16**
Fourth Semester					
ACC	110	Introduction to Computerized Accounting	2	0	2
BUS	149	Workplace Ethics	1	0	1
BUS	295	Topics in Business	1	0	1
HUM		Humanities Elective	3	0	3
MKT	170	Customer Service	1	0	1
MKT	227	Merchandise Buying & Control	3	0	3
MKT	298	Seminar & Project or			
MKT	297	Cooperative Education	3	0	3
MKT	281	Principles of Internet Marketing	3	0	3
Total			**17**	**0**	**17**

Total Minimum Credits for the Associate of Applied Science Degree in Marketing.....66

Marketing –
Warehousing and Distribution Specialization

Award: ASSOCIATE OF APPLIED SCIENCE

Length: A full-time student may complete this program in four semesters.

Purpose: The Marketing – Warehousing and Distribution Specialization program is designed for students who are preparing for full-time employment in a career field involving the care and control of stock, dispatching goods and materials, and assembling bulk orders for distribution. Persons seeking initial employment in marketing, warehousing and/or distribution of goods and services or those already employed in these fields and seeking advancement may benefit from this program.

Occupational Objectives: The following occupational titles represent examples of possible employment opportunities:

Shipping
Receiving
Logistics/Traffic
Warehouse Manager/Manager Trainee
Department Manager
Purchasing
Other Related Marketing Occupations

Admission Requirements: In addition to the admission requirements established for the College, entry into this program requires completion of four units of high school English and one unit of high school mathematics. If you meet the general admission requirements, a counselor will discuss with you the strengths and weaknesses of your academic background as well as your strengths and weaknesses as revealed by an appropriate placement test. You may correct any deficiencies in academic preparation in the College's Developmental Studies program.

Program Description: The program includes technical courses in marketing, related business courses and general education courses. Instruction will include both the theoretical concepts and practical applications needed for further success in Marketing. You are urged to consult with the Counseling Office and a faculty advisor in planning your program and selecting electives. Upon satisfactory completion of the program, you will be awarded the Associate of Applied Science Degree (AAS) in Marketing with a Warehousing and Distribution Specialization.

Program Outcomes: DCC Marketing – Warehousing and Distribution Specialization graduates will demonstrate the ability to:

1. understand the role and practice of marketing within an organization, including theoretical and applied aspects of the marketing discipline;
2. demonstrate competency in presentation skills including organization, eye-contact, volume, pacing, and visual aids (i.e., PowerPoint);
3. apply a wide variety of computer software skills to business communication media such as written reports and business plans using word processing software and business presentations using presentation software;
4. perform and interpret basic business math calculations (e.g., mark-ups, interest rates, ratios, etc.) and business accounting principles, basic financial reports and book keeping fundamentals;
5. think logically and analytically in proposing plans and creating strategies that may be considered in complex warehousing and logistics issues facing organizations;
6. recognize and evaluate the components of a warehousing and logistics organization including layout, material handling, communications, shipping utilities, and building design;
7. understand the basic concepts associated with business ethics and the importance of developing and adhering to a strong set of generally-accepted ethical principles;
8. demonstrate basic principles of human relationship skills which can be used to successfully interrelate with customers, associates, employees, and superiors in a business setting;
9. understand basic economics, various economic systems, legal and regulatory requirements for business and industry and their impact on business; and
10. understand the concepts necessary to address warehouse and logistics trade-offs between space and time in optimizing a modern warehousing and logistics organization while recognizing the social and ethical responsibilities within an organization to function effectively in the environment.

Program Requirements: To receive the Associate of Applied Science Degree in Marketing with a Warehousing and Distribution Specialization, you will need to complete 66 credits with a grade point average of 2.00 or better. The following outline represents a typical order of courses taken by full-time students.

			Lecture Hours	Lab Hours	Course Credits
First Semester					
AST	117	Keyboarding for Computer Usage	1	0	1
BUS	100	Introduction to Business	3	0	3
BUS	121	Business Mathematics I	3	0	3
ENG	111	College Composition I	3	0	3
ITE	115	Introduction to Computer Applications & Concepts	3	0	3
MKT	100	Principles of Marketing	3	0	3
SDV	100	College Success Skills	1	0	1
Total			**17**	**0**	**17**
Second Semester					
BUS	111	Principles of Supervision I	3	0	3
BUS	122	Business Mathematics II	3	0	3
ITE	215	Adv. Computer App. & Integration	4	0	4
MKT	110	Principles of Selling	3	0	3
BUS	236	Communication in Management	3	0	3
Total			**16**	**0**	**16**
Third Semester					
ACC	111	Accounting I	3	0	3
BIO/NAS or MTH		Science or Math Elective	3	0	3
BUS	223	Distribution & Transportation	3	0	3
ECO	120	Survey of Economics	3	0	3
HLT/PED		Health/Physical Education	0	2	1
MKT	216	Retail Organization & Management	3	0	3
Total			**15**	**2**	**16**
Fourth Semester					
ACC	110	Introduction to Computerized Accounting	2	0	2
BUS	149	Workplace Ethics	1	0	1
BUS	255	Inventory & Warehouse Management	3	0	3
BUS	295	Topics in Business	1	0	1
HUM		Humanities Elective	3	0	3
MKT	170	Customer Service	1	0	1
MKT	227	Merchandise Buying & Control	3	0	3
MKT	298	Seminar & Project or			
MKT	297	Cooperative Education	3	0	3
Total			**17**	**0**	**17**

Total Minimum Credits for the Associate of Applied Science Degree in Marketing with a Warehousing and Distribution Specialization.....66

Marketing –
Electronic Commerce Specialization

Award: ASSOCIATE OF APPLIED SCIENCE

Length: A full-time student may complete this program in four semesters. This program is also offered online.

Purpose: The Marketing – Electronic Commerce Specialization program is designed for students who are interested in employment in the fields of Web design and Internet marketing in business-to-business (B2B) and business-to-consumer (B2C) transactions. This degree program is a blend of business, marketing, and information technology courses. Persons seeking initial employment in the electronic commerce field or already employed in a related area and seeking advancement may benefit from this program.

Occupational Objectives: Students completing the marketing degree with a concentration in electronic commerce will have the skills needed to take a leadership role in the development and/or management of electronic commerce activities in a variety of workplace settings. In addition to being trained specifically in electronic commerce, graduates of this program will be prepared for possible employment opportunities in a variety of management and marketing positions. The following occupational titles represent examples of possible employment opportunities for graduates with an electronic commerce specialization:

Web Designer / Developer
Sales Representative
E-Business Account Manager
Management Trainee
Internet Service Provider
Department Manager
Web Sales Support Coordinator
Direct Marketer
Administrative Assistant
Internet Entrepreneur
Web Site Development and Maintenance Specialist
Production Supervisor
Internet Marketer/Search Engine Optimization
Small Business Owner/Manager
Other Related E-Commerce Occupations
Other Related Marketing Occupations Office Manager

Admission Requirements: In addition to the requirements established for the College, entry into this program requires completion of four units of high school English and one unit of high school mathematics. If you meet the general admission requirements, a counselor will discuss with you the strengths and weaknesses of your academic background and your strengths and weaknesses as revealed by an appropriate placement test. You may correct any deficiencies in academic preparation in the College's Developmental Studies program.

Program Description: The program includes technical courses in marketing, information technology, business management, and general education courses. Instruction will include both theoretical concepts and practical applications needed for further success in marketing and e -commerce. You are urged to consult with the counseling office to plan your program. Since this program has several elective courses, you must work with your academic advisor in planning your program and selecting electives. Upon satisfactory completion of the program, you will be awarded the Associate of Applied Science Degree (AAS) in Marketing with an Electronic Commerce Specialization.

Program Outcomes: DCC Marketing—Electronic Commerce Specialization graduates will demonstrate the ability to:

1. understand the role and practice of marketing within an organization, including theoretical and applied aspects of the marketing discipline;
2. utilize industry standard computer software products in business communication media such as written reports and business plans using word processing software (i.e., Microsoft Word) and business presentations using presentation software (i.e., Microsoft PowerPoint);
3. perform and interpret basic business math calculations (e.g. mark-ups, interest rates, ratios, etc.) and business accounting principles, basic financial reports and book keeping fundamentals;
4. understand the basic concepts associated with business ethics and the importance of developing and adhering to a strong set of generally-accepted ethical principles, particularly the rapidly-developing area of Internet ethics;
5. demonstrate basic principles of human relationship skills which can be used to successfully interrelate with customers, associates, employees, and superiors in an electronic commerce setting;
6. understand basic economics, various economic systems, legal and regulatory requirements for business and industry and their impact on business;
7. create, develop, and update attractive, fully-functional web pages using HTML;
8. create, develop, and update attractive, fully-functional web pages using a variety of industry standard web editing software products (i.e., Microsoft Expression, Dreamweaver, etc.);
9. understand the basics of web programming (i.e., Java), electronic payment systems, and back-end applications (i.e., Microsoft Access); and
10. understand how electronic commerce strategies and web design techniques fit into an organization's overall marketing plan.

Program Requirements: To receive the Associate of Applied Science Degree in Marketing with an Electronic Commerce Specialization, you will need to complete 66 credits with a grade point average of 2.00 or better. The following outline represents a typical order of courses taken by full-time students.

			Lecture Hours	Lab Hours	Course Credits
First Semester					
AST	117	Keyboarding for Computer Usage	1	0	1
BUS	100	Introduction to Business	3	0	3
BUS	121	Business Mathematics I	3	0	3
ENG	111	College Composition I	3	0	3
ITE	115	Introduction to Computer Applications and Concepts	3	0	3
MKT	100	Principles of Marketing	3	0	3
SDV	100	College Success Skills	1	0	1
Total			**17**	**0**	**17**
Second Semester					
BUS	111	Principles of Supervision I	3	0	3
ITD	110	Web Design I	3	0	3
ECO	120	Survey of Economics	3	0	3
Elective		E-Commerce Elective*	3	0	3
HLT/PED		Health/Physical Education	0	2	1
MKT	281	Principles of Internet Marketing	3	0	3
Total			**15**	**2**	**16**
Third Semester					
ACC	111	Accounting I	3	0	3
BIO/NAS or MTH		Science or Math Elective	3	0	3
MKT	216	Retail Organization & Management	3	0	3
Elective		E-Commerce Elective*	3	0	3
Elective		E-Commerce Elective*	3	0	3
MKT	228	Promotion	3	0	3
Total			**18**	**0**	**18**

Fourth Semester

BUS	149	Workplace Ethics	1	0	1
BUS	295	Topics in Business	1	0	1
Elective		E-Commerce Elective*	3	0	3
HUM		Humanities Elective	3	0	3
MKT	110	Principles of Selling	3	0	3
MKT	170	Customer Service	1	0	1
MKT	297	Cooperative Education or			
MKT	298	Seminar & Project	3	0	3
Total			**15**	**0**	**15**

Total Minimum Credits for the Associate of Applied Science Degree in Marketing with an Electronic Commerce Specialization..... 66

**E-Commerce Electives: With approval of their advisor, students will be allowed to select from the following classes as long as the prerequisite course(s) have already been taken:*

Number	*Course Title*	*Prerequisite(s)*
ITE 195	*Expression Web 2 or*	
ITE 195	*Dreamweaver*	*ITE 115*
ENG 123	*Writing for the World Wide Web*	*ENG 111 or 115*
ITD 112	*Designing Web Page Graphics*	*ITD 110*
ITD 210	*Web Page Design II*	*ITD 110*
ITD 212	*Interactive Web Design*	*ITD 110*
ITE 130	*Intro to Internet Services*	*None*
ITE 150	*Desk Top Database Software*	*ITE 115*
ITE 182	*User Support / Help Desk Principles*	*ITE 115*
ITP 100	*Software Design*	*ITE 115*
ITP 140	*Client Side Scripting*	*ITP 100*
MKT 282	*Principles of E-Commerce*	*MKT 100*
ITP 120	*Java Programming*	*ITP 100*
ITP 100	*Software Design*	*ITE 115*
ITD 115	*Web Page Design and Site Management*	*None*
PHT 100	*Introduction to Photography*	*None*
PHT101	*Photography I*	*None*

Medical Laboratory Technology

Award: ASSOCIATE OF APPLIED SCIENCE
(Awarded by J. Sargeant Reynolds Community College)

Danville Community College is a cooperating institution for the J. Sargeant Reynolds Community College (JSRCC) program in Medical Laboratory Technology.

A student may complete this Associate of Applied Science Degree without moving from the Danville area. Like other Allied Health programs, students are admitted to this program after completing certain prerequisite courses and maintaining a grade point average of 2.5. J. Sargeant Reynolds maintains a list of prerequisite classes for this program on its website (www.jsr.vccs.edu). Please go to the Pre-Nursing and Allied Health Certificate page. Danville area residents can meet these requirements by enrolling in the First Year Studies certificate and taking these courses in Danville.

The J. Sargeant Reynolds Community College Associate of Applied Science Degree in Medical Laboratory Technology is as follows. Please contact the Division of Arts and Sciences at 434.797.8402 for more information about this program and its requirements.

Program Outcomes: The educational experiences in the JSRCC Medical Laboratory Technology Program are designed to ensure that students are well prepared to enter the profession of Medical Laboratory Technology and continue to learn throughout their professional career. At career entry, the MLT will be proficient in performing a wide range of tests in areas such as hematology, clinical chemistry, immunohematology, microbiology, serology/ immunology, coagulation and urinalysis. At the completion of the JSRCC program, students will be able to:

1. Comply with all standard safety regulations and monitor changes in safety regulations.
2. Perform and evaluate pre-analytical, analytical, and post-analytical procedures to ensure the quality of laboratory results.
3. Perform laboratory tests, analyze and verify results, and resolve common problems in all the major areas of the clinical laboratories.
4. Obtain acceptable blood and body fluid samples for laboratory tests using standard phlebotomy and collection procedures.
5. Use quality assurance principles and practices to ensure the accuracy and reliability of laboratory information.
6. Perform preventative and corrective maintenance of equipment and instruments.
7. Communicate effectively, both orally and in writing, with laboratory personnel, other health care professionals, patients and the public.
8. Demonstrate professional conduct and interpersonal skills with patients, laboratory personnel, other health care professionals and the public.

			Lecture Hours	Lab Hours	Course Credits
First Semester					
*SDV	100	College Success Skills	1	0	1
*MTH 120		[1]Intro. to Mathematics or	3	0	3
*MTH 163		[1]Precalculus			
*CHM 101		[2]General Chemistry I or			
*CHM 111		[2]College Chemistry I	3	3	4
*BIO	101	General Biology I	3	3	4
*ENG 111		College Composition I	3	0	3
*SOC		[3]Social/Behavioral Science Elective	3	0	3
Total			**16**	**6**	**18**
Second Semester					
*ITE	115	Introduction to Computer Applications & Concepts	3	0	3
*ENG 112		College Composition II	3	0	3
MDL	101	Intro to Med. Lab. Techniques	2	3	3
*HUM		[3]Humanities/Fine Arts Elective	3	0	3
*HLT		[3]Personal Wellness Elective	0-2	0-4	2
MDL	110	Urinalysis and Body Fluids	2	3	2
Total			**13-15**	**6-10**	**17**
Third Semester					
MDL	125	[4]Clinical Hematology I	2	3	3
MDL	190	Coordinated Internship I-MLT Phlebotomy	0	8	2
MDL	210	Immunology & Serology	2	3	3
MDL	251	[4]Clinical Microbiology I	2	4	3
Total			**6**	**18**	**11**
Fourth Semester					
MDL	216	[5]Blood Banking	2	6	4
MDL	225	[6]Clinical Hematology II	2	3	3
MDL	252	[6]Clinical Microbiology II	2	3	3
MDL	262	[7]Clinical Chemistry & Instrumentation II	3	3	4
Total			**9**	**15**	**14**
Fifth Semester					
MDL	190	[8]Coordinated Internship II	0	12	3
MDL	290	[8]Coordinated Internship IV	0	12	3
MDL	282	[8]Clinical Laboratory Techniques - Coordinated Internship III	0	12	3
MDL	281	Clinical Correlations (online course)	1	0	1
Total			**1**	**36**	**10**

Total Minimum Credits for the Associate of Applied Science Degree in Medical Laboratory Technology.....70

This course may be taken through DCC's First Year Studies program.

[1]MTH 120 meets the graduation requirement for the AAS degree in Medical Laboratory Technology. Students planning to pursue a four-year degree should take MTH 163.

[2]CHM 101 meets the graduation requirement for the AAS degree in Medical Laboratory Technology. Students planning to pursue a four-year degree should take CHM 111.

[3]A list of approved general education electives (humanities/fine arts, social/behavioral science, mathematics, science and personal wellness) is provided in the General Education section of the J. Sargeant Reynolds catalog under Curriculum Planning and Design.

[4]This course is offered only in the spring term.

[5]MDL 210 is a prerequisite or co-requisite for MDL 216.

[6]This course is offered only in the fall term.

[7]CHM 101 or CHM 111 is a prerequisite or co-requisite for MDL 262.

[8]The last semester is a 13-16 week clinical rotation at a local hospital or clinic.

Nursing

Award: ASSOCIATE OF APPLIED SCIENCE

Length: A full-time student may complete this program in five semesters.

Purpose: The Nursing program at DCC is designed to prepare students for careers as registered nurses. This degree should be chosen by students who wish to work in a variety of occupations where the skills and knowledge of the registered nurse are either required or desirable, including direct patient care, healthcare management and supervision, and health education. Upon successful completion of the program, students will be eligible to take the National Licensure Examination leading to licensure as a Registered Nurse (RN).

Occupational Objectives: Opportunities for the Registered Nurse include employment as clinicians, supervisors or educators in colleges, hospitals, clinics, industry, adult homes, day care centers and schools, doctor's offices, and home health companies.

Prerequisites/Admission Requirements:

1. All students must have a high school diploma or GED.
2. Students must have completed all developmental course work prior to admission.
3. All students must have completed ENG 111 or equivalent with a grade of "C" or higher.
4. All students must have completed MTH 126 or equivalent with a grade of "C" or higher.
5. MTH 126 should be taken within one year prior to Nursing Program admission.
6. All students must have completed at least eight (8) semester hours of anatomy and physiology or equivalent. In addition, classes must be equivalent in content with BIO 231 and BIO 232 on the DCC campus. BIO must be a 200 level class in the VCCS system.
7. All anatomy and physiology courses must be taken within 10 years or less.
8. All students will be assessed for admission based on quantitative selection criteria involving GPA, previous degree completion, grades in prerequisite classes and number of attempts for a class, which include withdrawals. For more information, please contact the nursing department.
9. No student will be considered for admission who has previously failed to complete any allied health program two or more times for academic reasons.
10. Students must successfully complete a nursing entrance examination.
11. Students must complete all prerequisite courses with a "C" or higher by the third attempt for a course.
12. If accepted into the program, the student will be responsible for obtaining a physical exam, malpractice insurance and a criminal background check, all expenses to be incurred by the student.
13. Certain criminal convictions may prevent licensure as a nurse or certification as a nurse aide in Virginia. Criminal convictions may also prohibit employ-ment in certain health care settings. Students convicted of any felony or any misdemeanor involving moral turpitude/barrier crimes do not qualify for the Nursing Program at DCC. The clinical facilities will not allow students to complete clinical hours and students will not be able to meet the Virginia Board of Nursing requirements of direct clinical hours, nor meet the credit requirement for graduation. Any student entering the program who has committed illegal offenses other than minor traffic violations should discuss these matters with the program head for clarification.

Readmission Requirements and Bridge Students:

Students seeking readmission should contact Tammy McKinney, Program Coordinator for Nursing, at 434.797.8416 or 434.797.8512.

Program Outcomes: The graduate will:

1. Incorporate values and principles obtained from the nursing curriculum to provide competent care to clients across the lifespan as a novice nurse.
2. Assess, plan, implement and evaluate individualized care plans.
3. Integrate physical, spiritual, cultural and ethnically sensitive care in the role as a nurse.
4. Use current and emerging technology in providing patient care.
5. Demonstrate critical thinking skills through the nursing process.
6. Use cognitive, psychomotor, and affective skills in providing patient care.
7. Pass the National Council of State Boards of Nursing NCLEX-RN exam to practice as a novice nurse.

Program Requirements: To receive the Associate of Applied Science Degree in Nursing, students must complete 66 credit hours with a 2.50 GPA or better. In addition, students must pass all courses with at least a C. Attendance and satisfactory performance in clinical portions of each class is mandatory.

			Lecture Hours	Lab Hours	Course Credits
First Semester					
NUR	111	Nursing I	5	6	7
NUR	100	Introduction to Nursing	1	0	1
NUR	226	Health Assessment	2	3	3
BIO	231	Human Anatomy & Physiology I*	3	3	4
MTH	126	Mathematics for Allied Health	3	0	2-3
Total					**17**
Second Semester					
NUR	112	Nursing II	4	12	8
NUR	230	Pharmacology	3	0	3
BIO	232	Human Anatomy & Physiology II	3	3	4
ENG	111	College Composition I	3	0	3
Total					**18**
Third Semester					
NUR	202	Medical/Surgical Nursing I	2	6	4
Total					**4**
Fourth Semester					
NUR	245	Maternal/Newborn Nursing	2	3	3
NUR	246	Parent/Child Nursing	2	3	3
PSY	230	Developmental Psychology	3	0	3
HLT	XXX	Approved Health Elective	2	0	2
Total					**11**
Fifth Semester					
NUR	208	Acute Medical Surgical Nursing	[3]	6	5
NUR	247	Psychiatric/Mental Health Nursing	[2]	3	3
NUR	254	Dimensions of Professional Nursing	[2]	0	2
HUM	XXX	Humanities Elective	[3]	0	3
SOC	XXX	Approved Sociology Elective	[3]	0	3
Total					**16**
Total Minimum Credits for the Associate of Applied Science Degree in Nursing					**66**

** BIO 101 General Biology I or BIO 1 need to be taken as a prerequisite if unable to pass the BIO 231 entrance test.*

Radiologic Technology*

**pending approval*

Award: ASSOCIATE OF APPLIED SCIENCE
The AAS degree in Radiologic Technology is offered in cooperation with Danville Regional Medical Center's Certificate program in Radiologic Technology.

Length: A full-time student may complete this program in six semesters, which includes two summer semesters.

Purpose: The Radiologic Technology program at DCC is designed to prepare students for careers as Registered Radiologic Technologists. This degree should be chosen by students who wish to work in the health care field, who are geared toward technology and those who might have a desire to later continue their education in a multitude of various imaging modalities and subspecialties. Upon successful completion of this program, graduates will be eligible to sit for the American Registry of Radiologic Technologists (ARRT) certification exam.

Occupational Objectives: Opportunities for Radiologic Technologists include employment as clinicians in hospitals, imaging centers and physician's offices where x-ray equipment is present. Technologists may choose to continue their education in the areas of sonography, nuclear medicine, radiation therapy, interventional radiology and radiologist assistants. Other possibilities are available in education, management, sales and service, and industrial radiography.

Admission Requirements: Radiologic Technology courses are only available to students upon acceptance to the Danville Regional Medical Center program through the admissions process below:

1. All applicants must have a high school diploma or GED.
2. All applicants must have a minimum of two (2) high school math (ALG 1 and higher)
3. All applicants must have a minimum of two (2) high school lab sciences (i.e. Biology, Chemistry, Anatomy or Physics).
4. All applicants must have completed all developmental course work prior to admission.
5. All applicants must have completed BIO 141 or equivalent with a grade of "C" or higher.
6. All applicants must have completed HLT 143 or equivalent with a grade of "C" or higher.
7. All anatomy and physiology courses must have been taken within 10 years or less.
8. All general education courses MUST be taken at DCC. Any courses required for this degree that have been completed at another institution may be accepted. However, said credits in that category must be fulfilled by a comparable substitute class that is approved by DCC.
9. All applicants will be assessed based on quantitative selection criteria involving GPA, previous degree completion , grades in prerequisite and co-requisite courses and number of attempts for class completion, which includes withdrawals. For more information contact the Radiography Program Director.

Program Outcomes: Following completion of the AAS degree in Radiologic Technology, students will be able to:

1. Determine the need to modify standard procedures to accommodate patient condition and other variables
2. Utilize effective critical thinking skills
3. Demonstrate the ability to behave in a compassionate manner
4. Demonstrate positive ethical and professional behavior
5. Demonstrate the ability to provide quality patient care
6. Demonstrate proper positioning skills on the patient
7. Apply the principles of radiation protection to the patient, self and others
8. Correctly make changes to technical factors to compensate for pathology, body habitus and other conditions
9. Recognize emergency patient conditions and initiate appropriate treatments
10. Communicate effectively with the patient prior to and during the procedure
11. Demonstrate effective oral and written communication skills

Program Requirements: To receive the Associate of Applied Science Degree in Radiologic Technology*, students must complete 70 credit hours with a 2.50 GPA or better. In addition, students must pass all courses with a minimum of a "C". Attendance and satisfactory performance in clinical portions of each class is mandatory.

			Lecture Hours	Lab Hours	Course Credits
First Semester					
SDV	100	College Success Skills	1	0	1
BIO	141	Human Anatomy & Physiology I	3	3	4
ENG	111	College Composition I	3	0	3
HLT	143	Medical Terminology I	3	0	3
MTH		Approved Math Elective (MTH 126 or higher)	3	0	3
Total					**14**
Second Semester					
RAD	105	Introduction to Radiology, Protection and Patient Care	3	0	3
RAD	111	Radiologic Science I	3	3	4
RAD	121	Radiographic Procedures I	3	3	4
RAD	131	Elementary Clinical Procedures I	0	16	3
Total					**14**
Third Semester					
		Approved Humanities Elective	3	0	3
RAD	132	Elementary Clinical Procedures II	0	16	3
Total					**6**
Fourth Semester					
RAD	112	Radiologic Science II	3	3	4
RAD	221	Radiographic Procedures II	3	3	4
RAD	231	Advanced Clinical Procedures I	0	24	5
Total					**13**
Fifth Semester					
RAD	205	Radiation Protection and Radiobiology	3	0	3
RAD	215	Correlated Radiographic Theory	1	0	1
RAD	240	Radiographic Pathology	3	0	3
RAD	232	Advanced Clinical Procedures II	0	24	5
Total					**12**
Sixth Semester					
RAD	246	Special Procedures	3	0	3
		Social Science Elective	3	0	3
RAD	290	Coordinated Internship	0	24	5
Total					**11**

Total Minimum Credits for the Associate of Applied Science Degree in Radiologic Technology* 70

**pending approval*

Respiratory Therapy

Award: ASSOCIATE OF APPLIED SCIENCE
(awarded by J. Sargeant Reynolds Community College)

Danville Community College is a cooperating institution for the J. Sargeant Reynolds Community College program in Respiratory Therapy.

A student may complete this Associate of Applied Science Degree without moving from the Danville area. Approximately 30 credits in specified DCC courses must be completed prior to acceptance by JSRCC in the Respiratory Therapy program. After a student is accepted by JSRCC into the program, core courses in RTH are offered in the Danville area via distance learning technology, while clinical experiences are coordinated through area hospitals.

Below is the J. Sargeant Reynolds Community College curriculum for the Associate of Applied Science Degree in Respiratory Therapy. For more details about this program, please call DCC's Division of Arts and Sciences at 434.797.8402.

Program Outcomes: Graduates of the Respiratory Therapy Program will become contributing members of the modern health care team concerned with the treatment, management, and care of patients with breathing, cardiovascular and sleep abnormalities. Graduates of this program will be able to:

1. Obtain and analyze physiologic specimens
2. Interpret physiologic data
3. Perform test and studies of the cardiopulmonary system
4. Administer and monitor mechanical ventilator support
5. Establish and monitor artificial airway care
6. Perform and monitor bronchopulmonary hygiene techniques
7. Administer and monitor pharmacological agents
8. Prescribe and monitor cardiopulmonary rehabilitation
9. Monitor hemodynamic cardiovascular support
10. Administer gas, humidity, aerosol and hyperinflation therapies
11. Demonstrate the ability to comprehend, apply and evaluate critical information relevant to the role of an entry level and advanced practice therapist
12. Demonstrate the technical proficiency in all skills necessary to fulfill the role of an entry-level and advanced practice therapist
13. Demonstrate professional behavior consistent with employer expectations as an entry-level and advanced practice therapist

			Lecture Hours	Lab Hours	Course Credits
First Semester					
RTH	102	Integrated Sciences for Respiratory Care	3	0	3
RTH	110	Fundamental Theory & Procedures for Respiratory Care	2	6	4
RTH	121	Cardiopulmonary Science I	3	0	3
RTH	135	Diagnostic Therapeutic Procedures I	1	3	2
RTH	145	Pharmacology for Respiratory Care I	1	0	1
ENG	111	*College Composition I	3	0	3
SDV	100	*College Success Skills	1	0	1
		*Health or Physical Ed.	0	0	1
Total			**14**	**9**	**18**
Second Semester					
RTH	113	Pathophysiology of the Cardiopulmonary System	3	3	4
RTH	131	Respiratory Care Theory & Procedures I	3	3	4
RTH	190	Coordinated Practice in Respiratory Care	0	20	6
RTH	199	Supervised Study in Respiratory Care	1	0	1
ENG	112	*College Composition I	3	0	3
Total			**10**	**26**	**18**
Third Semester					
RTH	132	Respiratory Care Theory & Procedures II	3	3	4
RTH	222	Cardiopulmonary Science II	3	0	3
RTH	190	Coordinated Practice in Respiratory Care	0	10	3
RTH	215	Pulmonary Rehabilitation	1	0	1
RTH	265	Current Issues in Respiratory Care	2	0	2
NAS	161	Health Science I	3	3	4
Total			**12**	**16**	**17**
Fourth Semester					
RTH	290	Coordinated Practice in Respiratory Care	0	20	6
RTH	299	Supervised Study in Respiratory Care	1	0	1
NAS	162	Health Science II	3	3	4
		*Social Science Elective	3	0	3
		Humanities/Fine Arts Elective	3	0	3
		*Health or Physical Education	0	0	1
Total			**10**	**23**	**18**

Total Minimum Credits for the Associate of Applied Science Degree in Respiratory Therapy..... 71

**Note: Students may prepare for the above program by taking this course while registered in DCC's First Year Studies program. Please contact an academic advisor in the Arts and Sciences Division to discuss this program, 434.797.8402.*

Technical Studies

Award: ASSOCIATE OF APPLIED SCIENCE

Purpose: The State Council for Higher Education in Virginia (SCHEV) has approved an Associate of Applied Science degree in Technical Studies for the Virginia Community College System to respond to the training and employment needs of local and regional industries. The program can be used as a general (or individualized) studies degree to enhance the education and training of current employees or to ensure basic technical and general work-based skills for new employees. The basic structure of the curriculum includes four components – general education, a technical core, occupational-technical content area(s), and work-based learning.

Program Description: Each Virginia Community College determines the specific majors for their respective areas and reports these to the VCCS Chancellor. The Technical Studies majors at Danville Community College include the following:

Advanced Manufacturing Engineering Technology
Industrial Maintenance Technician
Nanotechnology Technician Wood Science Technology
- **Wood Science Technology - Product Design & Development Specialization**

Length: These programs are designed for employees of existing and new industries. The length of time required to complete the program varies.

Admission Requirements: Students must meet the general admission requirements of the College. All students who are not proficient in communication and computation skills will be required to correct deficiencies through developmental courses.

Technical Studies –
Advanced Manufacturing Engineering Technology

Award: ASSOCIATE OF APPLIED SCIENCE

Purpose: The Advanced Manufacturing Engineering Technology program is designed to prepare the student to function as an advanced manufacturing engineering technology technician. It provides the student with the general knowledge and technical foundation skills necessary to function and advance in an advanced manufacturing field.

Objectives: The program will prepare the student to function effectively as an advanced manufacturing technician or serve in a supervisory position in a manufacturing setting.

Program Description: The program includes four educational components: namely, general education, technical foundations, content skills and knowledge, and work-based learning. The content skills and knowledge and work-based learning components are specific to the field of advanced manufacturing.

Program Outcomes: Graduates of the Advanced Manufacturing Engineering AAS degree program will:
1. Demonstrate how modern manufacturers use people, technologies and materials to make highly engineered products at a competitive cost.
2. Demonstrate the ability to communicate technical concepts and ideas effectively.
3. Demonstrate knowledge of basic automation and how computers are used by manufacturers in the production of products.
4. Demonstrate the operation or maintenance of at least one type of production equipment.
5. Demonstrate use of practical skills by working in a manufacturing environment.

Program Requirements: To receive the Associate of Applied Science Degree in Technical Studies – Advanced Manufacturing Engineering Technology, you must complete a minimum of 69 credits with a grade point average of 2.0 or better.

		Course	Credits
General Education			**18 Crs.**
ENG	111	College Composition I	3
PHI	100	Introduction to Philosophy or	3
REL	230	Religions of the World or	
HUM	165	Controversial Issues in Contemporary American Culture	
PSY	126	Psychology for Business and Industry or	3
PSY	201	Introduction to Psychology I	
ECO	120	Survey of Economics or	3
ECO	201	Principles of Economics I	
PSY	230	Developmental Psychology or	
SOC	201	Introduction to Sociology I	
HLT/PED		Elective	2
MTH	103	Applied Technical Mathematics or	3
MTH	163	Precalculus I	
SDV	100	College Success Skills	1
Technical Foundation			**19 Crs.**
ETR	115	D.C. and A.C. Circuits	3
ITE	115	Intro. to Computer Applications & Concepts	4
ENG	131	Technical Report Writing I	3
IND	235	Statistical Quality Control	3
IND	137	Teamwork and Problem Solving	3
DRF	195	Intro. to Computer Aided Design (CAD)	3
Content, Skills and Knowledge			**26 Crs.**
MEC	111	Materials for Industry or	3
IND	295	Polymeric Materials	
DRF	160	Machine Blueprint Reading	3
MAC	131	Machine Lab I or	2
IND	195	Intro to Injection Molding or	
IND	195	Intro to Extrusion	
IND	181	World Class Manufacturing	3
IND	195	Intro to Automation and Robotics	3
ETR	286	Principles and Applications of Robotics	3
ELE	143	Programmable Logic Controllers I	3
SAF	246	Hazardous Chemicals, Materials, Waste in the Workplace	3
MEC	210	Machine Design or	3
INS	121	Intro to Measurement and Control	
Work-Based Learning			**6 Crs.**

Total Minimum Credits for the Associate of Applied Science Degree in Technical Studies — Advanced Manufacturing Engineering Technology.....69

Technical Studies –
Integrated Systems Technology*
**pending approval*

Award: ASSOCIATE OF APPLIED SCIENCE

Length: This program is intended for the full-time or part-time student. The length of time required to complete the program is variable.

Purpose: This program combines the concepts, theory and practices associated with mechanical and electrical processes found in modern automated industries. Students in the Mechanical Track develop the skills to assemble, install, troubleshoot and service pneumatic, hydraulic and mechanical systems. Students in the Electrical / Electronic Track develop skills to install, test and troubleshoot, program and calibrate a variety of electronic devices including robotics and programmable logic controllers. Coursework also provides opportunities where students learn teamwork and lean manufacturing through simulated work experience.

Occupational Objectives:
Objectives: The following occupational titles represent examples of possible employment opportunities:
Industrial Integrated Systems Technician
Industrial Electrical Technician
Industrial Controls Technician
Industrial Multi-craft Maintenance Technician
Process Technician
Industrial Mechanical Technician
Mechatronics Technician

Admission Requirements: Students must meet the general admission requirements of the College. All students who are not proficient in communication and computation skills will be required to correct deficiencies through developmental courses.

Program Description: Integrated Systems Technology is a two-year program of study that is comprised of general and technical foundational courses, specific skills and knowledge, and project-based learning. The specific skills and knowledge and project-based learning components are specific to the field of industrial maintenance.

Program Outcomes: Following completion of the AAS degree, students will be able to:
1. Demonstrate the knowledge gained in how modern manufacturers use different technologies and automation in manufacturing.
2. Demonstrate the ability to communicate integrated systems concepts effectively.
3. Demonstrate analytical ability to effectively perform machine troubleshooting on simple to complex integrated systems.
4. Demonstrate the use of different types of tools and test equipment that are commonly used to maintain integrated systems in industry.
5. Demonstrate the use of concepts used in manufacturing such as Lean manufacturing and how it relates to integrated systems in an industrial environment.

Integrated Systems Technology - Electrical / Electronic Track*

			Lecture Hours	Lab Hours	Course Credits
First Semester					
MAC	131	Machine Lab	1	3	2
SDV	100	College Success Skills	1	0	1
ITE	115	Computer Software Applications	3	0	3
IND	137	Teamwork and Problem Solving	3	0	3
ETR	115	DC & AC Circuits	3	0	3
MEC	154	Mechanical Maintenance I	2	2	3
HLT	116	Personal Wellness	3	0	3
Total			**16**	**5**	**18**
Second Semester					
ENG	131	Technical Report Writing I	3	0	3
ECO	100	Elementary Economics	3	0	3
MEC	162	Applied Hydraulics & Pneumatics	2	2	3
SAF	130	OSHA 10 Training	1	0	1
ELE	147	Electrical Power & Controls Systems	2	2	3
MTH	103	Applied Tech Math I	3	0	3
Total			**14**	**4**	**14**
Third Semester					
HUM	165	Controversial Issues	3	0	3
ETR	141	Electronics I	3	0	3
IND	181	World Class Manufacturing I	3	0	3
ELE	233	Programmable Logic Controller I	2	3	3
INS	230	Instrumentation I	2	2	3
Total			**13**	**5**	**15**
Fourth Semester					
ETR	246	Electronic Motor Drives Systems	2	2	3
IND	243	Mechatronics	2	2	3
ELE	237	Human Machine Interface Systems – HMI	1	2	2
IND	298	Seminar and Project	2	2	3
ELE	240	Advanced Programmable Logic Controllers	2	2	3
ETR	177	Industrial Robotics and Robotics Programming	2	2	3
Total			**11**	**12**	**17**

Total Minimum Credits for the Associate of Applied Science Degree in Integrated Systems Technology – Electrical / Electronic Track* 66

Integrated Systems Technology - Mechanical Track*

			Lecture Hours	Lab Hours	Course Credits
First Semester					
MAC	131	Machine Lab	1	3	2
SDV	100	College Success Skills	1	0	1
ITE	115	Computer Software Applications	3	0	3
IND	137	Teamwork and Problem Solving	3	0	3
ETR	115	DC & AC Circuits	3	0	3
MEC	154	Mechanical Maintenance I	2	2	3
HLT	116	Personal Wellness	3	0	3
Total			**16**	**5**	**18**
Second Semester					
ENG	131	Technical Report Writing I	3	0	3
ECO	100	Elementary Economics	3	0	3
MEC	162	Applied Hydraulics & Pneumatics	2	2	3
SAF	130	OSHA 10 Training	1	0	1
MTH	103	Applied Tech Math I	3	0	3
WEL	120	Fundamentals of Welding	1	3	2
Total			**13**	**5**	**15**
Third Semester					
HUM	165	Controversial Issues	3	0	3
MAC	161	Machine Shop Practices I	2	2	3
IND	181	World Class Manufacturing I	3	0	3
DRF	160	Machine Blueprint Reading	3	0	3
MEC	254	Mechanical Maintenance II	2	2	3
WEL	135	Inert Gas Welding	1	3	2
Total			**14**	**7**	**17**
Fourth Semester					
MEC	268	Fluid Power - Hydraulic Systems	1	2	2
IND	243	Mechatronics	2	2	3
MEC	269	Fluid Power - Pneumatic Systems	1	2	2
MEC	169	Steam Systems	1	2	2
IND	298	Seminar and Project	2	2	3
MEC	168	Pump Systems	1	2	2
MEC	148	Industrial Pipefitting	1	2	2
Total			**9**	**14**	**16**

Total Minimum Credits for the Associate of Applied Science Degree in Integrated Systems Technology – Mechanical Track* 66

**pending approval*

Technical Studies –
Nanotechnology Technician

Award: ASSOCIATE OF APPLIED SCIENCE

Purpose: The Nanotechnology Technician Program is designed to prepare the student to function as a Nanotechnology technician. It provides the student with general knowledge and training required to advance in the Nanotechnology/ Nanoscience field.

Objectives: The program will prepare the student to effectively function as a Nano-technician or serve in a supervisory position in a Nanotechnology/ Nanoscience environment.

Program Description: The program includes four educational components: general education, technical foundations, content skills and knowledge, and work-based learning. The content skills and knowledge and work-based learning components are specific to the field of Nanotechnology.

Program Outcomes: Graduates of the Nanotechnology Technician Program with an AAS degree will be able to demonstrate:
1. Ability to communicate technical concepts and ideas effectively through oral and written communication.
2. Knowledge of basic technologies needed to fabricate and characterize nanomaterials.
3. Operation or maintenance of at least one type of characterization tool.
4. Basic knowledge of lab and chemical/hazardous materials safety training.

Program Requirements: To receive the Associate of Applied Science Degree in Technical Studies - Nanotechnology Technician, you must complete a minimum of 65 credits with a grade point average of 2.0 or better.

			Lecture Hours	Lab Hours	Course Credits
First Semester					
MTH	166	Pre-calculus with Trigonometry	4	0	4
NAN	100	Science for Technicians	3	0	3
NAN	101	Introduction to Nanomaterials	3	0	3
ENG	111	English Composition	3	0	3
IND	137	Teamwork & Problem Solving	3	0	3
SDV	100	Freshman Orientation	1	0	1
Total					**17**
Second Semester					
NAN	200	Fundamentals of Nanotechnology	2	2	4
DRF	201	Computer Aided Drafting & Design	3	2	4
ETR	115	DC & AC Fundamentals	3	0	3
ENG	131	Technical Report Writing	3	0	3
HLT Elective		Health Elective	-	-	2
Total					**16**
Third Semester					
NAN	205	Measurement & Char. of Nano.	2	2	4
IND	230	Applied Quality Control	2	2	3
HUM		Humanities Elective	-	-	3
Elective		Social Science Elective	-	-	3
MEC	100	Introduction to Eng. Technology	1	2	2
Total					**15**
Fourth Semester					
NAN	208	Applications of Nanotechnology	3	0	3
IND	145	Introduction to Metrology	2	2	3
NAS	105	Natural Sci. Topics for Mod. Soc.	3	0	3
Elective		Social Science Elective	-	-	3
ITE	101	Introduction to Microcomputers	-	-	2
MEC	111	Materials for Industry	3	0	3
Total					**17**

Total Minimum Credits for the Associate in Applied Science Degree in Nanotechnology Technician.....65

Technical Studies –
Wood Science Technology

Award: ASSOCIATE OF APPLIED SCIENCE

Length: A full-time student may complete this program in two years.

Purpose: The Wood Science Technology program is designed to prepare students with the knowledge, skills, and foundational concepts necessary to function in several different career fields related to advanced manufacturing in the wood products industry.

Occupational Objective: The program is designed to provide participants the creative and practical skills to be gainfully employed in manufacturing, supervisory or management positions in the wood manufacturing industry.

Admission Requirements: Students must meet the general admission requirements of the College. All students who are not proficient in communication and computation skills will be required to correct deficiencies through developmental studies courses.

Program Description: The program includes four educational components: namely, general education, technical foundations, content skills and knowledge, and work-based learning. The content skills and knowledge and work-based learning components are specific to wood science.

Program Outcomes: Graduates of the AAS Technical Studies – Wood Science Technology program will:
1. Demonstrate the knowledge gained on how modern manufacturers use different technologies and automation in manufacturing.
2. Demonstrate the ability to use CAD/CAM in manufacturing design and development.
3. Demonstrate the ability to program and operate different types of equipment related to modern day furniture manufacturing.
4. Demonstrate the use of different types of tools and materials used in modern day furniture manufacturing.
5. Demonstrate the use of concepts used in manufacturing such as Lean manufacturing and how it relates to advanced manufacturing.

Program Requirements: To receive the Associate in Applied Science Degree, you must complete a minimum of 65 credits with a grade point average of 2.0 or better.

		Course	Credits
General Education			**19 Crs.**
ENG	111	College Composition	3
Students may elect **one** of the following courses:			
HUM	165	Controversial Issues in Contemporary American Culture	3
PHI	100	Intro. To Philosophy	3
PHI	226	Social Ethics	3
REL	230	Religions of the World	3
HUM	246	Creative Thinking	3
Students may elect **two** of the following courses:			
PSY	126	Psychology for Business & Industry	3
PHI	115	Practical Reasoning	3
PSY	200	Principles of Psychology	3
ECO	120	Survey of Economics	3
ECO	201	Principles of Economics I	3
PSY	230	Developmental Psychology	3
SOC	200	Principles of Sociology	3
MTH	103	Applied Technical Mathematics I	3
MTH	163	Pre-calculus I	3
HLT	116	Personal Wellness	3
SDV	100	College Success Skills	1

Technical Foundations — 19 Crs.

DRF	114	Drafting I or	
MAC	150	Intro. to Computer Aided Manuf.	3
ITE	115	Intro. to Microcomputer Apps. or	4
ART	130	Introduction to Multimedia	4
CAD	233	Computer Aided Drafting III	3
IND	181	World Class Manufacturing or	3
BUS	165	Small Business Management	3
ENG	115	Technical Writing	3
IND	137	Teamwork and Problem Solving	3

Content, Skills and Knowledge — 21 Crs.

IND	163	Manufacturing Apps. & Design I	3
IND	164	Manufacturing Apps. & Design II	3
ARC	131	Material & Methods of Construction I	3
FUR	127	Furniture Plant Maintenance	3
CRF	159	Introduction to Fine Woodworking	3
IND	264	Manufacturing Applications & Design III	3
IND	243	Prin. and Apps. in Mechatronics	3

Work-Based Learning — 6 Crs.

IND	190	Coordinated Internship	6

Total Minimum Credits for the Associate of Applied Science Degree in Technical Studies – Wood Science Technology..... 65

Technical Studies –
Wood Science Technology
• Product Design & Development Specialization

Award: ASSOCIATE OF APPLIED SCIENCE

Length: A full-time student may complete this program in two years.

Purpose: The Wood Science Technology Product Design and Development Specialization is designed to prepare students with the knowledge, skills, and foundational concepts necessary to design, engineer, and produce a product utilizing wood as a primary design medium and incorporating CAD/CAM/CNC technology. These skills include: critical thinking, project planning, managing creativity and design, form and function, product management through customer-focused innovation. Completion of this program prepares the student for work in various positions in the manufacturing industry.

Occupational Objectives: The program is designed to provide participants the creative and practical skills to be gainfully employed in manufacturing, supervisory or management positions in the wood manufacturing industry.

Admission Requirements: Students must meet the general admission requirements of the College. All students who are not proficient in communication and computation skills will be required to correct deficiencies through developmental studies coursework.

Program Description: The program includes four educational components: namely, general education, technical foundations, content skills and knowledge, and work-based learning. The content skills and knowledge and work-based learning components are specific to wood science.

Program Outcomes: Graduates of the Wood Science Technology - Product Design and Development Specialization will:

1. Apply various manufacturing concepts in technologies and automation used in today's manufacturing.
2. Demonstrate the ability to use CAD/CAM/CNC in manufacturing design and development.
3. Demonstrate the ability to program and operate different types of equipment related to modern day manufacturing.
4. Demonstrate the use of different types of tools and materials used in modern day manufacturing.
5. Demonstrate various problem solving techniques in product design and development.

Program Requirements: To receive the Associate of Applied Science Degree in Wood Science Technology Product Design and Development Specialization, the student must complete a minimum of 65 credits with a grade point average of 2.0 or better.

General Education — 18 Crs.

ENG	111	College Composition I	3

Students may elect **one** of the following courses:

HUM	165	Controversial Issues in Contemporary American Culture	3
PHI	100	Intro. To Philosophy	3
PHI	226	Social Ethics	3
REL	230	Religions of the World	3
HUM	246	Creative Thinking	3

Students may elect **two** of the following courses:

PSY	126	Psychology for Business & Industry	3
PHI	115	Practical Reasoning	3
PSY	200	Principles of Psychology	3
ECO	120	Survey of Economics	3
ECO	201	Principles of Economics I	3
PSY	230	Developmental Psychology	3
SOC	200	Principles of Sociology	3
MTH	103	Applied Technical Mathematics I or	
MTH	163	Pre-calculus I	3
HLT	116	Personal Wellness	3
SDV	100	College Success Skills	1

Technical Foundations — 18-24 Crs.

DRF	114	Drafting I or	3
MAC	150	Introduction to Computer Aided Manufacturing	3
ITE	115	Introduction to Computer Applications or	4
ART	130	Introduction to Multimedia	4
CAD	233	Computer Aided Drafting III	3
IND	181	World Class Manufacturing or	3
BUS	165	Small Business Management	3
ENG	115	Technical Writing	3
IND	137	Teamwork and Problem Solving	3

Content, Skills and Knowledge — 15-27 Crs.

IND	161	Product Design and Development I	5
IND	162	Product Design and Development II	5
ART	180	Intro to Computer Graphics	3
IND	163	Manufacturing Apps. & Design I	3
FUR	298	Seminar & Projects	5

Work-Based Learning — 6-15 Crs.

IND	190	Coordinated Internship	6

Total Minimum Credits for the Associate of Applied Science Degree in Technical Studies – Wood Science Technology – Product Design and Development Specialization.....65

Diploma Programs

Air Conditioning and Refrigeration
Automotive Analysis and Repair
Computer-Aided Drafting & Design
Electrical/Electronic Equipment Servicing
Electrical/Electronics Engineering Technology
Graphic Imaging Technology
Precision Machining Technology

The Diploma programs differ from the Associate Degree programs in several ways. They may be presented at a different educational level and are developed in response to specific local employment needs, as identified by the programs' lay advisory committees and the College's Curriculum Committee. Their specific objective is to give students a variety of hands-on training experiences to prepare them for immediate employment. The diploma programs do not require the same level of general education training as the associate degree programs, so more of the required courses are directly related to the chosen field of study. There is no limit on the maximum number of credits required in these programs, but they are designed to be completed after one or two years of full-time study. The types of jobs that you might expect to obtain upon completion of the degree requirements are listed on the following catalog pages which also outline the specific courses for completing each program of study.

Air Conditioning & Refrigeration

Award: DIPLOMA

Length: A full-time student may complete this program in two years.

Purpose: The Air Conditioning & Refrigeration Diploma program is designed to prepare you for employment as an air conditioning and refrigeration technician upon completion of the program.

Occupational Objectives: The following occupational titles represent examples of possible employment opportunities:

- Air Conditioning/Heating Technician
- Sales Engineer
- Installation and Service
- Sales and Design Engineer

Admission Requirements: Entry into this curriculum may be attained by meeting the general admission requirements established for the College. If you meet the general admission requirements, a counselor will discuss with you the strengths and weaknesses of your academic background and your strengths and weaknesses as revealed by an appropriate placement test. You may correct any deficiencies in academic preparation in the College's Developmental Studies program.

Program Description: The Air Conditioning & Refrigeration program is designed to provide both the practical experience and technical knowledge required for competence as a technician in the air conditioning industry. Laboratory experience, field trips and specialized seminars give you the skill and know-how you need in order to plan, install and service air conditioning equipment. The program contains general education courses to assist you in social and business communications and to prepare you to meet the obligations of a citizen in the American democratic society.

Program Outcomes: Upon completion of the Air Conditioning and Refrigeration Program, students will be able to:

1. Demonstrate mathematical skills to solve problems in electrical, heating, air conditioning, and refrigeration systems.
2. Apply troubleshooting skills to diagnose and repair the following: air flow, electrical, heating systems and refrigeration systems.
3. Apply theory and knowledge learned to design and fabricate projects dealing with HVAC.
4. Sit for the EPA Certification.

Program Requirements: To receive a Diploma in Air Conditioning & Refrigeration, you must complete a minimum of 73 credits with a grade point average of 2.00 or better. The credits are distributed according to the following outline. This outline represents a typical order of courses taken by full-time day students. Part-time students may take courses in any desired order, except for hyphenated courses or others requiring prerequisites.

			Lecture Hours	Lab Hours	Course Credits
First Semester					
AIR	117	Metal Layout I	1	6	3
AIR	134	Circuits & Controls I	2	3	3
AIR	154	Heating Systems I	2	2	3
AIR	161	Heating, Air Cond. & Refrigeration Calculations I or approved substitute	3	0	3
AIR	121	Refrigeration 1	2	2	3
SDV	100	College Success Skills	1	0	1
Total			**11**	**13**	**16**
Second Semester					
AIR	118	Metal Layout II	1	4	3
AIR	122	Air Conditioning & Refrigeration II	2	2	3
AIR	135	Circuits & Controls II	2	3	3
AIR	155	Heating Systems II	2	2	3
ENG	131	Technical Report Writing I	3	0	3
Total			**10**	**11**	**15**
Third Semester					
AIR	273	Air Conditioning & Refrigeration III	2	3	3
AIR	136	Circuits & Controls III	2	3	3
AIR	165	Air Conditioning Systems I	2	3	3
AIR	254	Air Conditioning Systems IV	2	3	3
Total			**8**	**12**	**12**
Fourth Semester					
AIR	137	Air Conditioning Electronics Survey	1	3	2
AIR	167	Air Conditioning Systems III	3	3	4
AIR	231	Circuits and Controls IV	3	3	4
ECO	100	Elementary Economics	3	0	3
ITE	116	Survey of Computer Software Application	2	0	3
Total			**12**	**9**	**15**
Fifth Semester					
AIR	156	Heating Systems III	2	2	3
AIR	195	EPA Certification	1	0	1
AIR	232	Circuits and Controls V	2	3	3
AIR	255	Air Conditioning Systems V	2	3	3
AIR	295	Green Technology	1	2	2
HUM	165	Controversial Issues	3	0	3
Total			**11**	**10**	**15**

Total Minimum Credits for a Diploma in Air Conditioning and Refrigeration.....73

Note: SDV 100 - College Success Skills is required for graduation and should be taken during the first semester the student is enrolled in the curriculum

Automotive Analysis & Repair

Award: DIPLOMA

Length: The Automotive Analysis and Repair curriculum is designed to train persons for employment in the many occupations available in servicing motor transportation vehicles.

Purpose: The Automotive Analysis and Repair curriculum is designed to train persons for employment in the many occupations available in servicing motor transportation vehicles.

Occupational Objectives: The following occupational titles represent examples of possible employment opportunities:

- Automotive Technician
- Auto Parts Sales
- Driveability Specialist
- Automotive Machinist
- Service Manager
- Automotive Dealer
- Factory Service Representative
- Automotive Recycling

Admission Requirements: Entry into this curriculum may be attained by meeting the general admission requirements established for the College. If you meet the general admission requirements, a counselor will discuss with you the strengths and weaknesses of your academic background and your strengths and weaknesses as revealed by an appropriate placement test. You may correct any deficiencies in academic preparation in the College's Developmental Studies program.

Program Description: The Automotive Analysis and Repair program includes theoretical and practical experiences in engine overhaul, computerized engine control systems, emission control servicing, automatic transmission servicing and overhaul, power train servicing, front-end alignment, electrical system diagnosis, and maintenance. Diagnosis of problems with the ability to correct the specific problem located is emphasized. The program contains general education courses to assist you in social and business communications and to prepare you to meet the obligations of a citizen in the American democratic society.

Program Outcomes: Upon successful completion of this program, students will:

1. Demonstrate the ability to use an automotive scan tool and a multi-meter to retrieve information and diagnose a modern automobile.
2. Work in teams to complete the disassembly and reassembly of an automatic transmission.
3. Demonstrate the use of precision measurement tools such an outside micrometer and a torque wrench.
4. Complete a four wheel brake job on a modern automobile.
5. Successfully complete a Shop Safety Course.

Program Requirements: To receive a Diploma in Automotive Analysis and Repair, you must complete a minimum of 72 credits with a grade point average of 2.00 or better. The credits are distributed according to the following outline. This outline represents a typical order of courses taken by full -time day students. Part-time students may take courses in any desired sequence, except for hyphenated courses or others requiring prerequisites.

			Lecture Hours	Lab Hours	Course Credits
First Semester					
AUT	111	Automotive Engines I	2	3	3
AUT	112	Automotive Engines II	2	3	3
AUT	127	Auto. Lubrication & Cooling Systems	2	3	3
AUT	130	Intro. to Auto Mechanics	2	3	3
ENG	131	Technical Report Writing I	3	0	3
SDV	100	College Success Skills	1	0	1
Total			**12**	**12**	**16**
Second Semester					
AUT	121	Automotive Fuel Systems	3	3	4
AUT	236	Auto. Climate Control	3	3	4
AUT	241	Automotive Electricity I	3	3	4
AUT	265	Automotive Braking Systems	2	3	3
Total			**11**	**12**	**15**
Summer Term I					
AUT	230	Intro. to Alternative Fuels & Hybrid Vehicles	3	0	3
AUT	242	Electricity II	3	3	4
AUT	266	Auto Alignment, Suspension & Steering	3	3	4
Total			**9**	**6**	**11**
Third Semester					
AUT	122	Auto Fuel Systems II	3	3	4
AUT	136	Auto. Vehicle Inspection	1	2	2
AUT	211	Automotive Systems III	3	3	4
AUT	237	Automotive Accessories	2	0	2
HUM	165	Controversial Issues	3	0	3
Total			**13**	**8**	**15**
Fourth Semester					
AUT	178	Auto. Final Drive & Manual Trans. Systems	3	3	4
AUT	212	Automotive Systems IV	3	3	4
AUT	251	Automatic Trans. I	2	6	4
ECO	100	Elementary Economics	3	0	3
Total			**11**	**12**	**15**

Total Minimum Credits for a Diploma in Automotive Analysis and Repair.....72

Note: SDV 100 - College Success Skills is required for graduation and should be taken during the first semester the student is enrolled in the curriculum.

Computer-Aided Drafting and Design

Award: DIPLOMA

Length: A full-time student may complete this program in two years.

Purpose: The Computer-Aided Drafting and Design curriculum is designed to train persons for employment in the many occupations available in the field of drafting and design. Graduates of this program will be prepared to go into one of the occupations below.

Occupational Objectives: The following occupational titles represent examples of possible employment opportunities:

- Drafting Technician
- Fixture Design Technician
- Machine Design Technician
- Engineering Assistant
- Piping Designer
- Surveying Assistant

Admission Requirements: In addition to the admission requirements established for this College, this curriculum requires completion of four units of high school English and two units of high school mathematics. If you meet the general admission requirements, a counselor will discuss with you the strengths and weaknesses of your academic background and your strengths and weaknesses as revealed by an appropriate placement test. You may correct any deficiencies in academic preparation in the College's Developmental Studies program.

Program Description: The Computer- Aided Drafting and Design program offers instruction in the drafting procedures, materials, manufacturing processes, and science and mathematics that is needed by the technician or engineering assistant in the field. You will receive theoretical and practical experiences in drafting principles, drafting skills, CAD Drafting (AUTOCAD, SolidWorks, Chief Architect, FeatureCAM) manufacturing processes, and machine and tool design. The program contains general education courses to assist you in social and business communications and to prepare you to meet the obligations of a citizen in the American democratic society.

Program Outcomes: Upon successful completion of this program, students will:

1. Design, draw, and fabricate a prototype of a design project using drafting equipment.
2. Develop, design, create a drawing package, and fabricate a three-dimensional working model of a functioning mechanical system.
3. Design, draw, and fabricate a prototype of two design projects using a CAD program.
4. Work in teams to survey a traverse and create a plat from field data.
5. Design, graphically represent, and present their plan of a mechanical system created in a computer aided drafting program to the drafting advisory committee.

Program Requirements: To receive a Diploma in Computer-Aided Drafting and Design you must complete a minimum of 75 credits with a grade point average of 2.00 or better. The 75 credits are distributed according to the following outline. This outline represents a typical order of courses taken by full-time day students. Part-time students may take courses in any desired sequence, except for hyphenated courses or others requiring prerequisites.

			Lecture Hours	Lab Hours	Course Credits
First Semester					
SDV	100	College Success Skills	1	0	1
DRF	114	Drafting I	1	6	3
MEC	100	Intro. to Engineering	1	2	2
ECO	100	Elementary Economics	3	0	3
MAC	131	Machining Technology	1	3	2
SDV	195	Electronic Portfolios	1	0	1
ENG	111	College Composition	3	0	3
Total			**11**	**11**	**15**
Second Semester					
DRF	115	Drafting II	1	6	3
MTH	115	Technical Math I	3	0	3
MEC	111	Materials for Industry	3	0	3
MEC	126	Computer Programming/visual basic	1	2	2
CIV	171	Surveying I	2	3	3
Total			**10**	**11**	**14**
Summer Term I					
CAD	201	Computer Aided Design I/Autocad	3	2	3
MEC	131	Mechanics I	3	0	3
PHY	130	Technical Physics	2	2	3
Total			**7**	**4**	**9**
Third Semester					
MTH	116	Technical Math II	3	0	3
CAD	116	Drafting III	1	6	3
MEC	132	Mechanics II	3	0	3
MEC	265	Fluid Mechanics	3	0	3
CAD	233	Computer Aided Drafting III/SolidWorks	2	2	3
Total			**12**	**8**	**15**
Fourth Semester					
CAD	210	Advanced Technical Drafting	1	6	4
MEC	211	Machine Design I	3	3	4
CAD	298	Seminar Project	1	2	2
ARC	115	Architecture/Chief Arch.	2	0	2
Total			**7**	**11**	**12**
Summer Term II					
CAD	202	Computer Aided Design II /solidworks	2	2	3
MAC	126	Introduction to CNC./featurecam	2	3	3
MEC	212	Machine Design II	3	3	4
Total			**7**	**8**	**10**
Total Minimum Credits for a Diploma in Computer- Aided Drafting and Design					**75**

Note: SDV 100 - College Success Skills is required for graduation and should be taken during the first semester the student is enrolled in the curriculum.

Electrical / Electronic Equipment Servicing

Award: DIPLOMA

Length: A full -time student may complete the program in two years. The actual time required to complete this program may vary depending upon the schedule of some course offerings and the student's schedule. Students enrolled in this program may be required to take some evening courses in order to complete the program requirements.

Purpose: The purpose of the Electrical/Electronic Equipment Servicing program is to train, upgrade and increase technical competence of qualified personnel to operate, maintain and service electrical-electronic equipment.

Occupational Objectives: The following occupational titles represent examples of possible employment opportunities:

Electronic Equipment Technician
Equipment Service Technician
Instrument Technician
Laboratory Technician

Admission Requirements: To enter this curriculum requires that an individual meet the general admission requirements of the college. If you meet the general admissions requirements, a counselor will discuss with you the strengths and weaknesses as revealed by an appropriate placement test. You may correct any deficiencies in academic preparation in the College's Developmental Studies program. A student may enroll in sophomore-level courses only after completing all freshman courses or with the permission of the instructor of each course.

Program Description: The Electrical/Electronic Equipment Servicing program is a specialized and concentrated work-study program including specialized field trips and seminars. The program has been designed for the full- or part-time student and provides maximum flexibility for the business and industrial worker. The first year includes common core courses. These courses provide for a general foundation in electrical-electronic concepts, devices, networks and fundamental circuits/systems. Technical electives are provided to reinforce the career objectives and must be approved by the student's faculty advisor. Students working in related areas may receive 2 to 4 credits per semester by choosing the Coordinated Internship electives.

Program Outcomes: Upon successful completion of this program, students will be able to:

1. Design, draw, construct, analyze, and troubleshoot basic series and parallel AC and DC electrical circuits including all typical circuit elements and explain the function of each.
2. Design, draw, construct, analyze, and troubleshoot basic analog and digital electronic circuits.
3. Demonstrate an understanding of electronic digital and analog stages, devices, systems and equipment.
4. Identify, select, set up and operate basic electronic test and measuring equipment including ammeters, ohmmeters, voltmeters, clamp-on ammeters, multi-meters, power supplies, function generators, RF generators, logic probes, curve tracers and oscilloscopes and explain the application of each.
5. Connect, configure, install, program and modify Programmable Logic Controllers.
6. Build, configure, analyze, maintain, upgrade and troubleshoot personal computers.
7. Plan, construct, repair, operate and test custom designed basic robotic devices.
8. Program microcontrollers and explain the function of each command and demonstrate an understanding of program flow. Construct and analyze the function of microcontroller interface circuits.
9. Connect, configure, install and commission process control devices and systems.
10. Identify, explain, and utilize safety measures and equipment in the lab and the workplace required by NFPA, NEC and OSHA.
11. Explain the characteristics and theories of operation of DC and AC single and multi-phase electric motors and motor control devices and circuits.
12. Identify, select and properly use tools that are used in the electrical and electronics industry.
13. Demonstrate an understanding of commercial 3-phase electric power generation, transmission, distribution and control, including three-phase power generation, delta and wye connections, transformers and all associated calculations.
14. Demonstrate an understanding of alternative energy sources and how they relate to the generation, distribution and control of residential, commercial, and industrial power.
15. Demonstrate a basic familiarity with fluid mechanics concepts and equipment.
16. Identify, select and install residential, commercial and industrial electrical devices and equipment.
17. Demonstrate experience in the field of Electrical Electronic Equipment Servicing or equivalent coursework.

Program Requirements: To receive a Diploma in Electrical/Electronic Equipment Servicing, you must complete a minimum of 72 credits with a cumulative grade point average of 2.00 or better.

			Lecture Hours	Lab Hours	Course Credits
First Year (Fall Semester)					
SDV	100	College Success Skills	1	0	1
ELE	113	Basic Electricity I	3	0	3
ELE	123	Electrical Applications I	1	2	2
ELE	152	Calculations I	3	0	3
ENG	131	Technical Report Writing I	3	0	3
Total			**11**	**2**	**12**
First Year (Spring Semester)					
ELE	114	Basic Electricity II	3	0	3
ELE	124	Electrical Applications II	1	2	2
ETR	141	Electronics I	1	2	2
ETR	123	Electronics Applications I	1	2	2
ETR	151	Electronic Circuits and Troubleshooting	2	0	2
ECO	100	Elementary Economics	3	0	3
Total			**11**	**6**	**14**
First Year (Summer Term)					
ELE	156	Electrical Control Systems	2	2	3
ETR	142	Electronics II	3	0	3
ETR	152	Electronic Circuits & Troubleshooting II	2	0	2
ETR	124	ETR Applications II	1	2	2
Total			**8**	**4**	**10**
Second Year (Fall Semester)					
ELE	216	Industrial Electricity	2	3	3
ETR	282	Digital Systems I	2	3	3
ELE	131	National Electric Code I	3	0	3
ETR	149	PC Upgrade and Repair	3	0	3
Total			**10**	**6**	**12**
Second Year (Spring Semester)					
ELE	239	Programmable Controllers	2	3	3
ELE	132	National Electric Code II	3	0	3
ELE	190	Coordinated Internship	3	0	3
HUM	165	Controversial Issues	3	0	3
ETR	295	Topics in E/E (Schematic Reading)	1	0	1
Total			**12**	**3**	**13**
Second Year (Summer Term)					
ETR	136	Industrial Electronic Systems	2	3	3
ELE	240	Advanced PLCs	2	3	3
ITE	116	Survey of Computer Software Application	2	0	2
PSY	126	Psychology for Business & Industry	3	0	3
Total			**9**	**6**	**11**

Total Minimum Credits required for a Diploma in Electrical/Electronic Equipment Servicing.....72

Electrical/Electronics Engineering Technology

Award: DIPLOMA

Length: A full-time student may complete these programs in six semesters, which includes two summers.

Purpose: The purpose of the Electrical/Electronics Engineering Technology program is to train persons for employment in the technical positions available in business and industry related to electricity and electronics.

Occupational Objectives: The following occupational titles represent examples of possible employment opportunities:

- Automation Control Engineering
- Biomedical Electronics Technician
- Communications Technician
- Computer Technician
- Electrical/Electronics Technician
- Electric Power Utility Technician
- Laboratory Technician
- Maintenance Technician
- Robotics Technician
- Service Technician
- Telecommunications Technician

Admission Requirements: To enter this curriculum requires that an individual meet the general admission requirements of the College. If you meet the general admission requirements, a counselor will discuss with you the strengths and weaknesses of your academic background and your strengths and weaknesses as revealed by an appropriate placement test. You may correct any deficiencies in academic preparation in the College's Developmental Studies program.

Program Description: The program is designed to develop a general foundation in electricity, electronics, theorems, networks, and fundamental circuits. The first three semesters of the Electrical/Electronics Engineering Technology curriculum includes common core courses. To receive the diploma, you must complete the required credits with a grade point average of 2.00 or better. The courses are distributed according to the following outlines. These outlines represent a typical order of courses taken by full-time day students.

Program Outcomes: Upon successful completion of this program, students will be able to:

1. Design, draw, construct, analyze, and troubleshoot basic series and parallel AC and DC electrical circuits including all typical circuit elements including switches, fuses, resistors, lamps and other loads and explain the function of each component.
2. Design, draw, construct, analyze, and troubleshoot basic analog and digital electronic circuits.
3. Demonstrate an understanding of digital and analog RF communications techniques, stages, devices, systems and equipment.
4. Identify, select, set up and operate basic electronic test and measuring equipment including ammeters, ohmmeters, voltmeters, clamp-on ammeters, multimeters, power supplies, function generators, RF generators, logic probes, curve tracers and oscilloscopes and explain the application of each.
5. Connect, configure, install, program and modify Programmable Logic Controllers.
6. Build, configure, analyze, maintain, upgrade and troubleshoot personal computers
7. Install, solder, inspect, and test circuit components including conventional and surface mounted devices
8. Plan, construct, repair, operate and test custom designed basic robotic devices.
9. Program microcontrollers and explain the function of each command and demonstrate an understanding of program flow. Construct and analyze the function of microcontroller interface circuits.
10. Connect, configure, install and commission process control devices and systems.
11. Identify, explain, and utilize safety measures and equipment in the lab and the workplace required by NFPA, NEC and OSHA.
12. Explain the characteristics and theories of operation of DC and AC single and multi-phase electric motors and motor control devices and circuits.
13. Research and learn unfamiliar devices, circuits and systems and explain these to others unfamiliar with them using oral and written presentations.
14. Identify, select and properly use tools that are used in the electrical and electronics industry.
15. Demonstrate an understanding of commercial 3-phase electric power generation, distribution and control including three-phase power generation, delta and wye connections and transformers.
16. Demonstrate an understanding of alternative energy sources and how they relate to the generation, distribution and control of residential, commercial, and industrial power.
17. Identify, select and install residential, commercial and industrial electrical devices and equipment.

			Lecture Hours	Lab Hours	Course Credits
First Year (Fall Semester)					
SDV	100	College Success Skills	1	0	1
ITE	116	Survey of Computer Software Applications	2	0	2
ELE	113	Basic Electricity I	3	0	3
ELE	123	Electrical Applications I	1	2	2
ELE	152	Calculations I	3	0	3
PED		Physical Ed Elective			2
Total			**10**	**2**	**13**
First Year (Spring Semester)					
ELE	114	Basic Electricity II	3	0	3
ELE	124	Electrical Applications II	1	2	2
ETR	123	Electronics Applications I	1	2	2
ELE	153	Calculations II	3	0	3
ETR	141	Electronics I	3	0	3
ETR	151	Electronic Circuits Troubleshooting I	2	0	2
ENG	131	Technical Writing	3	0	3
Total			**16**	**4**	**18**
First Year (Summer Term)					
ELE	156	Electrical Control Systems	2	2	3
ETR	152	Electronic Circuits Troubleshooting II	2	0	2
ETR	142	Electronics II	3	0	3
ETR	124	Electronic Applications II	1	2	2
Total			**8**	**4**	**10**
Second Year (Fall Semester)					
ECO	100	Elementary Economics	3	0	3
ETR	255	Active Devices & Circuits	2	3	3
ELE	216	Industrial Electricity	2	3	3
ETR	282	Digital Systems I	2	3	3
ELE	158	Surface Mount Soldering	0	3	1
Total			**9**	**12**	**13**
Second Year (Spring Semester)					
ETR	243	Digital, Analog & Data Communications	3	3	4
CST	100	Principles of Public Speaking	3	0	3
ELE	239	Programmable Logic Controllers (PLCs)	2	3	3
ELE	217	Electric Power Utilities	1	2	2
ETR	295	Topics in E/E (Schematic Reading)	1	0	1
Total			**10**	**8**	**13**
Second Year (Summer Term)					
ETR	136	Industrial Electronic Systems	2	3	3
ETR	241	Electronics Communications I	2	3	3
Total			**4**	**6**	**6**

Total Minimum Credits for a Diploma in Electrical/Electronics Engineering Technology.....73

Note: SDV 100 — College Success Skills is required for graduation and should be taken during the first semester the student is enrolled in the curriculum.

Graphic Imaging Technology

Award: DIPLOMA

Length: A full-time student may complete this program in two years, which includes one summer term.

Purpose: The Graphic Imaging Technology program is designed to prepare you for full-time employment in occupations related to the Graphics Industry.

Occupational Objectives: The following occupational titles represent examples of possible employment opportunities:

- Bindery & Finishing Worker
- Color Technician
- Computer Design Artist
- Digital Photographer
- Graphic Designer
- Electronic Pre-Press Technician
- Estimator
- Manager
- Press Operator
- Salesperson

Admission Requirements: Entry into this curriculum may be attained by meeting the general admission requirements established for the College. If you meet the general admission requirements, a counselor will discuss with you the strengths and weaknesses of your academic background and your strengths and weaknesses as revealed by an appropriate placement test. You may correct any deficiencies in academic preparation in the College's Developmental Studies program.

Program Description: The Graphic Imaging Technology program provides both the practical experience and technical knowledge required for a career in the many phases of graphics. Laboratory experiences give you the skills and understanding of the complexities of the graphic imaging trades. The curriculum includes basic courses in general education to assist you in social and business communications and to prepare you to meet the obligations of a citizen in the American democratic society.

Program Outcomes: In addition to the General Education Objectives of Danville Community College, a graduate of the Graphic Imaging program will be able to:

1. Demonstrate an understanding of the fundamentals of reproduction processes.
2. Demonstrate technical and skill competencies in the area of lithography to complete laboratory projects.
3. Use graphic design software to complete laboratory project.
4. Demonstrate technical and skill competencies in color separation procedures.
5. Discuss the aspects of lithographic chemistry as it relates to the printing industry.
6. Demonstrate an understanding of production planning and estimating as it relates to the printing industry.
7. Demonstrate technical and skill competencies in the finishing and bindery operations of printed pieces.
8. Utilize mathematical skills necessary for effective performance in the printing industry.

Program Requirements: To receive a Diploma in Graphic Imaging Technology, you must complete a minimum of 72 credits with a grade point average of 2.00 or better. The credits are distributed according to the following outline. This outline represents a typical order of courses taken by full-time day students. Part-time students may take courses in any desired sequence, except for hyphenated courses or others requiring prerequisites.

			Lecture Hours	Lab Hours	Course Credits
First Semester					
ART	180	Intro. to Computer Graphics	2	3	3
PNT	110	Survey of Reproduction Processes	2	3	3
PNT	130	Applied Math for the Graphics Industry	2	2	3
PNT	131	Principles of Lithography I	3	3	4
PNT	135	Print Imaging	1	3	2
PNT	298	Health & Safety	2	0	2
SDV	100	College Success Skills	1	0	1
Total			**13**	**14**	**18**
Second Semester					
ENG	131	Technical Writing	3	0	3
PNT	132	Principles of Lithography II	3	3	4
PNT	141	Printing Applications I	1	4	3
PNT	211	Electronic Publishing I	2	2	3
PNT	221	Layout & Design I	2	3	3
Total			**11**	**12**	**16**
Summer Term I					
PNT	142	Printing Applications II	2	2	3
PNT	212	Electronic Publishing II	2	2	3
PNT	222	Layout & Design II	2	3	3
PNT	260	Color Separation	2	3	3
Total			**8**	**10**	**12**
Third Semester					
PNT	213	Electronic Publishing III	2	2	3
PNT	223	Layout & Design III	2	3	3
PNT	251	Offset Press Operations I	3	3	4
PNT	264	Color Image Assembly	3	3	4
Total			**10**	**11**	**14**
Fourth Semester					
ECO	100	Elementary Economics or Approved Substitute	3	0	3
PNT	241	Advanced Printing App. I	1	4	3
PNT	231	Lithographic Chemistry	2	0	2
PNT	245	Production Planning and Estimating	3	3	4
Total			**9**	**7**	**12**

Total Minimum Credits for the Diploma in Graphic Imaging Technology.....72

Precision Machining Technology

Award: DIPLOMA

Length: A full-time student may complete the program in two years.

Purpose: The Precision Machining Technology program is designed to train persons for employment in the many occupations available in industrial manufacturing shops.

Occupational Objectives: The following occupational titles represent examples of possible employment opportunities:

- Machine Tool Operator
- Machinist
- Mold Maker
- Shop Manager
- Tool and Die Maker

Admission Requirements: Entry into this curriculum may be attained by meeting the general admission requirements established for the College. If you meet the general admission requirements, a counselor will discuss with you the strengths and weaknesses of your academic background and your strengths and weaknesses as revealed by an appropriate placement test. You may correct any deficiencies in academic preparation in the College's Developmental Studies program.

Program Description: The Precision Machining Technology program provides training in basic machine shop operations, materials, and manufacturing processes. You will receive theoretical and practical experiences in the care and use of tools, care and use of machines, working to proper tolerances, technical drafting, computer numerical control programming, CAD-CAM training, metallurgy, tool making, jig and fixture design, precision measurements, and the development of leadership qualities. The program contains general education courses to assist you in social and business communications and to prepare you to be a leader and team player in high-tech manufacturing industries.

Program Outcomes: All Precision Machining Technology Program completers will:

1. Demonstrate competency in their ability to operate machine shop equipment: lathes, mills, grinders, and drills
2. Demonstrate competency in their ability to read and interpret blueprints per industry standards
3. Successfully demonstrate their ability to process and plan a piece part through the lab until completion
4. Demonstrate competency in CNC machine tool operation and programming
5. Demonstrate competency in CAM design and manufacturing

Program Requirements: To receive a Diploma in Precision Machining Technology you must complete a minimum of 80 credits with a grade point average of 2.00 or better. The credits are distributed according to the following outline. This outline represents a typical order of courses taken by full-time day students. Part-time students may take courses in any desired sequence, except for hyphenated courses or others requiring prerequisites.

			Lecture Hours	Lab Hours	Course Credits
First Semester					
CAD	120	Intro. to Graphic Rep.	2	3	3
ENG	131	Technical Report Writing I	3	0	3
MAC	101	Machine Shop I	5	9	8
MTH	103	Basic Tech. Math I	3	0	3
SDV	100	College Success Skills	1	0	1
Total			**14**	**12**	**18**
Second Semester					
DRF	160	Mac. Blueprint Reading	3	0	3
MAC	102	Machine Shop II	4	9	7
MAC	121	Numerical Control I	1	2	2
MTH	104	Basic Tech. Math. II	3	0	3
ITE	116	Survey of Computer Software Appl.	2	0	2
SAF	130	Industrial Safety - OSHA	1	0	1
Total			**14**	**11**	**18**
Summer Term					
MAC	221	Adv. Machine Tool Operations I	4	9	7
MAC	127	Adv. CNC Program	3	0	3
Total			**7**	**9**	**10**
Third Semester					
ECO	120	Survey of Economics	3	0	3
MAC	209	Standards, Measurements & Calculations	3	0	3
MAC	122	Numerical Control II	1	2	2
MAC	222	Adv. Machine Tool Operations II	4	9	7
MAC	134	CMM Operation and Programming	1	2	2
Total			**12**	**13**	**17**
Fourth Semester					
MAC	128	CNC Programming	2	0	2
MAC	123	Numerical Control III	1	2	2
MAC	150	Intro. to Computer-Aided Manufacturing	2	3	3
MAC	223	Adv. Machine Tool Operations III	4	9	7
CST	100	Prin. of Public Speaking or Approved Substitute	3	0	3
Total			**12**	**14**	**17**

Total Minimum Credits for the Diploma in Precision Machining Technology.....80

Certificate Programs

Air Conditioning and Refrigeration Servicing (Day and Night Programs)
Auto Body Mechanics
Building Trades Technology
Corrections
Cybercrime Investigation
Drafting Technology
First Year Studies
General Education
Industrial Electrical Principles
Industrial Electronic Principles
Law Enforcement
Maintenance Mechanics
Office Information Processing
Protective Services (Private Security)
Residential Design and Estimation
Welding Technology

The Certificate programs differ from the Associate Degree programs in several ways. They may be presented at a different educational level and are developed in response to specific local employment needs, as identified by the programs' lay advisory committees and the College's Curriculum committee. Their specific objective is to give students a variety of hands-on training experiences to prepare them for immediate employment. The certificate programs do not require the same level of general education training as the associate degree programs, so more of the required courses are directly related to the chosen field of study. There is no limit on the maximum number of credits required in these programs, but most are designed to be completed in one year of full-time study. The types of jobs which you might expect to obtain upon completion of the certificate requirements are listed in this section. Specific courses for completing each program of study are also included.

Air Conditioning & Refrigeration Servicing

Award: CERTIFICATE

Length: Variable

Purpose: The Air Conditioning & Refrigeration Servicing Certificate program is designed to train persons to service equipment currently in the field and to give them a background that will enable them to cope with new developments as they occur.

Occupational Objectives: The following occupational titles represent examples of possible employment opportunities:

Air Conditioning Technician
Circuits & Controls Service Technician
Air Conditioning/Heating Technician
Installation and Service Technician
Refrigeration Service Technician

Admission Requirements: Entry into this curriculum may be attained by meeting the general admission requirements established for the College. If you meet the general admission requirements, a counselor will discuss with you the strengths and weaknesses of your academic background and your strengths and weaknesses as revealed by an appropriate placement test. You may correct any deficiencies in academic preparation in the College's Developmental Studies program.

Program Description: The program is designed for both beginners and persons presently employed in the air conditioning and refrigeration field. It provides the practical experience and the technical knowledge required for competence as a service technician in the air conditioning and refrigeration field. The student will receive specialized seminars, theoretical and practical training in basic electricity, circuits and controls (electric, electronic, and pneumatic), combustion devices (oil burners and gas burners), refrigeration and air conditioning (residential and commercial).

Program Outcomes: Upon completion of the Air Conditioning and Refrigeration Servicing Certificate, students will be able to::

1. Demonstrate mathematical skills to solve problems in electrical, refrigeration, and air conditioning systems, gas heating systems, and oil heating systems.
2. Apply troubleshooting skills to diagnose and repair the following: refrigeration, heating, and electrical systems.
3. Apply knowledge learned to install heating, air conditioning, and refrigeration systems.
4. Sit for the EPA Certification.

Program Requirements: To receive a Certificate in Air Conditioning & Refrigeration Servicing, you must complete a minimum of 40 or 41 credits with a grade point average of 2.00 or better. The credits are distributed according to the following outline as indicated for day and evening programs. This outline represents a typical order of courses taken by full-time students. Part-time and/ or evening students may take courses in any desired sequence, except for hyphenated courses or others requiring prerequisites.

Air Conditioning & Refrigeration Servicing (Night Program)

			Lecture Hours	Lab Hours	Course Credits
First Semester					
AIR	111	Air Conditioning & Refrigeration Controls I	2	2	3
AIR	121	Air Conditioning & Refrigeration I	2	2	3
AIR	161	Heating, Air Conditioning & Refrigeration Calculations I or Approved Substitute	3	0	3
ENG	131	Technical Report Writing or Approved Substitute	3	0	3
SDV	100	College Success Skills	1	0	1
Total			**11**	**4**	**13**
Second Semester					
AIR	112	Air Conditioning & Refrigeration Controls II	2	2	3
AIR	122	Air Conditioning & Refrigeration II	2	2	3
AIR	154	Heating Systems I	2	2	3
ITE	116	Survey of Computer Software Applications	2	0	2
MKT	170	Customer Relations	1	0	1
Total			**9**	**6**	**12**
Third Semester					
AIR	123	Air Conditioning & Refrigeration III	2	2	3
AIR	155	Heating Systems II	2	2	3
AIR	213	Air Conditioning & Refrigeration Controls III or Approved Substitute	2	2	3
Total			**6**	**6**	**9**
Fourth Semester					
AIR	124	Air Conditioning & Refrigeration IV	2	2	3
AIR	214	Air Conditioning & Refrigeration Controls IV	2	2	3
Total			**4**	**4**	**6**

Total Minimum Credits for the Certificate in Air Conditioning & Refrigeration Servicing (Night Program).....40

Air Conditioning & Refrigeration Servicing (Day Program)

			Lecture Hours	Lab Hours	Course Credits
First Semester					
AIR	111	Air Conditioning & Refrigeration Controls	2	2	3
AIR	121	Air Conditioning & Refrigeration I	2	2	3
AIR	161	Heating, Air Conditioning & Refrigeration Calculations I or Approved Substitute	3	0	3
AIR	154	Heating Systems I	2	2	3
SDV	100	College Success Skills	1	0	1
Total			**10**	**6**	**13**
Second Semester					
AIR	135	Circuits II	2	3	3
AIR	122	Air Conditioning & Refrigeration II	2	2	3
AIR	155	Heating Systems II	2	2	3
ENG	131	Technical Writing or Approved Substitute	3	0	3
HUM	165	Controversial Issues	3	0	3
Total			**12**	**7**	**15**
Third Semester (Summer)					
AIR	273	Refrigeration III	2	3	3
AIR	156	Heating Systems III	2	2	3
AIR	136	Circuits III	2	3	3
AIR	195	EPA Certification	1	0	1
MKT	170	Customer Relations	1	0	1
ITE	116	Survey of Computer Software Appl.	2	0	2
Total			**10**	**8**	**13**

Total Minimum Credits for the Certificate in Air Conditioning & Refrigeration Servicing (Day Program).....41

Auto Body Mechanics

Award: CERTIFICATE

Length: A full-time student may complete this program in one year.

Purpose: The program in Auto Body Mechanics is designed to provide the student with the knowledge and skill necessary to obtain full-time employment upon completion of the program of studies.

Occupational Objectives: The following occupational titles represent examples of possible employment opportunities:

- Auto Body Mechanic
- Painter
- Service Manager
- Insurance Adjuster

Admission Requirements: Entry into this curriculum may be attained by meeting the general admission requirements established for the College. If you meet the general admission requirements, a counselor will discuss with you the strengths and weaknesses of your academic background and your strengths and weaknesses as revealed by an appropriate placement test. You may correct any deficiencies in academic preparation in the College's Developmental Studies program.

Program Description: The Auto Body Mechanics program is designed to provide training in all phases of auto body mechanics. Emphasis is placed on the solution of everyday problems that arise in auto body repair, such as blistering, chipping, cracking, blushing, pin holes, panel replacement, and the use of plastics. You will be taught to use up-to-date equipment and materials that are being constantly developed, as well as new methods for detecting and repairing damage. The program contains general education courses to assist you in social and business communications and to prepare you to meet the obligation of a citizen in the American democratic society.

Program Outcomes: Upon successful completion of this program students will be able to:

1. Identify the tools and equipment in auto body repair.
2. Straighten sheet metal.
3. Use plastic fillers.
4. Prepare and prime a panel for painting.
5. Paint a panel.
6. Use the frame machine and measuring equipment.
7. Compute cost estimates for completing repairs.
8. Work safely in the shop.

Program Requirements: To receive a Certificate in Auto Body Mechanics, you must complete a minimum of 45 credits with a 2.00 grade point average or better. The credits are distributed according to the following outline. This outline represents a typical order of courses taken by full-time students. Part-time students may take courses in any desired sequence, except for hyphenated courses or others requiring prerequisites.

			Lecture Hours	Lab Hours	Course Credits
First Semester					
AUB	111	Automobile Body Theory & Shop Practices I	5	9	8
AUB	116	Auto Body Repair	3	3	4
ENG	131	Technical Report Writing I	3	0	3
SDV	100	College Success Skills	1	0	1
WEL	120	Fundamentals of Welding	1	3	2
Total			**13**	**15**	**18**
Second Semester					
AUB	112	Automobile Body Theory & Shop Practices II	5	9	8
AUB	198	Seminar & Project or			
AUB	190	Coordinated Internship	0	1	2
AUB	206	Automotive Body Component Service	1	3	2
ECO	100	Elementary Economics	3	0	3
Total			**12**	**13**	**15**
Third Semester					
AUB	113	Automobile Body Theory & Shop Practices III	3	9	6
AUB	115	Damage Repair Estimating	1	3	2
AUB	298	Adv. Seminar & Project or			
AUB	290	Coordinated Internship	1	5	4
Total			**5**	**17**	**12**

Total Minimum Credits for a Certificate in Auto Body Mechanics.....45

Building Trades Technology

Award: CERTIFICATE

Length: A full-time student may complete this program in one year.

Purpose: The purpose of the Building Trades Technology Program to help entry-level employees in construction -related trades obtain job-specific knowledge and skills to improve their work performance and career status within the construction industry.

Occupational Objectives: Graduates of this program will have:
- Basic carpentry skills including framing, exterior siding and trim, interior trim
- A familiarity with plumbing for light construction
- An understanding of job site safety training
- An introduction to HVAC systems found in residential housing
- Basic math skills required in the building trades industry
- An introduction to home electrical wiring

Admission Requirements: Entry into this curriculum may be attained by meeting the general admission requirements established for the College. If you meet the general admission requirements, a counselor will discuss with you the strengths and weaknesses of your academic background and your strengths and weaknesses as revealed by an appropriate placement test. You may correct any deficiencies in academic preparation in the College's Developmental Studies program.

Program Description: The program is designed to develop a general foundation in residential construction with an emphasis on carpentry. Students will also be given an introduction to plumbing, electrical, HVAC (Heating, Ventilation and Air Conditioning), and the skills required to build a residential building.

Program Outcomes: Graduates of the Building Trades Technology program will:
1. Know construction terminology.
2. Practice construction safety.
3. Use hand and power tools.
4. Estimate materials.
5. Interpret construction drawings.
6. Use measurement tools.
7. Apply green construction and energy conservation practices.
8. Perform general carpentry skills.

Program Requirements: To receive a Certificate in Building Trades Technology, you must complete a minimum of 44 credits with a grade point average of 2.00 or better. The credits are distributed according to the following outline. This outline represents a typical order of courses taken by full-time students. Part-time and/or evening students my take courses in any desired sequence, except for hyphenated courses or others requiring prerequisites.

			Lecture Hours	Lab Hours	Course Credits
First Semester					
BLD	103	Principles of Residential Construction	3	0	3
BLD	110	Introduction to Construction	3	0	3
BLD	120	Applied Construction Mathematics	3	0	3
BLD	131	Carpentry I	3	4	5
SAF	195	Shop Safety	1	0	1
SDV	100	*College Success Skills	1	0	1
Total			**14**	**4**	**16**
Second Semester					
BLD	20	Introduction to Plumbing	1	2	2
BLD	132	Carpentry II	3	4	5
BLD	184	Interior and Exterior Finishes	3	0	3
ELE	110	Home Electric Power	2	2	3
ENG	131	Technical Report Writing	3	0	3
Total			**12**	**8**	**16**
Third Semester					
AIR	121	Air Conditioning & Refrigeration I	2	3	3
BLD	195	Topics in Communication Skills/Work Ethics/ Green Construction	3	0	3
BLD	196	On-Site Training	0	15	3
ECO	100	Elementary Economics	3	0	3
Total			**8**	**18**	**12**

Total Minimum Credits for the Certificate in Building Trades Technology 44

Should be taken in first semester

Corrections

Award: CERTIFICATE

Length: Four-semesters, can be completed part-time

Purpose: The Certificate in Corrections is designed for practitioners in corrections and associated fields who desire to take only those courses which relate directly to their employment needs. Students who are deficient in meeting academic standards may be advised to enroll in appropriate classes which are designed to provide the background necessary for academic proficiency.

Occupational Objectives: The following occupational titles represent examples of possible employment opportunities:
Corrections Officer
Jailer

Admission Requirements: The Certificate in Corrections Program is designed to improve the job-related skills of the person engaged in corrections-related duties. You will be advised as to which courses are most applicable in your field of interest. You must complete at least 43 credits in the curriculum, to be awarded a Certificate in Corrections.

Program Outcomes: Students who successfully complete this program will demonstrate:
1. An in-depth knowledge of various sources of crime data (e.g. FBI-based Uniform Crime Reporting system) and analytical skills necessary to evaluate "strengths" and "weaknesses" of crime data reporting
2. Assessment skills applied to community-police programs and evaluative measures to be applied to the merits of police-sponsored community crime prevention efforts
3. Knowledge of each component of the criminal justice system – police, judiciary, corrections and protective services (private security) – and articulation of various sub-components of the criminal justice system ranging from prosecutor, defense attorney and probation – parole duties to functions performed by public safety offices such as the public defender and sheriff

4. Knowledge of the role diversity plays in decision-making at all levels of America's criminal justice system
5. Knowledge of the global nature of crime to include the impact of crime and the prosecution of criminal offenders who utilize not only the United States, but also international destinations from Europe to Asia to further a terrorist goal, commit cybercrime, or reap huge profits associated with criminal enterprises
6. Knowledge of stress reduction techniques including a meaningful and consistent physical fitness conditioning program
7. Knowledge of the importance of volunteering one's talents for the overall improvement of one's community
8. Knowledge of the need for uncompromising ethical and moral standards
9. Exemplary written and oral communications skills
10. Excellent information literacy skills

Program Requirements: The Certificate in Corrections Program is designed to improve the job-related skills of the person engaged in corrections-related duties. You will be advised as to which courses are most applicable in your field of interest. You must complete at least 43 credits in the curriculum, to be awarded a Certificate in Corrections.

			Lecture Hours	Lab Hours	Course Credits
First Semester					
ENG	111	College Composition I	3	0	3
ADJ	100	Survey of Criminal Justice	3	0	3
SOC	200	Principles of Sociology	3	0	3
SDV	100	College Success Skills	1	0	1
Total			**10**	**0**	**10**
Second Semester					
ADJ	130	Introduction to Criminal Law	3	0	3
SOC	235	Juvenile Delinquency	3	0	3
ENG	112	College Composition II	3	0	3
SOC	215	Sociology of the Family or			
SOC	268	Social Problems	3	0	3
Total			**12**	**0**	**12**
Third Semester					
ADJ	140	Introduction to Corrections	3	0	3
PSY	200	Principles of Psychology	3	0	3
ITE	115	Introduction to Computer Applications and Concepts	3	0	3
Total			**9**	**0**	**9**
Fourth Semester					
ADJ	227	Constitutional Law	3	0	3
ADJ	145	Corrections & the Community	3	0	3
SOC	236	Criminology	3	0	3
HLT	116	Personal Wellness	3	0	3
Total			**12**	**0**	**12**

Total Minimum Credits for the Certificate in Corrections.....43

Note: All courses must be approved by the Administration of Justice Program Advisor. Graduates of Corrections Officer's and Jailer's Training Academy Programs may receive advanced standing credit for some program requirements. Additional course credits may be received for relevant and qualified in-service corrections officer's/jailer's training courses. Students must be enrolled in the Administration of Justice Program in order to have previous corrections officer/jailer training evaluated.

Cybercrime Investigation

Award: Certificate

Length: Four semester part-time program

Purpose: The Certificate in Cybercrime Investigation is designed for practitioners in law enforcement and associated fields who desire to take only those courses which related directly to their employment needs. Students who are deficient in meeting academic standards may be advised to enroll in appropriate classes which are designed to provide the background necessary for academic proficiency.

Occupational Objectives: Police officer, deputy sheriff, game warden, Virginia State Trooper, protective services (private security/homeland security) personnel.

Admission Requirements: Regular DCC admission requirements apply. The Administration of Justice Program Lead Faculty Member is available to answer specific questions regarding application to DCC and/or cybercrime investigation prerequisites and course requirements.

Program Outcomes: Students who successfully complete this program will know how to:
1. Investigate computer crimes and incidents and accurately analyze and report findings
2. Prepare written computer-forensics investigation reports that are admissible in court
3. Describe network components, protocols, architectures, and the application of current communication and networking technologies
4. Acquire, recover, document and analyze information contained within and created by computer systems, including different operating systems and networks, computer devices, and digital devices including cellular telephones and digital cameras
5. Identify the specifics of computer and network security exposures and vulnerabilities and the countermeasures available to prevent breaches and other system intrusions
6. Help organizations increase awareness of security policies and procedures
7. Collect, analyze and evaluate evidence data using industry-standard computer forensic software and hardware
8. Collaborate with others to conduct a proper computer-forensics investigation
9. Discuss and apply the rules of evidence and court procedures and apply the legal and ethical issues related to the acquisition and analysis of digital evidence

Program Requirements: The Cybercrime Investigation Certificate is designed to improve the job -related skills of individuals engaged in law enforcement and/ or security duties. Students are advised as to which courses are applicable in their field of interest and will upon completion of 38 credits in the curriculum be awarded a Certificate in Cybercrime Investigation.

Program Notes: Graduates of the "Law Enforcement Officers Training Standards Course" and the Virginia State Police "Basic Training Academy" may receive advanced standing credit for some program requirements. Additional course credits may be received for relevant and qualified in-service criminal justice seminars and training courses.

			Lecture Hours	Lab Hours	Course Credits
First Semester					
ENG	111	College Composition I	3	0	3
ADJ	100	Survey of Criminal Justice	3	0	3
PSY	200	Principles of Psychology	3	0	3
ITE	116	Survey of Comp. Software Applications	2	0	2
SDV	100	College Success Skills	1	0	1
Total			**12**	**0**	**12**

Second Semester

ADJ	130	Introduction to Criminal Law	3	0	3
SOC	200	Principles of Sociology	3	0	3
ITN	276	Computer Forensics I	3	2	4
Total			**9**	**2**	**10**

Third Semester

ADJ	161	Introduction to Computer Crime	3	0	3
ITN	277	Computer Forensics II	3	0	3
Total			**6**	**0**	**6**

Fourth Semester

ADJ	227	Constitutional Law	3	0	3
ITN	260	Network Security Basics	3	2	4
SOC	236	Criminology	3	0	3
Total			**9**	**2**	**10**

Total Minimum Credits for the Certificate in Cybercrime Investigation.....38

Note: In selecting courses, students should seek the advice of the ADJ Program Advisor in order to assure courses taken are consistent with career goals.

Drafting Technology

Award: CERTIFICATE

Length: A full-time student may complete this program in one year.

Purpose: The Certificate in Drafting Technology is designed to provide the student with the knowledge and skill necessary to obtain full-time employment upon completion of the program courses.

Occupational Objectives: The following occupational titles represent examples of possible employment opportunities:

Draftsman
Surveying Assistant

Admission Requirements: Entry into this curriculum may be attained by meeting the general admission requirements established for the College. If you meet the general admission requirements, a counselor will discuss with you the strengths and weakness of your academic background and your strengths and weaknesses as revealed by an appropriate placement test. You may correct any deficiencies in academic preparation in the College's Developmental Studies program.

Program Description: The program is designed for both beginning draftsmen and those with drafting dual credit from local high schools. It could also be beneficial to those in the drafting field looking to gain experience with new software and new fabrication technologies. It provides extensive computer application training, instruction in the areas of board and computer drafting techniques, and an introduction to surveying. The student will receive specialized training in the use of 2D and 3D mechanical design software and will be exposed to 3D residential design software. Students will complete a variety of lab exercises which are designed to focus on mechanical design and construction-related applications.

Program Outcomes: Successful graduates of this program will:

1. Demonstrate competency in graphically describing the shape and size of a design project using traditional drafting methods.
2. Demonstrate competency in designing, graphically representing, and fabricating solid models of mechanical parts.
3. Demonstrate proficiency in surveying the boundaries of a property.
4. Demonstrate proficiency in solving a unique design problem.

Program Requirements: To receive the Certificate in Drafting Technology, you must complete a minimum of 39 credits with a grade point average of 2.0 or better. The credits are distributed according to the following outline. This outline represents a typical order of courses taken by full-time students. Part-time students may take courses in any desired sequence, except for hyphenated courses or others requiring prerequisites.

First Semester

			Lecture Hours	Lab Hours	Course Credits
*SDV	100	College Success Skills	1	0	1
Elective		Technical Elective	3	0	3
DRF	114	Drafting I	1	6	3
CAD	233	Drafting III	2	2	3
MEC	100	Introduction to Engineering Technology	1	2	2
MAC	131	Machine Lab I	1	3	2
SDV	195	Electronic Portfolios	1	0	1
Total			**10**	**13**	**15**

Second Semester

DRF	115	Drafting II	1	6	3
MEC	111	Materials for Industry	3	0	3
CIV	171	Surveying I	2	3	3
ENG	131	Technical Writing	3	0	3
MTH	115	Basic Math	3	0	3
Total			**12**	**9**	**15**

Summer Term

DRF	201	Comp. Aid Drafting & Design I	2	2	3
DRF	199	Supervised Study	1	2	2
ARC	211	Architectural Drafting I	2	2	3
Total			**5**	**6**	**8**

Total Minimum Credits for the Certificate in Drafting Technology.....39

**Note: Should be taken in first semester.*

First Year Studies

Award: CERTIFICATE

Length: A full-time student may complete this program in one year.

Purpose: The First Year Studies Certificate program is designed for students who desire or need to complete one year of academic studies in preparation for admission to medical, dental or other fields requiring a firm foundation in college-level, academic courses. Students who wish to pursue associate degrees, advanced certificates, or bachelor's degrees in nursing, dental hygiene, medical laboratory technology, radiography and related fields may enroll in this certificate program to complete academic coursework typically required by programs in these areas. Course selection in consultation with an academic adviser is required to ensure that students complete courses required in their projected program of study.

Admission Requirements: Entry into this curriculum may be attained by meeting the general admission requirements established for the College. A high school diploma or GED is required. You must take developmental coursework as required by placement testing, long -term educational goals, and the college-level coursework which you would like to pursue.

Program Description: This program consists of a minimum of 30 credit hours of instruction distributed into general education and elective course areas. In the general education area, students must take college composition, a 100-level or above math course, one social science course, one natural science course, and one humanities or arts course. Students are then allowed to select 12 credit hours of coursework which prepares them directly for the program to which they would like to transfer. Students are also required to take a computer elective and the college's orientation course. All courses should be selected in consultation with an academic advisor in the Arts and Science Division who will have recommended sequences of coursework for various medical and dental programs. Completion of the appropriate sequence of courses for particular programs may benefit students by decreasing their course load on a semester-by-semester basis in their projected programs as well as prepare them for the specialized coursework in many fields of study.

Program Outcomes: The Danville Community College First Year Studies Certificate is designed to prepare students for entry into a variety of health care programs by taking the necessary prerequisites for those programs. To this end, graduates of this certificate will demonstrate:

1. The ability to communicate effectively by means of listening, speaking, reading and writing
2. An understanding of ethics, cultures and society
3. An understanding of and competence in research methods and scientific inquiry
4. Excellent information literacy skills
5. Critical thinking skills in various fields

Program Requirements: To receive a Certificate in First Year Studies, you must complete a minimum of 30 credits with a grade point average of 2.00 or better. Credits for this certificate may be distributed according to the sequence of courses below.

			Lecture Hours	Lab Hours	Course Credits
First Semester					
SDV	100	College Success Skills	1	0	1
ENG	111	College Composition	3	0	3
MTH		Math course at 100-level or above	3	0	3
		Approved Computer Elective	2-3	0	2-3
Elective			3	0	3
Elective			3	0	3
Total			**15-16**	**0**	**15-16**
Second Semester					
College-level Natural Science			3	0-3	3-4
College-level Social Science			3	0	3
College-level Humanities or Arts			3	0	3
Elective			3	0	3
Elective			3	0	3
Total			**15**	**0-3**	**15-16**

Total Minimum Credits for the Certificate in First Year Studies.....30

General Education

Award: CERTIFICATE

Length: A full-time student may complete this program in one year.

Purpose: The Certificate in General Education is designed for students who are preparing to transfer to a four-year institution after one year of study at DCC. The program may also be attractive to students who intend to transition into one of DCC's transfer degrees. Course selection should be made in consultation with an academic advisor to ensure that students complete courses required by their transfer institution.

Admission Requirements: Entry into this curriculum may be attained by meeting the admission requirements established by the College. A high school diploma or GED is required. You must take development coursework as required by placement testing.

Program Description: This program consists of a minimum of 33 credit hours of instruction distributed into general education and elective course areas. Only courses which are transfer level college courses may be counted in this degree. This curriculum is roughly equivalent to the first year of study in a DCC transfer degree and it may be tailored to meet the requirements of most transfer degree programs at four-year institutions.

Program Outcomes: The General Education certificate is designed for those students who intend to transfer to a four-year school after one year and is designed to give a solid basis in a variety of general education courses. To this end, graduates will demonstrate:

1. The ability to communicate effectively by means of writing, speaking, listening and reading
2. Proficiency in conducting experiments and recording and interpreting data
3. An awareness and understanding of ethics, cultures and society
4. The critical thinking skills of synthesizing and analyzing complex ideas
5. An awareness of the role of the arts and humanities in society

Program Requirements: To receive the Certificate in General Education you must complete a minimum of 33 credits with a grade point average of 2.0 or better. The credits are distributed according to the outline below.

			Lecture Hours	Lab Hours	Course Credits
First Semester					
SDV	100	College Success Skills	1	0	1
ENG	111	College Composition I	3	0	3
MTH		MTH 151 **or** higher	3	0	3
HUM **or** Fine Arts Elective			3	0	3
Science		Transfer Level Science	3	3	4
[2]Soc. Sci.		[2]Social Science Elective	3	0	3
Total			**16**	**3**	**17**
Second Semester					
ENG	112	College Composition II	3	0	3
[1]HIS		[1]History	3	0	3
[2]Soc Sci		[2]Social Science Elective	3	0	3
HUM **or** Fine Arts Elective			3	0	3
Science		Transfer Level Science	3	3	4
Total			**15**	**3**	**16**

Total Minimum Credits for the Certificate in General Education.....33

[1] Any HIS 101, HIS 121, HIS 111, HIS 102, HIS 122, OR HIS 112.

[2] Any PSY 200, PSY 201, SOC 200, SOC 201, PLS 211, PLS 212, ECO 201,,ECO 202

Industrial Electrical - Electronic Principles

Awards:
CERTIFICATE IN INDUSTRIAL ELECTRICAL PRINCIPLES or
CERTIFICATE IN INDUSTRIAL ELECTRONIC PRINCIPLES

Length: A full- time student may complete either program in three semesters, which includes one summer term.

Purpose: The purpose of the Industrial Electrical Principles and the Industrial Electronic Principles curricula are designed to train industrial workers who have the need or desire to keep up with occupational requirements or to learn a necessary skill in the Electrical-Electronic field.

Occupational Objectives: The following occupational titles represent examples of possible employment opportunities:

Assembler
Electrical Helper
Electrician
Electrical-Electronic Tester
Salesperson/or Serviceperson

Admission Requirements: To enter these curricula require that an individual meet the general admission requirements for the College. If you meet the general admission requirements, a counselor will discuss with you the strengths and weaknesses of your academic background and your strengths and weaknesses as revealed by an appropriate placement test. You may correct any deficiencies in academic preparation in the College's Developmental Studies program.

Program Description: The Industrial Electrical Principles and the Industrial Electronic Principles curricula are designed for full-time or part-time students and allow flexibility for the industrial worker. These programs will prepare you for industrial employment and are also designed to aid those who need to keep abreast of occupational changes and requirements. The two programs offer a variety of field trips and seminars. You must complete the Industrial Electrical Principles Certificate requirements or have had equivalent courses and/or occupational experience prior to entering the Industrial Electronic program.

Program Outcomes – Industrial Electrical Principles:
Upon successful completion of this program, students will be able to:

1. Design, draw, construct, analyze, and troubleshoot basic series and parallel AC and DC electrical circuits including all typical circuit elements and explain the function of each.
2. Identify, select, set up and operate basic electronic test and measuring equipment including ammeters, ohmmeters, voltmeters, clamp-on ammeters, multi-meters, power supplies, function generators, RF generators, logic probes, curve tracers and oscilloscopes and explain the application of each.
3. Identify, select and properly use tools that are used in the electrical and electronics industry.
4. Demonstrate an understanding of commercial 3-phase electric power generation.
5. Identify, select and install residential, commercial and industrial electrical devices and equipment.

Program Outcomes – Industrial Electronic Principles:
Upon successful completion of this program, students will be able to:

1. Design, draw, construct, analyze, and troubleshoot basic series and parallel AC and DC electrical circuits including all typical circuit elements and explain the function of each.
2. Design, draw, construct, analyze, and troubleshoot basic analog electronic circuits.
3. Identify, select, set up and operate basic electronic test and measuring equipment including ammeters, ohmmeters, voltmeters, clamp-on ammeters, multi-meters, power supplies, function generators, and oscilloscopes and explain the application of each.
4. Demonstrate an understanding of commercial 3-phase electric power generation.

Program Requirements: To receive the Certificate in Industrial Electrical Principles or the Certificate in Industrial Electronic Principles, you must complete a minimum of 42 credits with a 2.00 or higher grade point average. The credits are distributed according to the following outlines. These outlines represent a typical order of courses taken by full-time day students.

Industrial Electrical Principles

			Lecture Hours	Lab Hours	Course Credits
First Semester					
SDV	100	College Success Skills	1	0	1
ENG	131	Technical Report Writing	3	0	3
ELE	113	Basic Electricity I	3	0	3
ELE	123	Electrical Applications I	1	2	2
ELE	152	Calculations I	3	0	3
ELE/ETR		Approved Elective	—	—	3
Total			**11**	**2**	**15**
Second Semester					
ELE	114	Basic Electricity II	3	0	3
ELE	124	Electrical Applications II	1	2	2
ELE	153	Calculations II	3	0	3
ELE	190	Coordinated Internship	—	—	3
ELE/ETR		Approved Elective	—	—	3
Total			**7**	**2**	**14**
Third Semester					
ELE	156	Electrical Control Systems	2	2	3
ECO	100	Elementary Economics	3	0	3
ELE/ETR		Approved Elective	0	0	3
ITE	116	Survey of Computer Software Applications	2	0	2
ELE	217	Power Utilities	—	—	2
Total			**7**	**2**	**13**

Total Minimum Credits for the Certificate in Industrial Electrical Principles.....42

Industrial Electronic Principles

			Lecture Hours	Lab Hours	Course Credits
First Semester					
SDV	100	College Success Skills	1	0	1
ETR	141	Electronics I	3	0	3
ETR	190	Coordinated Internship (2-4)	2	0	2
ENG	131	Technical Report Writing	3	0	3
ELE	152	E/E Calculations I	3	0	3
Total			**12**	**0**	**12**
Second Semester					
ETR	142	Electronics II	3	0	3
ELE/ETR		Approved Elective (4-6)	6	0	6
ETR	190	Coordinated Internship (2-4)	2	0	2
ELE	153	E/E Calculations II	3	0	3
ETR	151	Electronic Circuits & Troubleshooting I	2	0	2
Total			**16**	**0**	**16**

Third Semester

ETR	136	Industrial Electronic Systems	2	3	3
ETR	190	Coordinated Internship	3	0	3
ETR	152	Electronic Circuits & Troubleshooting II	2	0	2
ECO	100	Elementary Economics	3	0	3
ELE/ETR		Approved Elective	3	0	3
Total			**13**	**3**	**14**

Total Minimum Credits for the Certificate in Industrial Electronic Principles.....42

Law Enforcement

Award: CERTIFICATE

Length: Four semesters – can be completed on a part time basis.

Purpose: The Certificate in Law Enforcement is designed for practitioners in law enforcement and associated fields who desire to take only those courses which relate directly to their employment needs. Students who have academic deficiencies may be advised to enroll in appropriate classes which are designed to provide the background necessary for academic proficiency.

Occupational Objectives: The following titles represent examples of possible employment opportunities:

Police Officer
Deputy Sheriff
Game Warden
Virginia State Trooper

Admission Requirements: A high school diploma or GED is required. In addition to the admission requirements established by the College, entry into this curriculum requires proficiency in English, mathematics, and reading. If you do not meet entry requirements or your placement test scores indicate a need for further preparation, you will be placed in the appropriate developmental studies courses in English, mathematics, and/or reading. These developmental course credits do not apply toward degrees or certificates. Students required to take two or more developmental courses may need additional semesters to complete the program.

Program Outcomes: Students who successfully complete this program will demonstrate:

1. An in-depth knowledge of various sources of crime data (e.g. FBI-based Uniform Crime Reporting system) and analytical skills necessary to evaluate "strengths" and "weaknesses" of crime data reporting
2. Assessment skills applied to community-police programs and evaluative measures to be applied to the merits of police-sponsored community crime prevention efforts
3. Knowledge of each component of the criminal justice system – police, judiciary, corrections and protective services (private security) – and articulation of various sub-components of the criminal justice system ranging from prosecutor, defense attorney and probation – parole duties to functions performed by public safety offices such as the public defender and sheriff
4. Knowledge of the role diversity plays in decision-making at all levels of America's criminal justice system
5. Knowledge of the global nature of crime to include the impact of crime and the prosecution of criminal offenders who utilize not only the United States, but also international destinations from Europe to Asia to further a terrorist goal, commit cybercrime, or reap huge profits associated with criminal enterprises
6. Knowledge of stress reduction techniques including a meaningful and consistent physical fitness conditioning program
7. Knowledge of the importance of volunteering one's talents for the overall improvement of one's community
8. Knowledge of the need for uncompromising ethical and moral standards
9. Exemplary written and oral communications skills
10. Excellent information literacy skills

Program Requirements: The Law Enforcement Certificate program is designed to improve the job-related skills of the person engaged in law enforcement duties. You will be advised as to which courses are most applicable in your field of interest. To receive the Certificate, you must successfully complete 44 credits in the curriculum.

			Lecture Hours	Lab Hours	Course Credits
First Semester					
ENG	111	College Composition I	3	0	3
ADJ	100	Survey of Criminal Justice	3	0	3
SOC	200	Principles of Sociology	3	0	3
SDV	100	College Success Skills	1	0	1
Total			**10**	**0**	**10**
Second Semester					
ADJ	130	Introduction to Criminal Law	3	0	3
SOC	235	Juvenile Delinquency	3	0	3
ENG	112	College Composition II	3	0	3
SOC	215	Sociology of the Family or			
SOC	268	Social Problems	3	0	3
Total			**12**	**0**	**12**
Third Semester					
ADJ	236	Principles of Criminal Investigation	3	0	3
PSY	200	Principles of Psychology	3	0	3
ITE	115	Intro. to Computer Applications & Concepts	3	0	3
Total			**9**	**0**	**9**
Fourth Semester					
ADJ	227	Constitutional Law	3	0	3
ADJ	171	Forensic Science I	3	3	4
SOC	236	Criminology	3	0	3
HLT	116	Personal Wellness	3	0	3
Total			**12**	**3**	**13**

Total Minimum Credits for the Certificate in Law Enforcement.....44

Note: All courses must be approved by the Administration of Justice Program Advisor. Graduates of the "Law Enforcement Officers Training Standards Course" and the Virginia State Police "Basic Training Academy" may receive advanced standing credit for some program requirements. Additional course credits may be received for relevant and qualified in-service criminal justice seminars and training courses. Students must be enrolled in the Administration of Justice Program in order to have previous law enforcement training evaluated.

Maintenance Mechanics

Award: CERTIFICATE

Length: A full-time student may complete this program in three semesters, which could include one summer. Because of class availability this program may require more time.

Purpose: The Maintenance Mechanics program prepares individuals for employment in entry level positions available in industry and provides advancement opportunities to mechanics currently working in industry.

Occupational Opportunities: The following occupational titles represent examples of possible employment opportunities:

Industrial Maintenance Mechanic
Industrial Maintenance Assistant

Admission Requirements: See a College counselor for the admissions requirements for this program. If you meet the general admission requirements, a counselor will discuss with you the strengths and weaknesses of your academic background and your strengths and weaknesses as revealed by an appropriate placement test. You may correct any deficiencies in academic preparation in the College's Developmental Studies program.

Program Description: The curriculum is designed to assist students in entering technical careers in industrial maintenance. Academic and technical instruction and hands-on laboratory experiences provide a balance between theory and practice. The program contains general education courses to assist you in social and business communications.

Program Outcomes: Upon completion of the Maintenance Mechanics Program, students will be able to:

1. Demonstrate competency in reading and basic drawings and symbols.
2. The student will be able to stick weld, and demonstrate the ability to choose and use basic welding tools materials.
3. Demonstrate proficiency in wiring basic electrical circuits and understand basic wiring symbols.
4. Demonstrate proficiency in troubleshooting basic control circuits.
5. Demonstrate proficiency choosing and using basic tools and equipment.
6. Demonstrate proficiency in troubleshooting and repairing basic mechanical and electrical equipment.

Program Requirements: To receive a Maintenance Mechanics Certificate you must complete a minimum of 36 credits with a grade point average of 2.00 or better. The credits are distributed according to the following outline. The part-time and/or evening student may take courses in any desired sequence, except for hyphenated courses or others requiring prerequisites.

		Lecture Hours	Lab Hours	Course Credits
First Semester				
ETR 115	DC/AC Circuits	3	0	3
ITE 116	Survey of Computer Software	2	0	2
MTH 103	Basic Technical Math I	3	0	3
MEC 154	Mechanical Maintenance I	2	1	3
SDV 100	College Success Skills	1	0	1
Total		**11**	**1**	**12**
Second Semester				
ELE 147	Electrical Power & Controls Systems	2	2	3
IND 103	Industrial Methods	2	0	2
ITE 131	Survey of Internet Services	1	0	1
MEC 162	Applications in Hydraulics & Pneumatics	1	3	3
SAF 130	OSHA 10	1	0	1
WEL 120	Fundamentals of Welding	1	3	2
Total		**8**	**8**	**12**
Third Semester				
ELE 233	Programmable Logic Controller Sys I	2	3	3
IND 243	Mechatronics	2	2	3
ENG 131	Technical Report Writing I	3	0	3
PSY 126	Psychology for Business/Industry	3	0	3
Total		**10**	**5**	**12**

Total Minimum Credits for the Certificate in Maintenance Mechanics.....36

Office Information Processing

Award: CERTIFICATE

Length: A full-time student may complete this program in one year, which includes one summer term.

Purpose: The Office Information Processing program is designed for persons who are seeking employment in the information processing field immediately upon completion of the community college program. Persons who are seeking initial employment and those presently employed in information processing who are seeking advancement, or who want to improve or update skills, will benefit from this program.

Occupational Objectives: The following occupational titles represent examples of possible employment opportunities:

Bill and Account Collector
Billing, Cost or Rate Clerk
Cashier
Customer Service Representative – Utilities
Data Keyer (except Composing)
Dispatcher – Police, Fire or Ambulance
Computer Operator
Counter or Rental Clerk
File Clerk
Hotel, Motel, or Resort Desk Clerk
Human Resources Assistant (except Payroll and Timekeeping)
Interviewing Clerk
Loan and Credit Clerk
Mail Clerk or Mail Machine Operator
Messenger
Office Clerk – General
Order Clerk – Materials, Merchandise and Service
Payroll and Timekeeping Clerk Receptionist or
Information Clerk
Shipping, Receiving and Traffic Clerk
Switchboard Operator
Teller
Word Processor or Typist

Admission Requirements: You may be admitted to this program by meeting the admission requirements established for the College. If you meet the general admission requirements, a counselor will discuss with you the strengths and weaknesses of your academic background and your strengths and weaknesses as revealed by an appropriate placement test. You may correct any deficiencies in academic preparation in the College's Developmental Studies program.

Program Description: The Office Information Processing program includes technical courses in related areas and general education courses. Instruction includes both the theoretical concepts and practical applications needed for success in information processing.

Program Outcomes: Upon completion of the Office Information Processing program, the students will be able to:

1. Communicate effectively orally and in writing.
2. Demonstrate proficiency in using word processing software to accurately format a variety of business correspondence.
3. Perform mathematical calculations to accurately complete financial and accounting functions used in an office environment.

4. Key with a level of speed and accuracy acceptable to perform satisfactorily to industry standards.
5. Demonstrate knowledge of alphabetic and numerical filing rules to efficiently file and retrieve business correspondence.

Program Requirements: To receive the Certificate in Office Information Processing you must complete a minimum of 40 credits with a cumulative grade point average of 2.0 or better. The credits are distributed according to the following outline. This outline represents a typical order of courses taken by full-time students. Part-time and/or evening students may take courses in any desired order, except for sequence courses or courses requiring prerequisites.

			Lecture Hours	Lab Hours	Course Credits
First Semester					
AST	101	Keyboarding I	2	0	2
AST	103	Keyboarding I Lab	0	2	1
AST	243	Office Administration I	3	0	3
BUS	121	Business Mathematics I	3	0	3
ENG	134	Grammar for Writing & Speaking	3	0	3
ITE	116	Survey of Computer Applications	2	0	2
*SDV	100	College Success Skills	1	0	1
Total			**14**	**2**	**15**
Second Semester					
AST	102	Keyboarding II	2	0	2
AST	104	Keyboarding II Lab	0	2	1
AST	238	Microsoft Word for Windows	2	0	2
AST	239	Microsoft Word for Windows Lab	0	2	1
AST	244	Office Administration II	3	0	3
ENG	135	Applied Grammar II	3	0	3
Total			**10**	**4**	**12**
Third Semester					
ACC	105	Office Accounting	3	0	3
AST	234	Records & Database Mgt.	3	0	3
AST	253	Desktop Publishing w/InDesign	2	0	2
AST	255	Desktop Publishing Lab	0	2	1
ITE	140	Spreadsheet Software	3	0	3
SDV	106	Job Search Strategies	1	0	1
Total			**12**	**2**	**13**

Total Minimum Credits for the Certificate in Office Information Processing.....40

**Note: Should be taken during the first semester the student is enrolled in the curriculum.*

Protective Services (Private Security)

Award: CERTIFICATE

Length: Four-semesters; can be completed on a part-time basis

Purpose: The Certificate in Protective Services (Private Security) is designed for practitioners in protective services and private security who desire to take only those courses which relate directly to their employment needs. Students who are deficient in meeting academic standards may be advised to enroll in appropriate classes which are designed to provide the background necessary for academic proficiency.

Occupational Objectives: The following occupational titles represent examples of possible employment opportunities:

Security Officer
Private Investigator
Insurance Investigator

Admission Requirements: A high school diploma or GED is required. In addition to the admission requirements established for the College, entry into the Protective Services (Private Security) Certificate program requires proficiency in English, mathematics, and reading. If you do not meet entry requirements or if placement test scores indicate a need for further preparation, you will be placed in the appropriate developmental studies course(s) in English, mathematics, and/or reading. These developmental course credits do not apply toward degrees or certificates. If you are required to take two or more developmental courses you will need additional semesters to complete the program.

Program Outcomes: Students who successfully complete this program will demonstrate:

1. An in-depth knowledge of various sources of crime data (e.g. FBI-based Uniform Crime Reporting system) and analytical skills necessary to evaluate “strengths” and “weaknesses” of crime data reporting
2. Assessment skills applied to community-police programs and evaluative measures to be applied to the merits of police-sponsored community crime prevention efforts
3. Knowledge of each component of the criminal justice system – police, judiciary, corrections and protective services (private security) – and articulation of various sub-components of the criminal justice system ranging from prosecutor, defense attorney and probation – parole duties to functions performed by public safety offices such as the public defender and sheriff
4. Knowledge of the role diversity plays in decision-making at all levels of America’s criminal justice system
5. Knowledge of the global nature of crime to include the impact of crime and the prosecution of criminal offenders who utilize not only the United States, but also international destinations from Europe to Asia to further a terrorist goal, commit cybercrime, or reap huge profits associated with criminal enterprises
6. Knowledge of stress reduction techniques including a meaningful and consistent physical fitness conditioning program
7. Knowledge of the importance of volunteering one’s talents for the overall improvement of one’s community
8. Knowledge of the need for uncompromising ethical and moral standards
9. Exemplary written and oral communications skills
10. Excellent information literacy skills

Program Requirements: The Certificate in Protective Services (Private Security) is designed to improve the job- related skills of the person engaged in protective services duties. You will be advised as to which courses are most applicable in your field of interest. You must complete a minimum of 43 credits in the curriculum to be awarded a Certificate in Protective Services (Private Security).

Note: All courses must be approved by the Administration of Justice Program Advisor. Graduates of Protective Services and Private Security Training Programs may receive advanced standing credit for some program requirements. Additional course credits may be received for relevant and qualified in -service protective services training courses. Students must be enrolled in the Administration of Justice Program in order to have previous protective services/private security training experiences evaluated.

			Lecture Hours	Lab Hours	Course Credits
First Semester					
ENG	111	College Composition I	3	0	3
ADJ	100	Survey of Criminal Justice	3	0	3
SOC	200	Principles of Sociology	3	0	3
SDV	100	College Success Skills	1	0	1
Total			**10**	**0**	**10**

Second Semester

ADJ	130	Introduction to Criminal Law	3	0	3
SOC	235	Juvenile Delinquency	3	0	3
ENG	112	College Composition II	3	0	3
SOC	215	Sociology of the Family or			
SOC	268	Social Problems	3	0	3
Total			**12**	**0**	**12**

Third Semester

ADJ	150	Introduction to Security Admin.	3	0	3
PSY	200	Principles of Psychology	3	0	3
ITE	115	Introduction to Computer Applications & Concepts	3	0	3
Total			**9**	**0**	**9**

Fourth Semester

ADJ	227	Constitutional Law	3	0	3
ADJ	257	Loss Prevention	3	0	3
SOC	236	Criminology	3	0	3
HLT	116	Personal Wellness	3	0	3
Total			**12**	**0**	**12**

Total Minimum Credits for the Certificate in Protective Services (Private Security)..... 43

Note: In selecting courses, students should seek the advice of the ADJ Program Advisor in order to ensure courses taken are consistent with transfer or career goals.

Residential Design and Estimation

Award: CERTIFICATE

Length: A full-time student may complete this program in three semesters.

Purpose: The Certificate in Residential Design and Estimation is designed to provide the student with the knowledge and skill necessary to obtain employment upon completion of the program courses.

Occupational Objectives: The following occupational titles represent examples of possible employment opportunities:

- Draftsman
- Construction Estimator
- Construction Planner
- Sales Technician
- Surveying Assistant
- Site Inspector

Admission Requirements: You may be admitted to this program by meeting the admission requirements established for the College. If you meet the general admission requirements, a counselor will discuss with you the strengths and weaknesses of your academic background and your strengths and weaknesses as revealed by an appropriate placement test. You may correct any deficiencies in academic preparation in the College's Developmental Studies program.

Program Description: The program is designed for both beginners and persons already employed in the construction field. It provides extensive computer application training, instruction in the areas of residential design and construction techniques, an introduction into site surveys as well as plan development and layout. The student will receive specialized training in the use of 3D residential design software, construction mathematics, construction estimation and materials, as well as extensive lab exercises which are designed to focus on construction-related applications.

Program Outcomes: Students who successfully complete this program will:

1. Demonstrate the ability to interpret residential blueprints.
2. Demonstrate the ability to estimate material quantities required for the construction of a residential structure.
3. Utilize software packages in the development of a residential design.
4. Demonstrate the ability to survey a tract of property and to create a plat plan of that property.

Program Requirements: To receive the Certificate in Residential Design and Estimation, you must complete a minimum of 35 credits with a cumulative grade point average of 2.0 or better. The credits are distributed according to the following outline. This outline represents a typical order of courses taken by full-time students. Part-time and/or evening students may take courses in any desired order, except for sequence courses or courses requiring prerequisites.

Graduate Skill Sets: Graduates of the Residential Design and Estimation program will be provided an opportunity to:

1. Learn the fundamental principles of design for residential structures,
2. Learn the fundamental principles and drafting techniques and standards used in design for residential structures,
3. Learn the applications of 2D and 3D CAD software as used by design professionals for the design of residential structures,
4. Learn the mathematic skill set necessary to perform calculations required for the design for residential structures,
5. Learn to interpret and understand information shown on drawings and plans developed for residential structures,
6. Learn the fundamental principles of surveying and interpretation of site plans as are used in residential,
7. Learn the fundamental terms and phrases associated with residential structures,
8. Learn the fundamental principles and applications of theory used in estimation of cost for construction of residential structures,
9. Learn economic principles and theory,
10. Learn the fundamental principles of design for residential structures,
11. Learn software applications required for use in the residential construction industry,
12. Learn the fundamental principles of material selection for use in the Residential Design industry.

First Semester (Fall)

			Lecture Hours	Lab Hours	Course Credits
*SDV	100	College Success Skills	1	0	1
ITE	140	Spreadsheet Software	3	0	3
DRF	114	Drafting I	1	6	3
BLD	120	Construction Mathematics	3	0	3
DRF	165	Architectural Blueprint Reading	2	2	3
ENG	131	Technical Report Writing	3	0	3
Total			**13**	**8**	**16**

Second Semester (Spring)

MEC	111	Materials for Industry	3	0	3
ARC	255	Construction Estimation	2	0	2
CIV	171	Surveying I	2	3	3
ARC	115	Architectural Graphics	1	3	2
ECO	100	Elementary Economics	3	0	3
Total			**11**	**6**	**13**

Third Semester (Summer)

CAD	201	Computer Aided Design I	2	2	3
ARC	211	Computer Aided Drafting Applications	2	2	3
Total			**4**	**4**	**6**

Total Minimum Credits for the Certificate in Residential Design and Estimation..... 35

Welding Technology

Award: CERTIFICATE

Length: A full-time student may complete this program in one year.

Purpose: The Welding Technology Certificate Program is designed to help entry-level employees in welding related trades obtain job-specific knowledge and skills to improve their work performance and career status within the industry.

Occupational Objectives: Graduates of this program will have:

1. Knowledge of the principles of welding, as well as advanced welding skills;
2. A familiarity with different welding techniques used in the welding industry;
3. An understanding of welding concepts;
4. Knowledge of the requirements for safety in the workplace;
5. An introduction to expected welding performance and the demand of welders in the industry.

Admission Requirements: Entry into this curriculum may be attained by meeting the general admission requirements established for the College. If you meet the general admission requirements, a counselor will discuss with you the strengths and weaknesses of your academic background and your strengths and weaknesses as revealed by an appropriate placement test. You may correct any deficiencies in academic preparation in the College's Developmental Studies program.

Program Description: The program is designed to develop a general foundation in welding.

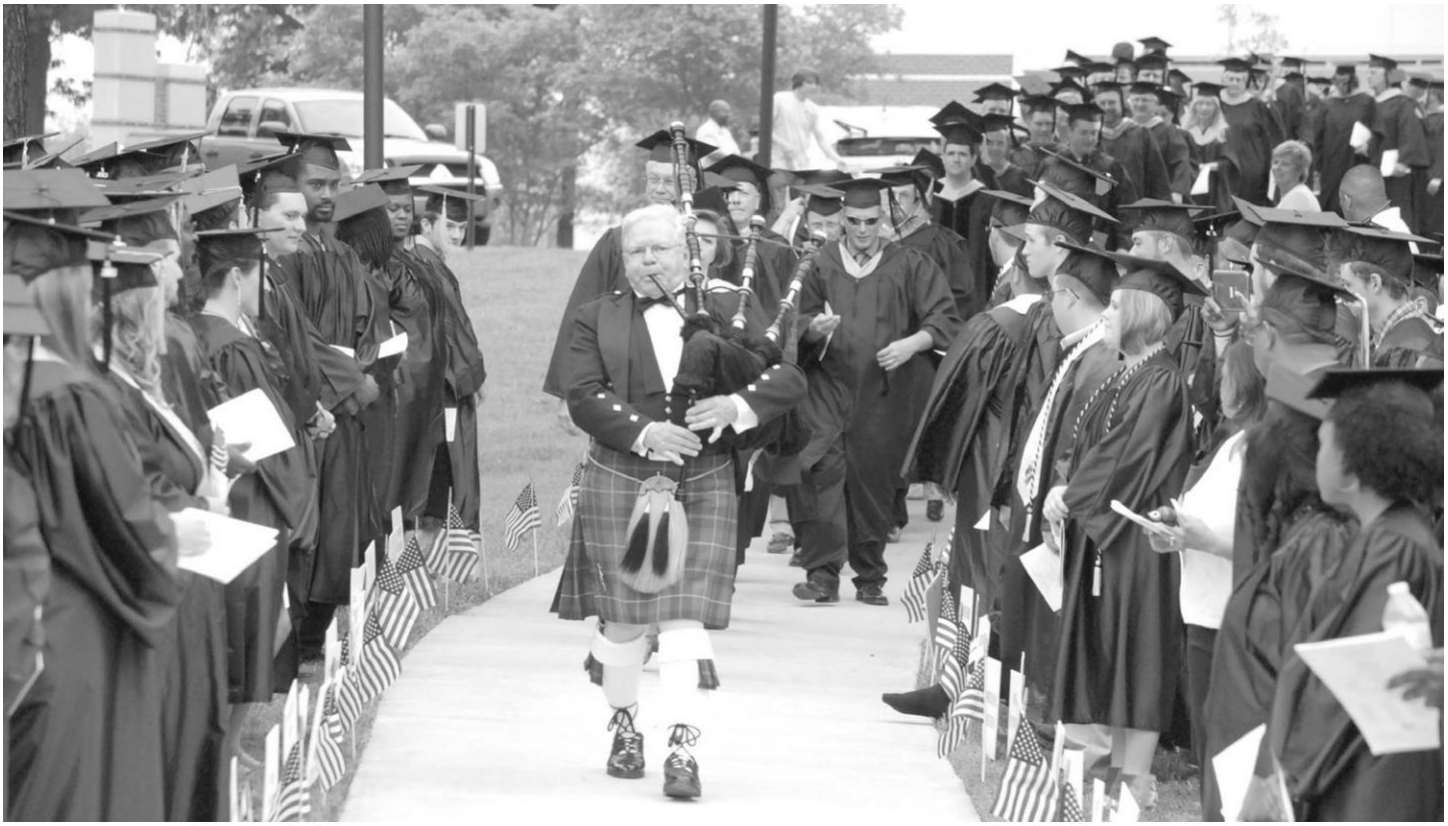
Program Outcomes: Graduates of the Welding Certificate program will:

1. Understand and follow industry safety practices.
2. Display manipulative skills with various welding processes to assure adequate weld integrity and appearance.
3. Be able to weld in flat vertical and horizontal positions using the SMAW,GMAW, GTAW processes.
4. Be able to cut metals using the oxyfuel and plasma arc cutting process.
5. Be capable of entering an entry level welding position with advancements.

Program Requirements: To receive a Certificate in Welding Technology, you must complete a minimum of 40 credits with a grade point average of 2.00 or better. This outline represents courses taken by full-time students; part-time and/or evening students may take courses in any desired sequence, except for hyphenated courses or others requiring prerequisites.

			Lecture Hours	Lab Hours	Course Credits
First Semester					
AIR	117	Metal Layout	1	4	3
MTH	103	Applied Tech. Math	3	0	3
SAF	126	Principles of Industrial Safety	3	0	3
ITE	116	Survey of Comp. Software App.	2	0	2
WEL	120	Fundamentals of Welding	1	3	2
WEL	121	Arc Welding I	1	3	2
SDV	100	College Success Skills	1	0	1
Total			**12**	**10**	**16**
Second Semester					
WEL	150	Welding, Drawing and Interpretation	3	0	3
HUM	165	Controversial Issues	3	0	3
WEL	122	Arc Welding II	1	3	2
WEL	135	Inert Gas Welding I	1	3	2
WEL	136	Inert Gas Welding II	1	3	2
Total			**9**	**9**	**12**
Third Semester					
ENG	131	Technical Report Writing I	3	0	3
MAC	161	Machine Shop Practices I	2	3	3
WEL	126	Pipe Welding I	2	3	3
WEL	145	Welding Metallurgy	3	0	3
Total			**10**	**6**	**12**

Total Minimum Credits for a Certificate in Welding Technology.....40



Career Studies

Advanced Nurse Aide
Advanced Product Design & Development
Alternative Energy Technology I
American Sign Language
Basic Dental Assisting
Building Construction Trades
Commercial Art
Digital Art & Design
Digital Imaging & Photography
Early Childhood Development
Educational Interpreter Training
Electrical Concepts
Electronic Concepts
Emergency Medical Services - Basic
Emergency Medical Services - Intermediate
Emergency Medical Technician - Intermediate
Factory Automation & Robotics
Graphic Communications
Health Information Technology
(awarded by Northern Virginia Community College)
Logistics Management
Manufacturing Technician
Medical Coding
Medical Terminology
Metal Processing
Microcomputer Software
Network Technology
Networking with CISCO/CCNA
Nurse Aide
PC Upgrade and Repair
Pharmacy Technician
Polymer Processing Technician
Printing Technology
Product Design & Development
Programming
Web Site Design
Welding

Length: Variable for part-time students. The options available represent the equivalent of one or more semesters of full-time community college work.

Purpose: Danville Community College has a significant percentage of part-time students who are taking courses during evening hours. Many students seek post-secondary programs of study that are less than the conventional one- or two-year programs designed primarily for the College's full-time student population. Many occupational, industrial, or student interest content areas within the DCC region do not typically require pre-service or in-service post-secondary preparation extending to one- and two-years of full-time studies. The Career Studies Certificate Program is a response to the non-conventional short-term program of study needs of many students within the College's region.

The programs are designed as a series of specialized program options. These options represent a variety of career and academic interest course areas. They are intended to represent the minimum amount of college coursework considered representative of these fields of study. Each of the program options is designed as a distinct "mini-curriculum" to meet minimum vocational skills. Typically, the credits in the Career Studies programs are less than the one-year Certificate programs (ie., less than 31 semester hours).

Admission Requirements: Admission to these Career Studies Certificate programs is based upon the general requirements for admission to the College. Deficiencies in general education may require enrollment in Developmental Studies. The student is expected to select one of the available program options during admission and registration.

Advanced Nurse Aide

Occupational Objectives: The Advanced Nurse Aide Career Studies Program is designed to prepare students for employment as licensed nurse aides who possess foundational skills that allow for more training in health care occupations.

Program Outcomes: Graduates of the Advanced Nurse Aide Career Studies Certificate program will:

1. Demonstrate recognizing changes in body functioning and the importance of reporting such changes to a supervisor.
2. Demonstrate measuring and recording routine vital signs.
3. Demonstrate measuring and recording height and weight.
4. Demonstrate caring for the clients' environment.
5. Demonstrate measuring and recording fluid and food intake and output.
6. Demonstrate performing basic emergency measures.
7. Demonstrate caring for a client when death is imminent.
8. Demonstrate bathing, grooming, and oral hygiene.
9. Demonstrate grooming, dressing, and toileting.
10. Demonstrate assisting with eating and hydration, including proper feeding techniques.
11. Demonstrate caring for skin, to include prevention of pressure ulcers.
12. Demonstrate transfer, positioning and turning.
13. Apply skills learned in individual client's needs, including mental health and social service needs.
14. Demonstrating skills supporting age-appropriate behavior by allowing the client to make personal choices, and by providing and reinforcing other behavior consistent with the client's dignity.
15. Demonstrate providing appropriate clinical care to the aged and disabled.
16. Demonstrate using techniques for addressing the unique needs and behaviors of individuals with dementia (Alzheimer's and others).
17. Demonstrate the use of assistive devices in transferring, ambulation, eating and dressing.
18. Demonstrate maintaining range of motion, turning & positioning.
19. Demonstrate caring for and using prosthetic and orthotic devices.
20. Apply skills in dealing with clients' rights
21. Apply skills used in maintaining legal and regulatory aspects of practice as a certified nurse aide, including, but not limited to, consequences of abuse, neglect, misappropriation of client property and unprofessional conduct.
22. Demonstrate occupational health and safety measures.
23. Apply skills used in the appropriate management of conflict.

			Course Credits
*BIO	141	Human Anatomy and Physiology I	4
BIO	142	Human Anatomy and Physiology II	4
**MTH	126	Math for Allied Health	3
ENG	111	College Composition I	3
HLT	141	Introduction to Medical Terminology	1
NUR	25	Nursing Assistant	3
NUR	27	Nursing Assistant Advanced	3
NUR	98	Seminar and Project	3
Total Minimum Credits			**24**

*Students must have completed MTH 2 and be non-developmental in Reading and Writing to take this course. **Successful completion of MTH 2 is required for this course.

Advanced Product Design & Development

Purpose: This Advanced Product Design and Development Career Studies Certificate* is designed to prepare students with the knowledge, skills, and foundational concepts necessary to design, engineer, and produce a product utilizing wood as a primary design medium and incorporating CAD/CAM/CNC technology. These skills include critical thinking, project planning, managing creativity and design, form and function, product management through customer-focused innovation. Completion of this certificate will prepare the student for work in various positions in the design and manufacturing sectors.

Occupational Objectives: The Career Studies Certificate in Advanced Product Design and Development* is designed to provide students the necessary skills to be gainfully employed in this field.

Admission Requirements: Admission to the Advanced Product Design and Development Career Studies Certificate Program* is based upon the general admission requirements to the College. If a student meets the general admission requirements, a counselor will discuss the student's academic strengths and weaknesses. Placement recommendation for MTH 2 and Basic Arithmetic or equivalent is required.

Program Outcomes: Graduates of the Advanced Product Design and Development Career Studies Certificate program will:

1. Apply various manufacturing concepts in technologies and automation used in today's manufacturing.
2. Demonstrate the ability to use CAD/CAM/CNC in manufacturing design and development.
3. Demonstrate the ability to program and operate different types of equipment related to modern day manufacturing.
4. Demonstrate the use of different types of tools and materials used in modern day manufacturing.
5. Demonstrate various problem solving techniques in product design and development.

Program Requirements: To receive the Advanced Product Design and Development Certificate*, you must complete 19 credits as listed below:

			Lecture Hours	Lab Hours	Course Credits
IND	161	Product Design & Development	1	12	5
IND	162	Product Design & Development II	1	12	5
CAD	200	Survey of Computer Aided Drafting	2	2	3
CAD	233	Computer Aided Drafting III*	2	3	3
IND	137	Team Concepts & Problem Solving	3	0	3
Total Minimum Credits			**9**	**29**	**19**

A prior drafting course, such as DRF 114, DRF 120, DRF 160 or equivalent, is recommended before enrolling in DRF 233.

Alternative Energy Technology I

Length: Variable

Purpose: The Alternative Energy Technology I Career Studies Certificate curriculum is designed for persons who are seeking entry-level employment in the solar energy or modern battery storage industries. Persons that would benefit from this program include, but are not limited to, those who are seeking initial employment, those currently employed seeking advancement, those wanting to improve or update their skill set and those seeking career change.

Occupational Objectives: The Career Studies Certificate in Alternative Energy Technology I provides an understanding of the elements and practices of alternative energy technologies (solar pv, wind, geothermal, biomass, solar thermal and battery storage). Possible careers in alternative energy-related fields include manufacturing, installation or sales.

Admission Requirements: In addition to the admission requirements of the College, entry into this program requires a basic level of computer proficiency and one unit of HS math. Strengths and weaknesses can be determined by an appropriate placement test as recommended by your counselor. You may correct any deficiencies though the College's Developmental Studies program.

Program Requirements: To receive the Alternative Energy Technology I Career Studies Certificate you must complete a minimum of 16 credits of the listed courses.

Program Outcomes: Graduates of the Alternative Energy Technology I Career Studies Certificate will:

1. Demonstrate ability to produce or store energy using at least one non-traditional energy technology.
2. Demonstrate the ability to communicate technical concepts and ideas effectively.
3. Demonstrate knowledge of basic technologies needed to produce and use energy from solar and wind sources.

			Course Credits
ELE	115	Basic AC/DC Electric Circuits	3
ENV	170	Fundamentals of Energy Technology	2
ENE	100	Conventional and Alternate Energy Applications	4
ENE	195	Intro to Battery Technology	3
Elective		One of the following courses:	
ENE	110	Solar Power Installations or	4
ENE	105	Solar Thermal Active and Passive Technology	4
Total Minimum Credits			**16**

American Sign Language

Occupational Objectives: The American Sign Language (ASL) Certificate Program is designed to train members of the community to communicate proficiently in ASL as well as enable them to develop an understanding of Deaf Culture. The ASL Career Studies Certificate Program prepares students, parents, educators, social workers, etc. to serve people who are Deaf or Hard of Hearing in the workforce. The program will also assist in making the work environment "Deaf friendly" and accommodating to those who are Deaf or Hard of Hearing.

Program Outcomes: Upon completion of the ASL Program, students will be able to:

1. Demonstrate basic ASL conversational skills in communicating with people who are Deaf
2. Demonstrate critical thinking and appropriate responses based on exposure and knowledge from the Deaf community
3. Demonstrate the knowledge and skills to accommodate people who are Deaf in an accessible work, school or office by contacting and providing interpreting services and technology

			Lecture Hours	Lab Hours	Course Credits
SDV	100	College Success Skills	1	0	1
ASL	101	American Sign Language I	3	0	3
ASL	102	American Sign Language II	3	0	3
ASL	201	American Sign Language III	3	0	3
ASL	202	American Sign Language IV	3	0	3
ASL	125	History of U.S. Deaf Community	3	0	3
ASL	115	Fingerspelling and Number Use in ASL	2	0	2
Total Minimum Credits					**18**

Basic Dental Assisting

Purpose: The Basic Dental Assisting Certificate is designed to prepare students for employment as dental assistants in the Commonwealth of Virginia. Students wishing to enter this program must take the Compass placement test and demonstrate skills in writing, reading, and basic mathematics. Students who do not demonstrate college readiness will be expected to take appropriate developmental classes.

Program Outcomes: Upon successful completion of this program, students will be able to:

1. Assist with the delivery of dental care as an integral team member.
2. Provide basic and expanded function skills with a variety of dental materials.
3. Expose, process, and mount dental radiographs including safety and digital applications.
4. Meet industry standards for asepsis, disinfection and sterilization to ensure a safe working environment.
5. Show communication skills demonstrating knowledge of dental ethics and jurisprudence.
6. Use clinical externships to integrate classroom and laboratory skills in an office setting.
7. Perform basic office procedures to manage the business operation of a dental practice.
8. Pass the Dental Assisting National Board in Infection Control and Radiation Safety for graduates who choose to take the boards.

			Lecture Hours	Lab Hours	Course Credits
DNA	100	Intro. to Oral Health Professions	1	0	1
DNA	103	Intro. to Oral Health	1	0	1
DNA	109	Practical Infection Control	2	3	3
DNA	110	Dental Materials	2	3	3
DNA	113	Chairside Assisting I	2	3	3
DNA	134	Dental Radiology & Practicum	2	3	3
DNA	190	Coordinated Internship	1	9	4
HLT	105	Cardiopulmonary Resuscitation	1	0	1
Total Minimum Credits					**19**

Building Construction Trades

Purpose: The Career Studies program in Building Construction Trades is designed to help entry- level employees in construction -related trades obtain job-specific knowledge and skills to improve their work performance and career status within the industry. The curriculum provides an understanding of the common principles and practices of the modern construction industry, as well as specific knowledge and skills in a trade area selected by the student. Five specializations are available: Electrical, HVAC, Plumbing, Carpentry and Masonry. The courses contained in these programs are applicable to fulfilling the related education requirements that are prerequisite to taking the Journeyman or Master Certification tests. Information on specific trade certification requirements may be obtained from the National Assessment Institute (NAI), Toll-Free in Virginia 1-800-356-3381.

Occupational Objectives: Opportunities for employment and license as a Journeyman or Master's Level Tradesman in the areas of Electrical, HVAC, Plumbing, Carpentry and Masonry fields.

Admission Requirements: Admission is based upon the general requirements for admission to the college. Deficiencies in general education may require enrollment in Developmental Studies. The student is expected to select one of the available program options during admission and registration.

Program Outcomes: Graduates of the Building Construction Trades program will:

1. Understand construction terminology within a specific trade
2. Practice construction safety
3. Demonstrate the proper use of hand and power tools
4. Interpret construction drawings within a specific trade
5. Demonstrate the correct use and understanding of measurement tools

Program Requirements: Students entering any of the options must complete the three general education core courses as listed and all courses included in each option.

			Lecture Hours	Lab Hours	Course Credits
MTH	103	Applied Technical Math			3
BLD	111	Blueprint Reading			3
SAF	120	Safety & Health Standard Reg. & Codes			3

Electrical Option

ELE	110	Home Electric Power	2	2	3
ELE	133	Practical Electricity	2	2	3
ELE	134	Practical Electricity	2	2	3
ELE	131	National Electrical Code	3	0	3
ELE	216	Industrial Electricity	2	2	3
ELE	156	Electrical Control System	2	2	3
Total Minimum Credits			**13**	**10**	**18**

HVAC Option

AIR	121	A/C & Refrigeration I	2	2	3
AIR	122	A/C & Refrigeration I	2	2	3
AIR	123	A/C & Refrigeration III	2	2	3
AIR	154	Heating System	2	2	3
AIR	158	Mechanical	2	0	2
AIR	117	Metal Layout	1	6	3
Total Minimum Credits			**11**	**14**	**17**

Plumbing Option

BLD	20	Introduction to Plumbing	1	2	2
BLD	25	Analysis & Troubleshooting in Plumbing	2	2	3
BLD	195	Plumbing I	3	0	3
BLD	195	Plumbing II	3	0	3
BLD	195	Plumbing III	3	0	3
BLD	195	Plumbing IV	3	0	3
BLD	195	Plumbing V	3	0	3
Total Minimum Credits			**18**	**4**	**20**

Carpentry Option

BLD	131	Carpentry Framing I	3	4	5
BLD	132	Carpentry Framing II	3	4	5
BLD	133	Carpentry Framing III	3	4	5
BLD	134	Carpentry Framing IV	3	4	5
Total Minimum Credits			**12**	**16**	**20**

Masonry Option

BLD	126	Basic Carpentry Principles	2	2	3
BLD	146	Form Work & Concrete Theory	2	2	3
BLD	147	Principles of Block and Bricklaying	1	2	3
BLD	181	Intro to Concrete Constr.	2	2	3
BLD	183	Reinforcing Concrete and Patented Forms	3	0	3
Total Minimum Credits			**10**	**8**	**15**

Commercial Art

Occupational Objectives: The Career Studies Certificate in Commercial Art is designed to prepare individuals for employment as graphic artists and/or designers in advertising agencies, sign shops, or in the printing industry. Procedures and processes will be covered in both theory and hands-on application.

Program Outcomes: Students who complete the program will develop competencies in the following areas:

1. Basic drawing skills;
2. Application of design techniques for commercial purposes;
3. Use of airbrush in commercial art applications;
4. Paste up skills related to camera-ready printed materials;
5. Silkscreen stencil techniques with emphasis on design;
6. Desktop publishing techniques including Photoshop and InDesign.

The program is structured as follows:

			Lecture Hours	Lab Hours	Course Credits
PNT	110	Survey of Repo. Proces.	3	2	3
ART	121	Drawing Techniques I	2	2	3
ART	180	Intro. to Computer Graphics	2	3	3
PNT	221	Layout & Design I	2	3	3
PNT	211	Electronic Publishing I	2	2	4
PHT	195	PhotoShop, Digital Image	1	0	1
PHT	295	PhotoShop, Text Graphic	1	0	1
Total Minimum Credits			**13**	**12**	**18**

Digital Art & Design

Purpose: The Digital Art and Design Career Studies Certificate is a response to the nonconventional short-term program of study needs of many students within our region. These specialized program options represent a variety of career and academic interest areas and are intended to represent the minimum amount of college coursework considered representative of their fields of study. Each program option is designed as a distinct "mini-curriculum" to meet minimum vocational skills.

Occupational Objectives: The five-course, 17-credit Digital Art & Design Career Studies Certificate is intended to provide a solid foundation of skills for entry level work in graphic and interactive design, multimedia, and video production.

Admission Requirements: Admission to the Digital Art and Design Career Studies Certificate is based upon the general requirements for the College. If a student meets the general admission requirements, a counselor will discuss the student's academic strengths and weaknesses. Any academic deficiencies may be corrected in the College's Developmental Studies program.

Program Requirements: To receive a Digital Art and Design Career Studies Certificate you must complete the listed courses.

Program Outcomes: Upon successful completion of this program, students will:

1. Display an understanding of the differences between various industry standard digital file types including raster image files, vector image files, HTML, CSS, and digital video files.
2. Demonstrate an understanding through class projects, of digital photo manipulation as pertaining to photography and graphic design.
3. Demonstrate how different uses of typography can affect the intended audience of a graphic design project.
4. Demonstrate an understanding of vector image creation to complete assigned projects.
5. Demonstrate an understanding of the digital video process including storyboarding, digital video capture, and linear digital video editing.
6. Demonstrate an understanding of basic web principles including proper image sizing, what content management systems are, and the basic use of FTP software.

			Lecture Hours	Lab Hours	Course Credits
HUM	246	Creative Thinking	3	0	3
ART	130	Introduction to Multimedia	2	4	4
ART	116	Design for the Web I	3	0	3
ART	180	Introduction to Computer Graphics	2	3	3
ART	208	Video Techniques	2	4	4
Total Minimum Credits			**12**	**11**	**17**

Digital Imaging & Photography

Occupational Objectives: The Digital Imaging and Photography Career Studies Certificate will enable you to improve your skills or prepare for a career as a professional photographer. In these classes, you will learn the secrets of taking better pictures, as well as how to edit, enhance, and print them. You will also learn how to publish your photos on the web.

Program Outcomes: Upon successful completion of this program, students will produce a portfolio of their digital photography that will demonstrate:

1. An understanding of the impact using different types of cameras, flash, and studio lighting and equipment.
2. A technical understanding of basic camera functions aperture, shutter speed, ISO sensitivity, and focus.
3. Concepts of composition including the rule of thirds, vanishing point, lines perspective and more.
4. The ability to edit photos using basic digital photo editing tools, to create black and white, to crop, straighten, color adjust, burn and dodge, and much more.

The program is structured within the following courses:

			Lecture Hours	Lab Hours	Course Credits
PHT	100	Intro.to Photography	2	2	3
PHT	101	Photography I	1	4	3
PHT	195	Photoshop	1	2	2
ITD	110	Web Design	3	0	3
ART	180	Introduction to Computer Graphics or Approved Elective	3	0	3
Total Minimum Credits			**10**	**8**	**14**

Early Childhood Development

Purpose: The Early Childhood Development Career Studies Certificate is designed for students who plan to work with children from birth through age eight years using developmentally appropriate practices. This curriculum provides the student with skills in areas documented by Virginia Competencies for Early Childhood Professionals. The Certificate program is primarily designed to benefit persons interested in employment in the care and education of young children immediately after the certificate program completion but would also benefit someone with prior education or experience who is a "career switcher." Additional coursework in Early Childhood Education also leads to the Associate of Applied Science degree in Early Childhood Education should a student wish to further his/her education.

Occupational Objectives: The following occupational titles represent examples of possible employment opportunities:

Child Care Center Teacher Assistant
Recreation Leader or Aide
Substitute Teacher

Admission Requirements: In addition to the admission requirements established by the College, entry into this curriculum requires a high school diploma or the equivalent. Students with academic weaknesses, as determined by the college's placement test, can correct these weaknesses by enrolling in Developmental Studies. Entry into the Certificate program in Early Childhood Development also requires the following:

A personal interview with a representative of the Early Childhood Education Department.

1. Special Requirement: Students who wish to enroll in the Early Childhood Development Program with the objective of obtaining employment in early childhood education settings are advised that excellent moral character is generally considered prerequisite to such employment. Background investigations will be conducted by the college laboratory school to confirm that students have not been convicted of a crime involving moral turpitude or any felony.
2. Program-placed students must present documentation of a negative Tuberculosis screening.
3. The students must assume the cost of both the TB test and the Criminal Background Checks upon entry into the Early Childhood Program.
4. Students must possess sufficient physical strength, flexibility and dexterity to perform education and care routines for children.

Program Description: The Early Childhood Development Career Studies Certificate prepares individuals to work in services for children from birth through age eight years. The program includes courses in early childhood development, behavior management, and methods of teaching children. Instruction will include both theoretical concepts and practical applications needed for success in providing high quality services for children. Upon successful completion of the one-semester program, you will be awarded the Career Studies Certificate in Early Childhood Development.

Program Requirements: To receive the Career Studies Certificate in Early Childhood Development you must complete a minimum of 19 credits with a grade point average of 2.00 or better. The following outline represents the typical order of courses taken by full time students.

Program Outcomes: Upon successful completion of this program, students will be able to:

1. Plan, implement and evaluate curriculum plans and learning environments for children based on developmental appropriateness and a thorough knowledge of child development.
2. Adhere to Virginia's Standards for Licensed Child Day Centers in the planning and evaluation of classroom and learning environments to ensure the health, safety and nutrition of children.
3. Use appropriate positive guidance strategies with children in their care.
4. Choose project and elective courses, with the help of the program advisor, to tailor learning towards possible career options in early childhood.
5. Assess children's progress using informal observation.

			Lecture Hours	Lab Hours	Course Credits
First Semester					
SDV	100	College Success Skills	1	0	1
CHD	120	Intro to Early Childhood Education	3	0	3
CHD	145	Methods in Art, Music and Movement	2	2	3
CHD	205	Guiding Behavior of Young Children	3	0	3
EDU	235	Health, Safety, and Nutrition for Children	3	0	3
EE		Elective (approved by EC advisor)	3	0	3
CHD	165	Observation & Part. Early Child/Prim Settings	1	6	3
Total			**16**	**8**	**19**

Total Minimum Credits for Career Studies Certificate in Early Childhood Development..... 19

Students desiring to continue their education and achieve the Associate of Applied Science in Early Childhood Education may use these courses toward the Associate of Applied Science Degree at any Virginia Community College. Students completing this certificate to satisfy Head Start regulations must take CHD 167 (CDA Theories and Applications: Portfolio) as their approved elective.

Educational Interpreter Training

The Educational Interpreter Training Career Studies Certificate program is designed to train individuals with proficiency in American Sign Language to become educational interpreters. The focus is on developing the processing skills necessary to proceed from being "signer" to becoming an interpreter. Coursework will focus on processing skills, interpreting skills, and continued sign vocabulary development as well as a specialized focus on interpreting in the educational setting. The objective of this career studies certificate is to prepare individuals to take the Virginia Quality Assurance Screening (VQAS).

Occupational Objectives: Occupational opportunities include working as an interpreter in the public schools as well as working as an interpreter in private practice. A prerequisite to this program is the American Sign Language Career Studies certificate or approval of the coordinator/ program director.

Program Outcomes: Upon completion of the Weekend Educational Interpreter Training (W.E.I.T.) Program, students will be able to:

1. Demonstrate basic entrance skills for interpreting/transliterating in entry level interpreting settings with individuals who are deaf and/or hard of hearing.
2. Demonstrate critical thinking and appropriate ethical responses required by the Virginia Quality Assurance Screening (VQAS).
3. Demonstrate a comprehensive portfolio of job seeking tools, such as a resume, DVDs demonstrating interpreting and transliterating skills and 42 hours of documented supervised work experience.
4. Demonstrate the necessary skills and training to prepare them for the VQAS.

			Course Credits
EIP	181	Pre-Interpreting Skills I	1
EIP	201	Linguistics of American Sign Lang I	1
EIP	202	Linguistics of American Sign Lang II	1
EIP	211	Signed-to-Spoken Interpreting I	1
EIP	212	Signed-to-Spoken Interpreting II	1
EIP	213	Signed-to-Spoken Interpreting III	1
EIP	214	Signed-to-Spoken Interpreting IV	1
EIP	231	Spoken-to-Signed Interpreting I	1
EIP	232	Spoken-to-Signed Interpreting II	1
EIP	233	Spoken-to-Signed Interpreting III	1
EIP	234	Spoken-to-Signed Interpreting IV	1
EIP	280	Interactive Transliterating	1
EIP	289	Prep. for Performance Evaluation–Transliteration	1
EIP		Elective	1
EIP		Elective	1
Total Minimum Credits			**15**

These courses do NOT articulate to the ASL/INT/SCM curriculum.

EIP	101	Orientation to Deafness I	1
EIP	102	Orientation to Deafness II	1
EIP	111	Intro. to Expr. & Rec. Fingerspelling & Numbers	1
EIP	112	Adv. Expr. & Rec. Fingerspelling & Numbers	1
EIP	150	Expressive Voc. Building & Exp. Text Analysis I	1
EIP	151	Expressive Voc. Building & Exp. Text Analysis II	1
EIP	160	Receptive Voc. Building & Rec. Text Analysis I	1
EIP	161	Receptive Voc. Building & Rec. Text Analysis II	1
EIP	182	Pre-Interpreting Skills II	1
EIP	203	Linguistics of American Sign Language III	1
EIP	215	Adv. Sign-to-Voice Interpreting I	1
EIP	216	Adv. Sign-to-Voice Interpreting II	1
EIP	235	Adv. Expressive Transliterating I	1
EIP	236	Adv. Expressive Transliterating II	1
EIP	240	Interpreting in Educational Setting	1
EIP	242	Interpreting in Special Settings	1
EIP	245	Interpreter Ethics & Responsibilities	1
EIP	261	Intro. to English-to-ASL Interpreting I	1
EIP	262	English-to-ASL Interpreting II	1
EIP	263	English-to-ASL Interpreting III	1
EIP	264	English-to-ASL Interpreting IV	1
EIP	281	Interactive Interpreting	1
EIP	291	Prep. for Performance Evaluation – Interpreting	1

NOTE: This career studies certificate creates a flexible, accessible and unique template that can be offered by any of the 23 community colleges within the VCCS, specifically targeting those areas that have been historically underserved or not served by the current VCCS programs. This career studies certificate also serves to resolve issues related to the lack of qualified instructors/professors by accessing the current pool of qualified instructors/professors.

Electrical Concepts

Occupational Objectives: The Electrical Concepts Career Studies Program is designed for the investigation of career possibilities, retraining for a career change, upgrading occupational skills and/or to provide entry level skills in the electrical field. Graduates of this program will be eligible for further specialized training in the electrical field or to become more productive in their present occupation. Other opportunities for the graduate are available in sales and installation of electrical components and equipment.

The program is structured within the following courses:

		Lecture Hours	Lab Hours	Course Credits
ELE 199	Supervised Study in Electrical Calculations I	3	0	3
ELE 113	Electricity I	3	0	3
ELE 123	Electrical Applications I	1	2	2
ELE 199	Supervised Study in Electrical Calculations II	3	0	3
ELE 114	Electricity II	3	0	3
ELE 124	Electrical Applications II	1	2	2
ELE	Approved Tech. Elective	-	-	3
Total Minimum Credits		**14**	**4**	**19**

Electronic Concepts

Occupational Objectives: The Electronic Concepts Career Studies program is designed for the investigation of career possibilities, retraining for a career change, upgrading occupational skills and/or to provide entry-level skills in the electrical field for those students who are proficient in electrical concepts. Graduates of this program will be eligible for further specialized training in the electrical field or to become more productive in their present occupation. Other opportunities for the graduate are available in sales and installation of electrical/ electronic components and equipment.

The program is structured within the following courses:

			Lecture Hours	Lab Hours	Course Credits
ETR	141	Electronics I	3	0	3
ETR	123	Electronic Applications I	1	2	2
ETR	142	Electronics II	3	0	3
ETR	124	Electronic Applications II	1	2	2
ELE/ETR		Approved Tech. Electives	-	-	9
Total Minimum Credits			**8**	**4**	**19**

**Student must be proficient in electrical concepts.*

Emergency Medical Services - Basic

Occupational Objectives: The Career Studies Certificate in Emergency Medical Services – Basic is designed to prepare individual to work in a variety of job entry-leave positions in the broad field of health services. Job opportunities may be available with ambulance services, nursing homes, and home-health care sales and service. This program meets the educational requirements
to sit for the Emergency Medical Technician Examination for State (Virginia) Certification.

Admission Requirements: Entry into this program may be attained by meeting the general admission requirements established for the College.

Program Outcomes: Upon completion of this program, students will:
1. Be familiar with Emergency Medical Care, the well-being of the EMT-B, Medico-legal and Ethical Issues, The Human Body, Vital Signs and Patient History, and Lifting and Moving Patients.
2. Know the provisions for initial care for an illness or injury until definitive medical treatment can be accessed and may include life-saving techniques.
3. Be able to recognize cardiac arrest and provide basic life support.
4. Be able to describe unique needs for assessing a patient.

Program Requirements: This program is structured within the courses listed below. To receive the Emergency Medical Services- Basic Career Studies Certificate, students must complete the 11 credits of the courses listed below.

			Lecture Hours	Lab Hours	Course Credits
EMS	112	Emergency Medical Technician — Basic I	2	2	4
EMS	113	Emergency Medical Technician — Basic II	2	2	3
EMS	120	Emergency Medical Tech. - Basic Clinical	2	2	1
PSY	126	Psychology for Business and Industry	3	0	3
Total Minimum Credits			**9**	**6**	**11**

Emergency Medical Services - Intermediate

Purpose: The Career Studies Certificate is designed to produce competent entry-level Emergency Medical Technicians (EMS) Intermediates who can service the community with advanced life support care via the EMS infrastructure. Upon completion of the program, students will be eligible for National Registry testing and certification in Virginia.

Occupational Objectives: Employment opportunities for EMT-I's are available with Ambulance, Fire and Rescue Services, Hospitals, Government Departments, Sales, and Humanitarian Relief organizations.

Admission Requirements: The student is required to have a GED or high school diploma and meet the general education requirements of the College. In addition, admission requires current credentialing as an EMT-Basic or Enhanced or Basic Life Support Provider Certification. Admission is on a selective basis. For additional information, contact the Workforce Services Office.

Program Outcomes: Students who complete this program will be able to:
1. To understand the roles and responsibilities of an EMT-Intermediate within an EMS System, apply the basic concepts of anatomy and physiology to the assessment and management of emergency patients, and safety use and administer emergency medications.
2. Be able to take a proper history and perform an advanced physical assessment on an emergency patient, and communicate the findings to others.
3. Be able to utilize the assessment findings to formulate a field impression and implement the treatment plan in relationship to the common complaints and emergencies.
4. Demonstrate patient assessment of both critical and non-critical trauma patients presenting with various types of injuries and chief complaints.

Program Requirements: To receive the Emergency Medical Technician-Intermediate Career Studies Certificate, you must complete 20 credits of the courses listed.

The program is structured within the following courses:

			Lecture Hours	Lab Hours	Course Credits
EMS	151	Introduction to ALS	3	2	4
EMS	153	Basic EKG Recognition	2	0	2
EMS	155	ALS Medical Care	3	2	4
EMS	157	ALS Trauma Care	2	2	3
EMS	159	Special Populations	2	3	3
EMS	170	ALS Internship I	3	3	1
EMS	172	ALS Internship II	3	3	2
EMS	173	ALS Internship III	0	3	1
EMS	213	ALS Skills Development	1	1	1
Total Minimum Credits			**19**	**19**	**21**

Emergency Medical Technician - Intermediate

Purpose: This Career Studies Certificate is designed to produce competent entry-level Emergency Medical Technicians (EMS) Intermediates who can service the community with advanced life support care via the EMS infrastructure. Upon completion of the program, students will be eligible for National Registry testing and certification in Virginia.

Occupational Objectives: Employment opportunities for EMT-I's are available with Ambulance, Fire and Rescue Services, Hospitals, Government Departments, Sales, and Humanitarian Relief organizations.

Admission Requirements: The Student is required to have a GED or high school diploma and meet the general education requirements of the College. In addition, admission requires current credentialing as an EMT-Basic or Enhanced or Basic Life Support Provider Certification. Admission is on a selective basis. For more information, contact the Workforce Services Office.

Program Outcomes: Graduates of this program will:
1. Understand the roles and responsibilities of an EMT-Intermediate within an EMS System, apply the basic concepts of anatomy and physiology to the assessment and management of emergency patients, and safety use and administer emergency medications.
2. Be able to establish and /or maintain a patient airway, oxygenate, and ventilate a patient
3. Be able to take a proper history and perform an advanced physical assessment on an emergency patient, and communicate the findings to others.
4. Be able to utilize the assessment findings to formulate a field impression and implement the treatment plan for the patient with respiratory emergencies.
5. Be able to utilize the assessment findings to formulate a field impression and implement a treatment plan for the patient with an allergic or anaphylactic reaction.
6. Be able to integrate the principles of assessment based management to perform an appropriate assessment and implement the management plan for patients with common complaints.

Program Requirements: To receive the Emergency Medical Technician - Intermediate Career Studies Certificate you must complete 21 credits of the listed courses.

The program is structured within the following courses:

			Course Credits
EMS	151	Introduction to ALS	4
EMS	170	ALS Internship I	1
EMS	153	Basic EKG Recognition	2
EMS	155	ALS Medical Care	4
EMS	172	ALS Internship II	2
EMS	157	ALS Trauma Care	3
EMS	159	Special Populations	3
EMS	173	ALS Internship III	1
EMS	213	ALS Skills Development	1
Total Minimum Credits			**21**

Factory Automation and Robotics

Purpose: The Factory Automation and Robotics Career Studies Certificate is designed for persons who are seeking employment in an automated production environment. Persons that would benefit from this program include, but are not limited to those who are seeking initial employment, those currently employed seeking advancement, those wanting to improve or update their skill set and those seeking a career change. The curriculum provides an understanding of the common elements that comprise a modern automated production system.

Occupational Objectives: The Career Studies Certificate in Factory Automation and Robotics is designed to prepare participants to enter into the field as a factory equipment operator or technician.

Admission Requirements: In addition to the admission requirements of the College, entry into this program requires a basic level of computer proficiency and one unit of college preparatory high school Algebra. Strengths and weaknesses can be determined by an appropriate placement test as recommended by your counselor. You may correct any deficiencies though the College's Developmental Studies program.

Program Requirements: To receive the Career Studies Certificate in Factory Automation and Robotics, you must complete 18 credits of the courses listed in the outline below.

Program Outcomes: Graduates of the Factory Automation and Robotics Career Studies Certificate will:

1. Demonstrate how modern manufacturers use people, technologies and materials to make highly engineered products at a competitive cost.
2. Demonstrate the ability to communicate technical concepts and ideas effectively.
3. Demonstrate knowledge of basic automation and robotics used by manufacturers in the production of products.
4. Demonstrate the operation or maintenance of at least one type of automated production equipment or component.

			Course Credits
IND	195	Introduction to Automation & Robotics	2
ETR	115	DC and AC Fundamentals	3
MEC	161	Basic Fluid Mechanics	3
INS	121	Intro. to Measurement & Control	3
ELE	143	Programmable Controllers I	3
ETR	286	Principles and Applications of Robotics	2
IND	199	Supervised Study	2
Total Minimum Credits			**18**

Graphic Communications

Occupational Objectives: The Career Studies Certificate in Graphic Communications is designed to prepare individuals for various entry-level positions or to upgrade existing skills to meet technology trends in the printing industry. Procedures and processes will be covered in both theory and/or hands-on application.

Program Outcomes: Students complete the program will develop competencies in the following areas:

1. Mathematical concepts for practical application
2. Basic understanding of various printing processes
3. Desktop publishing techniques including Photoshop and InDesign.
4. Understanding of the varieties, properties, handling and printing characteristics of paper and inks
5. Understanding of safety and health issues and of the OSHA Hazard Communication Standard
6. Understanding of the current trends in technology in the field

The program is structured as follows:

			Lecture Hours	Lab Hours	Course Credits
PNT	110	Survey of Reproduction Processes	3	2	3
PNT	211	Electronic Publishing I	2	2	3
PNT	231	Paper and Ink Concepts	2	0	2
PNT	132	Principles of Lithography II	3	3	4
PNT	135	Print Imaging	1	3	2
PNT	221	Layout and Design I	2	3	3
PNT	298	Safety and Health Issues	2	0	2
ART	180	Introduction to Computer Graphics	2	3	3
Total Minimum Credits			**17**	**16**	**22**

Health Information Technology

(awarded by Northern Virginia Community College)

Purpose: The Health Information Technology program is offered through Northern Virginia Community College). The curriculum is designed to produce students competent in all aspects of workflow process analysis and redesign, as it relates to the adoption, implementation, maintenance, and optimization phases of the transition to the use of an electronic health records system.

Admissions Requirements: Prior to starting the program, the applicant must do the following:

- Comply with the College's general admission requirements.
- Adhere to the prerequisites outlined therein.
- Have satisfactory scores on the English placement test.
- Apply to the program and be accepted.

Academic Requirements: Students must complete each course with a grade of "C" or better in order to continue in the HIT sequence. Students who receive a "D" or "F" grade in a course must repeat that course before continuing in the HIT course sequence. If students receive two such grades, they will be removed from the program.

			Course Credits
First Semester			
HIM	100	Introduction to Healthcare Delivery System	1
HIM	130	Healthcare Information System	3
HIM	141	Fundamentals of Health Information Systems	3
HIM	196	On-site Training in: Working with Healthcare Information Systems	3
[1]HLT	141	Introduction to Medical Terminology	1
SDV	101	Orientation to Health Professions	1
Total			**12**

Second Semester

HIM	229	Performance Improvements in Healthcare Setting	2
HIM	230	Information Systems and Technology in Healthcare	3
HIM	233	Electronic Health Record Application	3
HIM	296	On-site Training in: Configuration EHR's	3
Total Minimum Credits			**23**

1 Licensed healthcare providers wishing to challenge this course must work with their academic advisor.

Logistics Management

Purpose: Logistics is a rapidly-growing field encompassing the care and management of inventory while at rest and in motion. The DCC Online Logistics Management Career Studies Certificate is primarily designed to provide formal training for individuals already employed in careers associated with the following logistics-related jobs: inventory management, care and control; dispatching and shipping of goods and materials; and assembling bulk orders for distribution. Upon completion of the Logistics Management Career Studies Certificate, individuals will have been exposed to the skills necessary for career advancement. This program is also suitable for students interested in obtaining an entry-level position in warehousing and distribution.

Occupational Objectives: The following occupational titles represent examples of possible employment or advancement opportunities:

Shipping
Receiving
Dispatching
Inventory Control Manager
Warehouse Manager
Warehouse Department Manager or Area Manager
Manager Trainee
Other Related Logistics Occupations

Admissions Requirements: Admission to the Logistics Management Career Studies Certificate is based on the general requirements for admission to the college. The student is required to have a GED or standard high school diploma. Deficiencies in general education may require enrollment in Developmental Studies. As an online program, it is expected that applicants will be proficient with World Wide Web navigation, e-mail, Microsoft Word, and Microsoft Excel.

Program Requirements: The program can be completed in two semesters on a part-time basis. Students will be exposed to the following: essentials of distribution and transportation management; inventory management; the role of retailing and wholesaling in the supply chain; people-management skills necessary for supervising warehouse and transportation employees; and warehouse organization and management. All five required courses are conveniently available online through DCC.

Program Outcomes: Logistics Management Career Studies Certificate graduates will demonstrate the ability to:

1. Understand the role and practice of logistics within an organization, including theoretical and applied aspects of the warehousing/distribution discipline;
2. Apply a wide variety of computer software skills to business communication media including written reports and operational plans using word processing software and business presentations using presentation software;
3. Perform and interpret basic business math calculations (e.g., mark-ups, interest rates, ratios, etc.) and business accounting principles, basic financial reports and bookkeeping fundamentals;
4. Think logically and analytically in proposing plans and creating strategies that may be considered in complex warehousing and logistics issues facing organizations;
5. Recognize and evaluate the components of a warehousing and logistics organization including layout, material handling, communications, shipping utilities, and building design;
6. Demonstrate basic principles of human relationship skills which can be used to successfully interrelate with customers, associates, employees, and superiors in a business setting while adhering to a strong set of generally-accepted ethical principles; and
7. Understand the concepts necessary to address warehouse and logistics trade-offs between space and time in optimizing a modern warehousing and logistics organization while recognizing the social and ethical responsibilities within an organization to function effectively in the environment.

			Lecture Hours	Lab Hours	Course Credits
BUS	223	Distribution & Transportation	3	0	3
MKT	216	Retail Organization & Management	3	0	3
BUS	111	Principles of Supervision	3	0	3
BUS	255	Inventory & Warehouse Management	3	0	3
Elective		Marketing or Business Elective	3	0	3
Total Minimum Credits			**15**	**0**	**15**

Note: The courses in the Logistics Management Career Studies Certificate will all transfer to the Associate of Applied Science Degree, Marketing - Warehousing and Distribution Specialization.

Manufacturing Technician

Occupational Objectives: The Manufacturing Technician Career Studies Certificate is designed to prepare participants to gain employment in various manufacturing jobs requiring advanced technical and operator skills as well as knowledge of advanced manufacturing practices.

Program Requirements: To receive a Manufacturing Technician Career Studies Certificate you must complete 28 credits. This program is offered to a cohort of students entering at the same time. Please contact Gerald Sexton at 434.797.8565, or email gsexton@dcc.vccs.edu for more information and program start dates.

Program Outcomes: Graduates of the Manufacturing Technician Career Studies Certificate program will:

1. Demonstrate how modern manufacturers use people, technologies and materials to make highly engineered products at a competitive cost.
2. Demonstrate the ability to communicate manufacturing concepts and ideas effectively.
3. Demonstrate knowledge of basic automation and how technology is used by manufacturers in a modern day factory.
4. Demonstrate use of Lean Manufacturing in a manufacturing environment.
5. Apply skills learned in social, business and work ethics required by modern manufacturing.

			Course Credits
BUS	149	Workplace Ethics	1
IND	137	Team Concepts & Problem Solving	3
IND	195	Applications in Factory Automation	2
IND	181	World Class Manufacturing	3
ITE	116	Survey of Computer Software Applications	2
AST	55	Certification Preparation	1
SAF	130	Industrial Safety – OSHA 10	1
ELE	147	Electrical Power and Control Systems	3
ETR	115	DC & AC Circuits	3
MEC	154	Mechanical Maintenance I	3
MEC	266	Applications of Fluid Mechanics	3
MTH	103	Technical Math	3
Total Minimum Credits			**28**

Medical Coding

Occupational Objectives: The Medical Coding Career Studies Certificate is designed for persons who wish to pursue a career in medical coding. Upon completion of this certificate program, students will be able to pursue employment in hospitals, doctors' offices, nursing facilities, and other health career facilities. Classes will be offered in the evening to accommodate students who are employed during the day. Students must earn a grade of "C" or better in all HIM classes in order to complete the program.

Program Outcomes: Graduates of the Medical Coding career studies certificate will demonstrate:

1. Knowledge of medical terminology necessary to perform satisfactorily in a medical office environment;
2. Proficiency in using industry standard health care coding software products and systems; and
3. Competence with industry standard software (word processing, spreadsheet, and database) used in a general office environment.

			Course Credits
First Year — First Semester			
BIO	100	Basic Human Biology	3
HLT	143	Medical Terminology I	3
Total			**6**
First Year — Second Semester			
HLT	144	Medical Terminology II	3
ITE	115	Intro. to Computer Applications & Concepts	4
Total			**7**
Second Year — First Semester			
AST	234	Records & Database Mgt.	3
HIM	106	ICD-10-CM Coding I	2
HIM	226	Legal Aspects of Health Records Documents	2
Total			**7**
Second Year — Second Semester			
HIM	130	Health Care Information Systems	3
HIM	107	ICD-10-CM Coding II	3
HIM	105	CPT Coding	2
HIM	253	Health Records Coding	3
Total			**11**
Total Minimum Credits			**31**

Medical Terminology

Occupational Objectives: The Career Studies Certificate in Medical Terminology is an employment option for clerk- typists and stenographers planning to seek employment as a medical records specialist in a medical facility, such as a hospital, medical clinic, or physician's office. Those entering the program should be proficient in typing and general secretarial skills or in the process of acquiring these skills. The program is structured within the following courses:

Program Outcomes: Graduates of this program will:

1. Recognize and utilize roots, suffixes and prefixes to form medical terms.
2. Pronounce, define, and spell terms relating to body areas, directions related to medical records, laboratory, imaging and pharmacology.
3. Pronounce, define, and spell terms relating to disorders of the skin.
4. Pronounce, define, and spell terms relating to disorders of the blood and blood- forming organs.
5. Pronounce, define, and spell terms relating to oncology.
6 Pronounce, define, and spell terms relating to disorders of the immune system.
7. Pronounce, define, and spell terms relating to disorders of the endocrine system
8. Define, pronounce, and spell terms relating to disorders of the nervous system
9. Define and spell terms relating to disorders of the digestive system.
10. Define and spell terms relating to disorders of the respiratory system.
11. Define and spell disorders relating to the cardiovascular system
12. Pronounce terms relating to the urinary system
13. Pronounce terms relating to reproductive system
14. Pronounce terms relating to pregnancy, birth and the Post-partum period

			Lecture Hours	Lab Hours	Course Credits
HLT	143	Medical Terminology I	3	0	3
HLT	144	Medical Terminology II	3	0	3
PSY	126	Psychology for Business and Industry	3	0	3
Total Minimum Credits			**9**	**0**	**9**

Metal Processing

Occupational Objectives: The Metal Processing Career Studies Certificate Program is both broad and detailed enough to permit the graduate to fill a number of jobs in a company's machine shop maintenance department, yet detailed enough to ensure that the student fully understands different types of metal processing. Layout procedures and processes on the lathe, drill press, grinding machines, and milling machines are covered in both theory and practice.

The program is structured as follows:

			Lecture Hours	Lab Hours	Course Credits
DRF	160	Machine Blueprint Reading	3	0	3
MAC	161	Machine Shop Practices I	2	3	3
MAC	162	Machine Shop Practices II	2	3	3
MAC	163	Machine Shop Practices III	2	3	3
MAC	164	Machine Shop Practices IV	2	3	3
WEL	120	Fundamentals of Welding	1	3	2
Total Minimum Credits					**17**

Microcomputer Software

Occupational Objectives: The Career Studies Certificate in Microcomputer Software is designed to give a basic understanding of various microcomputer software through a variety of applications in word processing, spreadsheets, database, and graphic design. Graduates can use these courses to update their skills or open new areas of microcomputer expertise.

Program Outcomes: Graduates of the Microcomputer Software Career Studies Certificate will:

1. Demonstrate proficiency in the fundamental information technology skills required to provide user support in business.
2. Apply current industry standards, protocols and techniques; and keep up with evolving technology to maintain professional proficiency.

			Lecture Hours	Lab Hours	Course Credits
AST	238/ 239	Word Processing for Windows	2	2	3
ITX		IT Elective	3	0	3
ITE	140	Spreadsheet Software	3	0	3
ITE	182	User Support/Helpdesk Principles	3	0	3
Select two of the following:					
AST	253	InDesign	2	0	2
ITD	115	Web Page Design & Site Mgt.	3	0	3
ITE	150	Desktop Database Software	4	0	4
Total Minimum Credits			**17-19**	**2**	**17-19**

Network Technology

Occupational Objectives: The Network Technology Career Studies Certificate Program is designed for individuals employed in the field of information systems who wish to upgrade their skills. It is also designed for individuals with previous occupational or academic experience relating to computing systems who may be contemplating a career change.

Program Outcomes: Graduates of the Network Technology Career Studies program will:

1. Demonstrate proficiency in the fundamental information technology skills required to provide user support in business;
2. Implement and maintain computer-based information systems to support the decision-making function of management;
3. Apply analytical and problem solving skills for typical computer system designs, planning, implementation and support;
4. Design, code, test, debug, and document code for programs or software needed for computer system implementation and maintenance; and
5. Apply current industry standards, protocols, and techniques to keep up with evolving technology to maintain professional proficiency.

The program is structured as follows:

			Lecture Hours	Lab Hours	Course Credits
ETR	149	PC Repair	3	0	3
ITN	102	Intro to Networked Client Operating Systems	3	2	4
ITN	103	Administration of Networked Servers	3	2	4
ITN	104	Maint Servers in Networked Infrastructure	3	2	4
ITN	154	Networking Fund. CISCO	3	2	4
ITN	155	Introductory Routing - CISCO	3	2	4
Total Minimum Credits			**18**	**10**	**23**

**Advanced standing credit may be awarded to those persons with a demonstrated proficiency/ certification in Microsoft Windows or Linux Desktop Operating Systems*

Networking with Cisco/CCNA

Occupational Objectives: The Networking with Cisco Career Studies Certificate Program is designed to give an understanding of the various components of CISCO networking through the four levels of the CICSO courses. Graduates can use these courses to complete the CICSO Network Administrator (CCNA) examination, update their skills or open new areas of expertise with networking through the use of CISCO.

Program Outcomes: Graduates of the Networking with CISCO/CCNA Career Studies Certificate will:

1. Demonstrate proficiency in the fundamental information technology skills required to provide user support in business;
2. Implement and maintain computer-based information systems to support the decision-making function of management;
3. Apply analytical and problem solving skills for typical computer system designs, planning, implementation and support;
4. Design, code, test, debug, and document code for programs or software needed for computer system implementation and maintenance; and
5. Apply current industry standards, protocols, and techniques to keep up with evolving technology to maintain professional proficiency.

			Lecture Hours	Lab Hours	Course Credits
ITN	154	Networking Fundamentals (CISCO)	3	2	4
ITN	155	Introductory Routing (CISCO)	3	2	4
ITN	156	Basic Switching & Routing (CISCO)	3	2	4
ITN	157	WAN Technologies (CISCO)	3	2	4
Total Minimum Credits			**12**	**6**	**16**

Nurse Aide

Occupational Objectives: The Nurse Aide is capable of working under the supervision of a licensed nurse in caring for residents of a long-term health care facility or to work under limited supervision in the home. In either situation, the Nurse Aide will use basic skills in observation, communication, reporting, and assisting in maintaining a safe, clean environment for the patient.

The Nurse Aide Career Studies Certificate includes training in the following areas:

1. Orientation
2. Social, emotional, and spiritual needs
3. Communications and interpersonal relationships
4. Anatomy and physiology
5. Personal care
6. Nutrition and patient feeding
7. Activity and exercise
8. Safety and infection control
9. Admission, transfer, and discharge
10. Observation, charting, and reporting
11. Death and dying

Program Outcomes: Graduates of the Nurse Aide Career Studies Certificate program will:

1. Demonstrate recognizing changes in body functioning and the importance of reporting such changes to a supervisor.
2. Demonstrate measuring and recording routine vital signs.
3. Demonstrate measuring and recording height and weight.
4. Demonstrate caring for the clients' environment.
5. Demonstrate measuring and recording fluid and food intake and output.
6. Demonstrate performing basic emergency measures.
7. Demonstrate caring for a client when death is imminent.
8. Demonstrate bathing, grooming, and oral hygiene.
9. Demonstrate grooming, dressing, and toileting.
10. Demonstrate assisting with eating and hydration, including proper feeding techniques.
11. Demonstrate caring for skin, to include prevention of pressure ulcers.
12. Demonstrate transfer, positioning and turning.
13. Apply skills learned in individual client's needs, including mental health and social service needs.
14. Demonstrating skills supporting age-appropriate behavior by allowing the client to make personal choices, and by providing and reinforcing other behavior consistent with the client's dignity.
15. Demonstrate providing appropriate clinical care to the aged and disabled.
16. Demonstrate using techniques for addressing the unique needs and behaviors of individuals with dementia (Alzheimer's and others).
17. Demonstrate the use of assistive devices in transferring, ambulation, eating and dressing.
18. Demonstrate maintaining range of motion, turning & positioning.
19. Demonstrate caring for and using prosthetic and orthotic devices.
20. Apply skills in dealing with clients' rights
21. Apply skills used in maintaining legal and regulatory aspects of practice as a certified nurse aide, including, but not limited to, consequences of abuse, neglect, misappropriation of client property and unprofessional conduct.
22. Demonstrate occupational health and safety measures.
23. Apply skills used in the appropriate management of conflict.

The program is structured as follows:

			Lecture Hours	Lab Hours	Course Credits
NUR	25	Nursing Assistant	2	4	3
NUR	27	Nursing Assistant Advanced	2	3	3
NUR	98	Seminar and Project	2	2	3
Total Minimum Credits			**9**	**6**	**9**

PC Upgrade and Repair

Description: The PC Upgrade and Repair Career Studies Certificate is designed to present the student with an opportunity to obtain valuable skills in the exciting field of PC repair within a relatively short period of time. A student may complete this program in two semesters or less with all classes being offered in the day or evening.

Occupational Objectives: Employment opportunities may include PC Repair Technician or Wireless Network Technician.

Program Outcomes: Graduates of the PC Upgrade and Repair Career Studies Certificate program will:

1. Demonstrate proficiency in the fundamental information technology skills required to provide user support in business.
2. Apply analytical and problem solving skills for typical computer system designs, planning, implementation and support.

The program is structured as follows:

			Lecture Hours	Lab Hours	Course Credits
ETR	149	Computer Repair	3	0	3
ETR	115	DC & AC Fundamentals	3	0	3
ITE	115	Intro to Computer Applications	3	0	3
ITE	221	PC Hardware & OS Architecture	3	0	3
Total Minimum Credits			**12**	**0**	**12**

Pharmacy Technician

Purpose: The Pharmacy Technician program is designed to prepare students to assist and support licensed pharmacists in providing health care and medications to patients. Students will obtain a broad knowledge of pharmacy practice and be skilled in the techniques required to order, stock, package, prepare, and dispense medications under the supervision of a licensed pharmacist.

Occupational Objectives: Pharmacy technicians work in hospital, retail, home health care, nursing home, clinic, nuclear medicine, and mail order prescription pharmacies. Pharmacy technicians have been employed with medical insurance, medical computer software, drug manufacturing, drug wholesale, and food processing companies, and as instructors in pharmacy technician training programs. Currently, hospital, home health care, and retail pharmacies hire the majority of technicians.

Admission Requirements: In addition to the general admission requirements established for the College, entry into this program requires:

1. A high school diploma or a State approved equivalent education.
2. Acceptable admissions test scores or satisfactory completion of required developmental studies courses.
3. A personal interview with an admissions interview team. See note below.
4. A physician's report of good physical and mental health. (The required health certificate form will be provided by the College and may be completed by a physician of your choice.)

Note: The Pharmacy Technician program is an academically rigorous program and there are more applicants than available seats in the program. Therefore, admission is on a selective basis, not first- come, first-served. The selection process considers the student's academic background as well as the timely and successful completion of Developmental Studies requirements. Approximately one-half of the class will be selected by August of each year from those applicants meeting the second admissions requirement before January 1 and interviewed during February or March. The remaining spots in the class will be filled during June from those applicants meeting the second requirement before May 16.

Re-admission Requirements: Students wishing to be re- admitted to the program will follow the same procedures outlined above. Once a student is readmitted, there are additional requirements regarding repetition of previous coursework. A copy of these additional requirements may be obtained from the Workforce Services Office following readmission.

Program Outcomes: Graduates of this program will:

1. Be able to assist and support licensed pharmacists in providing health care and medications to patients
2. Have a broad knowledge of pharmacy practice
3. Be skilled in the techniques require to order, stock, package, prepare, and dispense medications under the supervision of a licensed pharmacist

Program Requirements: To receive the Pharmacy Technician Career Studies Certificate, you must complete a minimum of 25 credits with a grade point average of 2.00 or better.

The credits are distributed according to the following outline:

			Lecture Hours	Lab Hours	Course Credits
First Semester					
MTH	126	Math for Allied Health	3	0	3
HLT	143	Medical Terminology I	3	0	3
HLT	250	General Pharmacology	3	0	3
HLT	261	Basic Pharmacy I	3	0	3
HLT	263	Basic Pharmacy Lab.	0	2	1
Total			**12**	**2**	**13**
Second Semester					
HLT	144	Medical Terminology II	3	0	3
CST	126	Interpersonal Communication	3	0	3
HLT	290	Pharmacy Technician Lab./Clinical Practice	1	15	4
AST	114	Keyboarding for Info. Processing	1	0	1
AST	115	Keyboarding for Info. Processing Lab.	0	2	1
Total			**8**	**17**	**12**
Total Minimum Credits					**25**

Polymer Processing Technician

Purpose: The Polymer Processing Technician Career Studies Certificate is designed to provide relevant education and skills for work in a broad range of modern polymer manufacturing organizations.

Occupational Objective: Polymer Technician I

Admission Requirements: Admission to the Polymer Processing Technician Career Studies Certificate program is based upon the general requirements of the college.

Program Outcomes: To receive the Polymer Processing Technician Career Studies Certificate, you must successfully complete the following:

1. Demonstrate how modern plastics manufacturers use people, technologies and materials to make highly engineered products at a competitive cost.
2. Demonstrate the ability to communicate plastics manufacturing data and information effectively.
3. Demonstrate knowledge of commercial plastics processes and how technology is used by manufacturers to efficiently produce plastic products.
4. Demonstrate the ability to monitor and control processes through statistical use of manufacturing data.

			Course Credits
IND	180	Intro. to Plastics and Plastics Processing	3
IND	195	Extrusion	3
IND	195	Injection Molding	3
IND	295	Polymeric Materials	3
IND	235	Statistical Quality Control	3
Total Minimum Credits			**15**

Classes are usually scheduled one-per-semester on Monday evenings, 4:30 – 8:30 p.m.

Printing Technology

Purpose: The Career Studies Certificate in Printing Technology is designed to prepare individuals for various entry level positions or to upgrade existing skills in the press operations area to meet technology trends in the printing industry. Procedures and processes will be covered in both theory and/or hands-on application.

Occupational Objectives: Students who complete the program will develop competencies in the following areas:

1. Basic understanding of various printing processes.
2. Understanding of the basic technology of the lithographic printing process.
3. Complex understanding of the technology of the lithographic printing process.
4. Understanding of the varieties, properties, handling and printing characteristics of paper and inks.
5. Understanding of the basic operation of the lithographic offset press.
6. Understanding of safety and health issues and of the OSHA Hazard Communication Standard.
7. Complex understanding of the operation of the lithographic offset press.
8. Understanding of the current trends in technology.

Program Outcomes: Upon successful completion of this program, students will:

1. Demonstrate an understanding of the fundamentals of reproduction processes.
2. Demonstrate technical and skill competencies in the area of lithography complete laboratory projects.
3. Discuss the aspects of lithographic chemistry as it relates to the printing industry.

The program is structured in the following courses:

			Lecture Hours	Lab Hours	Course Hours
ART	180	Introduction to Computer Graphics	3	0	3
PNT	110	Survey of Repro. Processes	3	2	3
PNT	131	Principles of Lithography I	3	3	4
PNT	132	Principles of Lithography II	3	3	4
PNT	231	Paper and Ink Concepts	2	0	2
PNT	251	Offset Press Operations I	3	3	4
PNT	298	Safety and Health Issues	2	0	2
Total Minimum Credits			**19**	**11**	**22**

Product Design & Development

Purpose: This Product Design and Development Career Studies Certificate is designed to prepare students with the knowledge, skills, and foundational concepts necessary to design, engineer, and produce a product utilizing wood as a primary design medium and incorporating CAD/CAM/CNC technology. These skills include critical thinking, project planning, managing creativity and design, form and function, product management through customer-focused innovation. Completion of this certificate will prepare the student for work in various positions in the design and manufacturing sectors.

Occupational Objectives: The Career Studies Certificate in Product Design and Development is designed to provide students the necessary skills to be gainfully employed in this field. This certificate is primarily targeted to dual enrollment students, but other students may enroll.

Admission Requirements: Admission to the Product Design and Development Career Studies Certificate Program is based upon the general admission requirements to the College. If a student meets the general admission requirements, a counselor will discuss the student's academic strengths and weaknesses. Placement recommendation for MTH 2 and Basic Arithmetic or equivalent is required.

Program Outcomes: To receive a Product Design and Development Career Studies Certificate, you must complete 13 credits as listed in the outline below:

1. Apply various manufacturing concepts in technologies and automation used in today's manufacturing.
2. Demonstrate the ability to use CAD/CAM/CNC in manufacturing design and development.
3. Demonstrate the ability to program and operate different types of equipment related to modern day manufacturing.
4. Demonstrate the use of different types of tools and materials used in modern day manufacturing.

Program Requirements: To receive a Product Design and Development Career Studies Certificate, you must complete 13 credits as listed in the outline below:

			Lecture Hours	Lab Hours	Course Hours
IND	161	Product Design & Development I	1	12	5
IND	162	Product Design & Development II	1	12	5
DRF	233	Computer Aided Drafting III**	2	3	3
Total Minimum Credits			**4**	**27**	**13**

***A prior drafting course, such as DRF 114, DRF 120, DRF 160 or equivalent, is recommended before enrolling in DRF 233.*

Programming

Occupational Objectives: The Programming Career Studies Certificate is designed to gain a basic understanding of various programming languages through a variety of 3 and 4 credit courses. Graduates can use these courses to update their skills or open new areas of programming expertise.

Program Outcomes: Graduates of the Programming Career Studies Certificate program will:

1. Demonstrate proficiency in the fundamental information technology skills required to provide user support in business;
2. Implement and maintain computer-based information systems to support the decision-making function of management;
3. Apply analytical and problem solving skills for typical computer system designs, planning, implementation and support;
4. Design, code, test, debug, and document code for programs or software needed for computer system implementation and maintenance; and
5. Apply current industry standards, protocols, and techniques to keep up with evolving technology to maintain professional proficiency.

The program is structured within the following courses:

			Lecture Hours	Lab Hours	Course Credits
ITP	100	Software Design	3	0	3
ITP	112	Visual Basic .Net I or			
ITP	120	Java Programming I	4	0	4
ITP	136	Visual C# Programming I	4	0	4
ITE	150	Desktop Database Software	4	0	4
ITP	236	C# Programming II or			
ITP	212	Visual Basic NET II or			
ITP	220	Java Programming II	4	0	4
ITX		IT Elective	3-4	–	3-4
Total Minimum Credits			**22-23**	**0**	**22-23**

Web Site Design

Occupational Objectives: Students completing the Web Site Design Career Studies Certificate Program will have the skills to fully develop a web site, from conceptualizing the overall logic and design of the site to creating the Web pages using graphics and other media. Students will learn how to work with a client to achieve the business, organizational, professional or commercial requirements desired. A professional portfolio will be developed as the student progresses through the program. This program can be completed entirely on line. This means that the student can decide the time and place to complete the courses. This is a perfect option for the working person who has trouble finding the time to come to school or for the individual who lives too far from campus for an easy commute.

Program Outcomes: Graduates of this program will:

1. Demonstrate proficiency in the fundamental information technology skills required to provide user support in business.
2. Implement and maintain computer-based information systems to support the decision-making function of management.
3. Apply analytical and problem solving skills for typical computer system designs, planning, implementation and support.
4. Design, code, test, debug, and document code for programs and other software needed for computer system implementation and maintenance.
5. Apply current industry standards, protocols, and techniques; and keep up with evolving technology to maintain professional proficiency.
6. User vendor supplied instructional material and testing tools leading towards certification.

The program is structured within the following courses:

			Lecture Hours	Lab Hours	Course Credits
ENG	131	Technical Report Writing **or** Approved English Elective	3	0	3
ITD	110	Web Page Design I (Programming with HTML)	3	0	3
ITD	115	Web Page Design & Site Mgt.	3	0	3
ITD	112	Designing Web Page Graphics	3	0	3
ITE	130	Introduction to Internet Services	3	0	3
ITP	140	Client Side Scripting (Internet Programming I)	3	0	3
MKT	281	Marketing for the Internet	3	0	3
ITX		Approved IT Elective	3-4		3-4
ITX		Approved IT Elective	3-4		3-4
Total Minimum Credits			**27-29**	**0**	**27-29**

Welding

Occupational Objectives: The Welding Career Studies Certificate is a response to the short- term training needs of many adults in our service region. It is designed to provide students with the knowledge and skills needed to obtain employment in the welding field. The fundamental objective of the program is to teach students how to weld. Individuals trained in this program must be able to meet welding performance demands of industry; consequently, a minimum amount of time is spent on book and classroom study with most of the time used on supervised welding practice.

Program Outcomes: Graduates of the Welding Career Studies Certificate program will:

1. Understand and follow industry practices.
2. Successfully complete projects in a given time.
3. Weld in the flat vertical and horizontal position using the basic welding processes SMAW, GMAW ,GTAW.
4. Cut metals using the oxyfuel and plasma arc cutting process.

The program is structured within the following courses:

			Lecture Hours	Lab Hours	Course Credits
MAC	161	Machine Shop Practices I	2	3	3
WEL	115	Drawing and Interpretation	3	0	3
WEL	145	Welding Metallurgy	3	0	3
WEL	120	Fundamentals of Welding	1	3	2
WEL	121	Arc Welding I	1	3	2
WEL	122	Arc Welding II	1	3	2
WEL	135	Inert Gas Welding I	1	3	2
WEL	136	Inert Gas Welding II	1	3	2
Total Minimum Credits			**13**	**18**	**19**

Developmental Studies

Award: NONE

Length: Variable

Purpose: The Virginia Community College System (VCCS) requires that each campus assess student readiness for college-level work. Based on assessment outcomes, a student may be required to take developmental courses in mathematics, reading and writing. These courses do not carry college-level credit but are designed to develop essential skills necessary for college-level work. By obtaining these skills, students increase the likelihood of successful completion of their chosen program of study.

VCCS campuses currently use both the ASSET and COMPASS tests to assess incoming students who register for transfer or vocational degrees and certificates. Both tests are developed by American College Testing which ensures the validity and accuracy of their assessment tools. Students seeking additional information on these tests are invited to view ACT's website at www.act.org. This site contains valuable information about the test, sample questions and tips for taking both the ASSET and COMPASS.

Program Requirements: All students are assigned to an academic advisor. College-level course enrollment requires advisor approval, and students must complete all developmental pre-requisites before taking college-level courses. Students requiring remediation are encouraged to complete Developmental Studies course requirements as early as possible in their college enrollment. When a student completes the required objectives for the Developmental Studies courses, a grade of "S" (satisfactory completion of objectives) is awarded. When a student makes satisfactory progress during the term but has not completed all of the requirements to pass the course, the student receives a grade of "R" (re-enroll) and should re-enroll in that Developmental Studies course during the subsequent term. When a Developmental Studies student receives the "U" (unsatisfactory) grade, that student is to be re-counseled by a Developmental Studies academic advisor with the assistance of the Counseling Office. For assessment and precise placement into math modules, contact the Student Success and Academic Advancement Division at 434.797.6435.

Developmental Studies Prerequisites

Curricular students should not enroll in the following courses until they have demonstrated proficiency on the placement examination or completed the appropriate developmental course. Note: "C" attached to a course number indicates it may be taken concurrently as a co-requisite.

Course #	Course Name
ACC 105	Office Accounting (MTE 1, MTE 2, ENF 3)
ACC 111	Accounting I (MTE 1, MTE 2, ENF 1C)
ACC 211	Principles of Accounting I (MTE 1, MTE 2, MTE 3, ENF 1, ENF 2C)
ARC 211	Computer-Aided Drafting Applications (MTE 1, MTE 2, MTE 3)
ARC 255	Construction Estimating (MTE 1, MTE 2, MTE 3)
ADJ 100	Survey of Criminal Justice (ENF 2)
ADJ 116	Special Enforcement Topics (ENF 2)
ADJ 130	Introduction to Criminal Law (MTE 1, MTE 2, ENF 2)
ADJ 131	Legal Evidence (MTE 1, MTE 2, ENF 3)
ADJ 140	Introduction to Corrections (ENF 2)
ADJ 145	Corrections and the Community (ENF 2)
ADJ 150	Introduction to Security Administration (ENF 2)
ADJ 171	Forensic Science I (MTE 1, MTE 2, ENF 2)
ADJ 215	Report Writing (ENF 3)
ADJ 227	Constitutional Law for Justice Personnel (MTE 1, MTE 2, ENF 3)
ADJ 236	Principles of Criminal Investigation (MTE 1, MTE 2, ENF 3)
ADJ 257	Loss Prevention (ENF 3)
ASL 100	American Sign Language I (ENF 3)
ASL 101	American Sign Language II (ENF 1C)
AST 101	Keyboarding I (MTE 1, MTE 2, ENF 1C)
AST 113	Keyboarding for Speed and Accuracy (ENF 1C)
AST 117	Keyboarding for Computer Usage (ENF 1C)
AST 201	Keyboarding III (ENF 1)
AST 234	Records and Database Management (MTE 1, MTE 2, ENF 1)
AST 238	Word Processing Advanced Operations (MTE 1, MTE 2, ENF 1)
AST 243	Office Administration I (ENF 1)
AST 244	Office Administration II (ENF 1)
AST 253	Advanced Desktop Publishing I (ENF 1)
AST 265	Legal Office Procedures I (ENF 3)
BIO 100	Basic Human Biology (MTE 1, MTE 2, ENF 3C)
BIO 101	General Biology I (MTE 1, MTE 2, MTE 3C, MTE 4C, MTE 5C, ENF 3)
BIO 102	General Biology II (MTE 1, MTE 2, MTE 3, MTE 4, MTE 5, ENF 3)
BIO 141	Human Biology and Physiology I (MTE 1, MTE 2, MTE 3, ENF 3)
BIO 231	Human Anatomy and Physiology I (MTE 1, MTE 2, MTE 3, MTE 4, MTE 5)
BIO 232	Human Anatomy and Physiology II (MTE 1, MTE 2, MTE 3, MTE 4, MTE5)
BLD 120	Applied Construction Mathematics (MTE 1, MTE 2)
BUS 100	Introduction to Business (MTE 1, MTE 2, ENF 1, ENF 2C)
BUS 111	Principles of Supervision (MTE 1, MTE 2, ENF 1, ENF 2C)
BUS 121	Business Mathematics I (MTE 1, MTE 2, ENF 1, ENF 2C)
BUS 122	Business Mathematics II (MTE 1, MTE 2,)

Course #	Course Name
BUS 125	Applied Business Mathematics (MTE 3, ENF 1, ENF 2C)
BUS 147	Introduction to Business Information Systems (MTE 1, MTE 2, MTE 3, ENF 1, ENF 2C)
BUS 165	Small Business Management (MTE 1, MTE 2, ENF 1, ENF 2C)
BUS 209	Continuous Quality Improvement (MTE 1, MTE 2, ENF 1, ENF 2C)
BUS 220	Introduction to Basic Statistics (MTE 1, MTE 2, ENF 1, ENF 2C)
BUS 221	Business Statistics I (MTE 1, MTE 2, MTE 3, MTE 4, MTE 5, MTE 6, MTE 7, MTE 8, MTE 9)
BUS 223	Distribution and Transportation (MTE 1, MTE 2)
BUS 227	Quantitative Methods (MTE 1, MTE 2, MTE 3, MTE 4, MTE 5, MTE 6, MTE 7, MTE 8, MTE 9)
BUS 241	Business Law I (ENF 1)
BUS 255	Inventory and Warehouse Management (MTE 1, MTE 2)
BUS 298	Seminar and Project in Business (MTE 1, MTE 2)
CAD 116	Drafting III (MTE 1, MTE 2, MTE 3, ENF 1)
CAD 120	Introduction to Graphic Representation (MTE 1, MTE 2, MTE 3, MTE 4, ENF 1)
CAD 130	Introduction to Electrical/Electronics Drafting (MTE 1, MTE 2, MTE 3, MTE 4, ENF 1)
CAD 200	Survey of Computer-Aided Drafting (MTE 1, MTE 2, MTE 3)
CAD 201	Computer Aided Drafting and Design (MTE 1, MTE 2, MTE 3, ENF 1)
CAD 233	Computer Aided Drafting III (MTE 1, MTE 2, MTE 3)
CHD 118	Language Arts for Young Children (ENF 2)
CHD 120	Introduction to Early Childhood Education (ENF 2)
CHD 125	Creative Activities for Children (ENF 2)
CHD 126	Science and Math Concepts for Children (MTE 1, MTE 2, ENF 2)
CHD 145	Teaching Art, Music, and Movement to Children (ENF 2)
CHD 166	Infant and Toddler Programs (ENF 2)
CHD 167	CDA Theories and Applications: Portfolio (ENF 2)
CHD 205	Guiding the Behavior of Children (MTE 1, MTE 2, ENF 2)
CHD 210	Introduction to Exceptional Children (MTE 1, MTE 2, ENF 2)
CHD 215	Models of Early Childhood Education Programs (MTE 1, MTE 2, ENF 2)
CHM 101	General Chemistry I (MTE 1, MTE 2, MTE 3, ENF 3)
CHM 102	General Chemistry II (MTE 1, MTE 2, MTE 3, ENF 3)
CHM 111	College Chemistry I (MTE 1, MTE 2, MTE 3, ENF 3)
CHM 112	College Chemistry II (MTE 1, MTE 2,, MTE 3, MTE 4, MTE 5, MTE 6, ENF 3)
CIV 171	Principles of Surveying (MTE 1, MTE 2, MTE 3, MTE 4, ENF 2)
CSC 200	Introduction to Computer Science (MTE 1, MTE 2, MTE 3, MTE 4, MTE 5, MTE 6, MTE 7, MTE 8, MTE 9, ENF 3)

Developmental Studies Prerequisites (cont'd)

Course #	Course Name
CSC 205	Computer Organization (MTE 1, MTE 2, MTE 3, MTE 4, MTE 5, MTE 6, MTE 7, MTE 8, MTE 9, ENF 3)
CST 100	Principles of Public Speaking (ENF 2)
CST 110	Introduction to Speech Communication (ENF 2)
CST 131	Acting I (ENF 3)
DRF 114	Drafting I (MTE 1, MTE 2)
DRF 115	Drafting II (MTE 1, MTE 2)
DRF 160	Machine Blueprint Reading (MTE 1, MTE 2, ENF 1)
ECO 201	Principles of Macroeconomics (MTE 1, MTE 2, MTE 3, MTE 4, ENF 1, ENF 2C)
ECO 202	Principles of Microeconomics (MTE 1, MTE 2, MTE 3, MTE 4, ENF 1, ENF 2)
EGR 115	Engineering Graphics (MTE 1, MTE 2, MTE 3)
ENG 100	Basic Occupational Communication or Higher (ENF 3C)
FIN 215	Financial Management (MTE 1, MTE 2)
GEO 210	Cultural Geography (ENF 3)
GEO 220	World Regional Geography (ENF 3)
HIS 101	History of Western Civilization I (ENF 3)
HIS 102	History of Western Civilization (ENF 3)
HIS 121	United States History I (ENF 3)
HIS 122	United States History II (ENF 3)
HIS 266	Military History of the Civil War (ENF 3)
HIS 268	The American Constitution (ENF 3)
HIT 105	Current Procedural Terminology (ENF 1)
HLT 100	First Aid and Cardiopulmonary Resuscitation (ENF 2)
HLT 116	Introduction to Personal Wellness Concepts (ENF 2)
HLT 130	Nutrition and Diet Therapy (ENF 2)
HLT 135	Child Health and Nutrition (ENF 2)
HLT 141	Introduction to Medical Terminology (ENF 2)
HLT 143	Medical Terminology I (ENF 2)
HLT 160	Personal Health and Fitness (MTE 1, MTE 2, ENF 3)
HLT 200	Human Sexuality (ENF 3)
HLT 215	Personal Stress and Stress Management (ENF 3)
HLT 230	Principles of Nutrition and Human Development (ENF 3)
HUM 165	Controversial Issues in Contemporary American Culture (ENF 2)
ITD 120	Design Concepts for Mobile Applications (MTE 1, MTE 2)
ITE 115	Introduction to Computer Applications and Concepts (MTE 1, MTE 2, ENF 2)
ITE 215	Introduction to Microcomputer Software (MTE 3, ENF 2)
ITE 140	Spreadsheet Software (MTE 3, ENF 2)
ITE 150	Database Management Software (MTE 3, ENF 2)
ITN 102	Introduction to Networked Client Operating Systems - LANS (MTE 1, MTE 2)
ITN154	Networking Fundamentals (MTE 1, MTE 2)
ITP 100	Software Design (MTE 1, MTE 2, MTE 3)
ITP 160	Introduction to Game Design and Development (MTE 1, MTE 2)
MAC 101	Machine Shop I (MTE 1, MTE 2)
MAC 102	Machine Shop II (MTE 1, MTE 2)
MAC 110	Introductory Machining Techniques (MTE 1, MTE 2)
MAC 121	Computer Numerical Control I (MTE 1, MTE 2)
MAC 126	Introductory CNC Programming (MTE 1, MTE 2)
MAC 131	Machine Lab (MTE 1, MTE 2)
MAC 161	Machine Shop Practices I (MTE 1, MTE 2)
MAC 162	Machine Shop Practices II (MTE 1, MTE 2)
MAC 163	Machine Shop Practices III (MTE 1, MTE2)
MAC 164	Machine Shop Practices IV (MTE 1, MTE 2)
MEC 100	Introduction to Engineering Technologies (MTE 1, MTE 2, MTE 3, MTE 4, ENF 1C)
MEC 111	Materials for Industry (MTE 1, MTE 2, ENF 1C)
MEC 126	Computer Programming for Technologists (MTE 2, MTE 3)
MEC 131	Mechanics I – Statics for Engineering Technology (MTE 1, MTE 2, MTE 3, MTE 4, MTE 5, MTE 6, MTE 7)
MEC 132	Mechanics II – Strengths of Materials for Engineering Technology (MTE 1, MTE 2, MTE 3, MTE 4, MTE 5, MTE 6, MTE 7, MTE 8, MTE 9)
MEC 211	Machine Design (MTE 1, MTE 2, MTE 3, MTE 4, MTE 5, MTE 6, MTE 7, MTE 8, MTE 9)
MEC 226	Practical Metallurgy (MTE 2, ENF 1)
MEC 265	Fluid Mechanics (MTE 1, MTE 2, MTE 3, MTE 4, MTE 5, MTE 6, MTE 7)
MKT 100	Principles of Marketing (MTE 1, MTE 2, ENF 1, ENF 2C)
MKT 110	Principles of Selling (ENF 1, ENF 2C)
MKT 216	Retail Organization and Management (MTE 1, MTE 2)
MKT 227	Merchandise Buying and Control (MTE 1, MTE 2)
MKT 228	Promotion (BSK 1, MTE 1, MTE 2)
MKT 281	Principles of Internet Marketing (MTE 1, MTE 2, ENF 3)
MTH 103	Applied Technical Mathematics I (MTE 1, MTE 2, MTE 3)
MTH 115	Technical Mathematics I (MTE 1, MTE 2, MTE 3, MTE 4, MTE 5)
MTH 116	Technical Mathematics II (MTE 1, MTE 2, MTE 3, MTE 4, MTE 5, MTE 6, MTE 7)
MTH 121	Fundamentals of Mathematics I (MTE 1, MTE 2, MTE 3, ENF 2)
MTH 126	Mathematics for Allied Health (MTE 1, MTE 2, MTE 3, ENF 2)
MTH 151	Mathematics for Liberal Arts I (MTE 1, MTE 2, MTE 3, MTE 4, MTE 5, ENF 2)
MTH 157	Elementary Statistics (MTE 1, MTE 2, MTE 3, MTE 4, MTE 5, ENF 2)
MTH 158	College Algebra (MTE 1, MTE 2, MTE 3, MTE 4, MTE 5, MTE 6, ENF 2)
MTH 163	Precalculus I (MTE 1, MTE 2, MTE 3, MTE 4, MTE 5, MTE 6, MTE 7, MTE 8, MTE 9, ENF 2)
MTH 173	Calculus with Analytic Geometry I (MTE 1, MTE 2, MTE 3, MTE 4, MTE 5, MTE 6, MTE 7, MTE 8, MTE 9, ENF 3)
MTH 175	Calculus of One Variable (MTE 1, MTE 2, MTE 3, MTE 4, MTE 5, MTE 6, MTE 7, MTE 8, MTE 9)
MTH 240	Statistics (MTE 1, MTE 2, MTE 3, MTE 4, MTE 5, MTE 6, MTE 7, MTE 8, MTE 9)
MTH 273	Calculus 1 (MTE 1, MTE 2, MTE 3, MTE 4, MTE 5, MTE 6, MTE 7, MTE 8, MTE 9, ENF 3C)
MUS 121	Music Appreciation I (ENF 3)
MUS 131	Class Voice I (ENF 3C)
NAS 105	Natural Science Topics for Modern Society (MTE 1, MTE 2, MTE 3, ENF 3C)
NAS 110	Elementary Physical Science (MTE 1, MTE 2, MTE 3, ENF 3)
NAS 185	Microbiology (MTE 1, MTE 2, MTE 3, ENF 3)
PBS 120	Introduction to Community and Social Service (MTE 1, MTE 2, ENF 1, ENF 2)
PBS 265	Interviewing (MTE 1, MTE 2, ENF 1, ENF 2, ENF 3)
PHI 100	Introduction to Philosophy (MTE 1, MTE 2, MTE 3, ENF 3)
PHI 115	Practical Reasoning (MTE 1, MTE 2, ENF 3)
PHI 220	Ethics (MTE 1, MTE 2, MTE 3, ENF 3)
PHI 226	Social Ethics (MTE 1, MTE 2, MTE 3, ENF 3)
PHY 130	Survey of Applied Physics (MTE 1, MTE 2, MTE 3, MTE 4, MTE 5, MTE 6, MTE 7, ENF 1, ENF 2)
PLS 211	U. S. Government I (MTE 1, MTE 2, ENF 3)
PLS 212	U. S. Government II (MTE 1, MTE 2, ENF 3)
PSY 126	Psychology for Business and Industry (ENF 2C)
PSY 200	Principles of Psychology (MTE 1, MTE 2, MTE 3, ENF 3)
PSY 201	Introduction to Psychology I (MTE 1, MTE 2, MTE 3, ENF 3)
PSY 202	Introduction to Psychology II (MTE 1, MTE 2, MTE 3, ENF 3)
PSY 230	Developmental Psychology (MTE 1, MTE 2, MTE 3, ENF 3)
PSY 231	Life Span Human Development I (MTE 1, MTE 2, MTE 3, ENF 3)
PSY 235	Child Psychology (MTE 1, MTE 2, MTE 3, ENF 3)
PSY 236	Adolescent Psychology (MTE 1, MTE 2, MTE 3, ENF 3)
REA 100	Principles of Real Estate (MTH 2, MTH 3, ENF 3)
REL 200	Survey of the Old Testament (ENF 3)
REL 210	Survey of the New Testament (ENF 3)
REL 230	Religions of the World (ENF 3)
REL 235	Major Religious Thinkers (ENF 3)
REL 255	Selected Problems and Issues in Religion (ENF 3)
SOC 200	Principles of Sociology (ENF 2C)
SOC 201	Introduction to Sociology I (ENF 2C)
SOC 202	Introduction to Sociology II (ENF 2C)
SOC 215	Sociology of the Family (ENF 3)
SOC 235	Juvenile Delinquency (ENF 2C)
SOC 236	Criminology (ENG 1, ENF 2)
SOC 268	Social Problems (ENF 3)
SPA 101	Beginning Spanish I (ENF 2C)
SPA 103	Basic Spoken Spanish I (ENF 3)
SPA 150	Spanish for Law Enforcement (ENF 3)
SPA 203	Intermediate Spanish I (ENF 3)
WEL 116	Welding I (ENF 1)
WEL 120	Introduction to Welding (ENF 1)

Course Descriptions

Note: Courses separated by hyphens, e.g. ENG 111-112, must be taken in sequence. Courses separated by commas, e.g. HIS 101, HIS 102, do not have to be taken in sequence.

(ACC) Accounting

ACC 105 Office Accounting (3 cr.)
Presents practical accounting. Covers the accounting cycle-- journals, ledgers, working papers, closing of books--payrolls, financial statements, accounting forms and practical procedures. Lecture 3 hours per week.

ACC 110 Introduction to Computerized Accounting (1- 2 cr.)
Introduces the computer in solving accounting problems. Focuses on the operation of computers. Presents the accounting cycle and financial statement preparation in a computerized system and other applications for financial and managerial accounting. Co-requisite(s): ACC 111, ACC 211 or equivalent.

ACC 111 Accounting I (3 cr.)
Presents fundamental accounting concepts and principles governing the accounting cycle, journals, ledgers, working papers, and preparation of financial statements for sole proprietorships. Covers services and merchandising businesses. Lecture 3 hours.

ACC 112 Accounting II (3 cr.)
Continues ACC 111 with emphasis on application to partnerships, and corporations. Also includes an introduction to cost and managerial accounting. Prerequisite: ACC 111. Lecture 3 hours.

ACC 211 Principles of Accounting I (3 cr.)
Presents accounting principles and their applications to various businesses such as proprietorships, partnerships and Corporations. Covers the accounting cycle, income determination and financial reporting. Examines service and merchandising businesses with regard to internal cash controls, receivables plant assets, liabilities, cash flow statement and financial statement analysis. Lecture 3 hours a week.

ACC 212 Principles of Accounting II (3 cr.)
Continues ACC 211 with emphasis on introduction to cost and managerial accounting. Studies cost accounting methods and reporting as applied to job order, process and standard cost accounting systems. Includes manager topics such as budgetary planning and control as well as capital budgeting. Lectures 3 hours per week.

ACC 221 Intermediate Accounting I (4 cr.)
Covers accounting principles and theory, including a review of the accounting cycle and accounting for current assets, current liabilities, and investments. Introduces various accounting approaches, and demonstrates the effect of these approaches on the financial statement users. Prerequisite: ACC 212 or 112 or equivalent. Lecture 4 hours per week.

ACC 222 Intermediate Accounting II (4 cr.)
Continues accounting principles and theory with emphasis on accounting for fixed assets, intangibles, corporate capital structure, long-term liabilities, and investments. Prerequisite: ACC 221 or equivalent. Lecture 4 hours per week.

ACC 231 Cost Accounting I (3 cr.)
Studies cost accounting methods and reporting as applied to job order, process, and standard cost accounting systems. Includes cost control, and other topics. Prerequisite: ACC 212 or 112 or equivalent. Lecture 3 hours per week.

ACC 241 Auditing I (3 cr.)
Presents techniques of investigating, interpreting, and appraising accounting records and assertions. Studies internal control design and evaluation, evidence-gathering techniques and other topics. Prerequisite: ACC 221 or co-requisite ACC 222 or equivalent. Lecture 3 hours per week.

ACC 261 Principles of Federal Taxation I (3 cr.)
Presents the study of federal taxation as it relates to individuals, and related entities. Includes tax planning, compliance and reporting. Lecture 3 hours per week.

ACC 262 Principles of Federal Taxation II (3 cr.)
Presents the study of federal taxation as it relates to partnerships, corporations, and other tax entities. Includes tax planning, compliance, and reporting. Prerequisite: ACC 261. Lecture 3 hours per week.

(ADJ) Administration of Justice

ADJ 100 Survey of Criminal Justice (3 cr.)
Presents an overview of the United States criminal justice system; introduces the major system components law enforcement, judiciary, and corrections. Lecture 3 hours per week.

ADJ 116 Special Enforcement Topics (3 cr.)
Considers contemporary issues, problems, and controversies in modern law enforcement. Lecture 3 hours per week.

ADJ 118 Crisis Intervention and Critical Issues (3 cr.)
Addresses basic problems involved in crisis intervention and current critical issues in law enforcement and the administration of justice; emphasizes practical approaches to discover and implement solutions. Lecture 3 hours per week.

ADJ 130 Introduction to Criminal Law (3 cr.)
Surveys the general principles of American criminal law, the elements of major crimes, and the basic steps of prosecution procedure. Lecture 3 hours per week.

ADJ 131 Legal Evidence (3 cr.)
Surveys the identification, degrees, and admissibility of evidence for criminal prosecution; examines pre-trial procedures as they pertain to the rules of evidence. Pre-requisite: ADJ 130. Lecture 3 hours per week.

ADJ 140 Introduction to Corrections (3 cr.)
Focuses on societal responses to the offender. Traces the evolution of practices based on philosophies of retribution, deference, and rehabilitation. Reviews contemporary correctional activities and their relationships to other aspects of the criminal justice system. Lecture 3 hours per week.

ADJ 145 Corrections and the Community (3 cr.)
Studies and evaluates the relationships and interactions between correctional organizations and free society. Focuses on the shared responsibility of the community and corrections agencies to develop effective programs for management and treatment of criminal offenders. Lecture 3 hours per week.

ADJ 150 Introduction to Security Administration (3 cr.)
Introduces the student to the field of private security – its histories, structures, functions, and personnel; surveys the principles and practices of security administration. Lecture 3 hours per week.

ADJ 161 Introduction to Computer Crime (3 cr.)
Provides a basic introduction to the nature of computer crime, computer criminals, relevant law, investigative techniques nd emerging trends. Lecture 3 hours per week.

ADJ 171 Forensic Science I (4 cr.)
Introduces the student to crime scene technology, procedures for sketching, diagramming and using casting materials. Surveys the concepts of forensic chemistry, fingerprint classification/ identification and latent techniques, drug identification, hair and fiber evidence, death investigation techniques, thin-layer chromatographic methods, and arson materials examination. Prerequisites: ADJ 100 and ADJ 236. Lecture 3 hours. Laboratory 3 hours. Total: 6 hours per week.

ADJ 215 Report Writing (3 cr.)
Introduces the basic mechanics and procedures of report writing; emphasizes clear, concise and accurate writing of communications as they relate to law enforcement records, investigations, and research. Prerequisite: ENG 111. Lecture 3 hours per week.

ADJ 227 Constitutional Law for Justice Personnel (3 cr.)
Surveys the basic guarantees of liberty described in the U.S. Constitution and the historical development of these restrictions on government power, primarily through U.S. Supreme Court decisions. Reviews rights of free speech, press, assembly, as well as criminal procedure guarantees (to counsel, jury trial, habeas corpus, etc.) as they apply to the activities of those in the criminal justice system. Prerequisite: ADJ 130. Lecture 3 hours per week.

ADJ 234 Terrorism and Counter-Terrorism (3 cr.)
Surveys the historical and current practices of terrorism that are national, transnational, or domestic in origin. Includes biological, chemical, nuclear, and cyber-terrorism. Teaches the identification and classification of terrorist organizations, violent political groups and issue-oriented militant movements. Examines investigative methods and procedures utilized in counter terrorist efforts domestically and internationally. Prerequisite: ADJ 100. Lecture 3 hours per week.

ADJ 236 Principles of Criminal Investigation (3 cr.)
Surveys the fundamentals of criminal investigation procedures and techniques. Examines crime scene search, collecting, handling and preserving of evidence. Lecture 3 hours per week.

ADJ 257 Loss Prevention (3 cr.)
Studies internal and external theft that affects all private and public operations, with focus on retail businesses. Examines and evaluates major loss prevention programs used by security operations, again with focus on retail security. Lecture 3 hours per week.

ADJ 296 Internship (3 cr.)
In order to apply criminal justice theory to practice, this course will allow the student to participate in an on-site criminal justice learning experience in a variety of criminal justice agencies. Appropriate placements will be with police departments, sheriff 's departments, juvenile and adult probation departments, correctional institutions, and departments of social services. Other placements will be evaluated on a case by case basis. Prerequisites: ADJ 100 and ADJ 130. Variable hours per week.

(AIR) Air Conditioning and Refrigeration

AIR 111-112 Air Conditioning and Refrigeration Controls I-II (3 cr. each)
Presents electron theory, magnetism, Ohm's Law, resistance, current flow, instruments for electrical measurement, A.C. motors, power distribution controls and their application. Pre-requisite AIR 161 or approval. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

AIR 117 Metal Layout I (3 cr.)
Presents measuring and gauging of sheet metal, types of metal, handling sheet metal, cutting and bending, layout. Teaches fundamentals of drafting, basic drawing instruments, lettering practices. Lecture 1-2 hours. Laboratory 3-6 hours. Total 5-7 hours per week.

AIR 118 Metal Layout II (3 cr.)
Presents practice in the laying out of various sheet metal pieces on paper and transposing to metal. Prerequisite: AIR 117 or approval. Lecture 1 hour. Laboratory 6 hours. Total 7 hours per week.

AIR 121 Air Conditioning and Refrigeration I (3 cr.)
Studies refrigeration theory, tools and equipment, soldering, brazing, refrigeration systems, system components, compressors, evaporators, metering devices. Provides laboratory application of refrigerators and freezers. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

AIR 122 Air Conditioning and Refrigeration II (3 cr.)
Presents operations of commercial refrigeration systems, ice machines, design, installation and service, air conditioning and heat pumps. Prerequisite: AIR 121 or approval. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

AIR 123-124 Air Conditioning and Refrigeration III-IV (3 cr. each)
Psychrometric properties of air, heat load and gain calculation, heated and chilled water systems, duct design, air distribution and air comfort requirements. Prerequisite: AIR 122 or approval. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

AIR 134 Circuits and Controls I (3 cr.)
Presents circuit diagrams for heating units, reading and drawing of circuit diagrams, types of electrical controls, and house wiring circuits. Includes analysis of heating circuits, components, analysis and characteristics of circuits and controls, testing and servicing. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

AIR 135 Circuits and Controls II (3 cr.)
Introduces electricity for air conditioning which includes circuit elements, direct current circuits and motors, single and three-phase circuits and motors, power distribution systems, and protective devices. Studies the electron and its behavior in passive and active circuits and components. Demonstrates electronic components and circuits as applied to air conditioning systems. Prerequisite: AIR 134 or approval. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

AIR 136 Circuits and Controls III (3 cr.)
Introduces types of circuits and controls used in home, commercial and industrial air conditioning systems. Includes servicing and installation procedures for electrical unloading of compressors, single- and two-stage thermostats, and electrical regulation of fan speed for air volume control. Explains operational and safety control and how schematic and pictorial diagrams are used in these systems. Prerequisite: AIR 134 or approval. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

AIR 137 Air Conditioning Electronics Survey (2 cr.)
Studies electronics and its applications in the HVAC field. Covers computers, programmable controllers, and microprocessors in the HVAC industry. Prerequisite: AIR 134 or approval. Lecture 1 hour. Laboratory 3 hours. Total 4 hours per week.

AIR 154 Heating Systems I (3 cr.)
Introduces types of fuels and their characteristics of combustion; types, components and characteristics of burners, and burner efficiency analyzers. Studies forced air heating systems including troubleshooting, preventive maintenance and servicing. Part I of II. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

AIR 155 Heating Systems II (3 cr.)
Introduces types of fuels and their characteristics of combustion; types, components and characteristics of burners, and burner efficiency analyzers. Studies forced air heating systems including troubleshooting, preventive maintenance and servicing. Part II of II. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

AIR 156 Heating Systems III (3 cr.)
Introduces types of boilers, sizing boilers, sizing radiators and convectors, designing piping systems for steam, hot water and vacuum systems. Includes testing and servicing wet heat systems. Prerequisite: 154 - 155 or approval. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

AIR 158 Mechanical Codes (2 cr.)
Presents mechanical code requirements for installation, service, and inspection procedures. Uses the BOCA code in preparation for the master's card. Lecture 2 hours per week.

AIR 161 Heating, Air Conditioning and Refrigeration Calculations I (3 cr.)
Introduces fractions, decimals, sign of operations, equations, Ohm's Law, subtraction, multiplication and division of signed numbers. Teaches fundamentals of algebra, expression of stated problems in mathematical form, and solutions of equations. Lecture 3 hours. Total 3 hours per week.

AIR 162 Heating, Air Conditioning & Refrigeration Calculations II (3 cr.)
Introduces the functions of angles, trigonometric functions, angles of elevation and depression, and powers and roots. Prerequisite: AIR 161 or approval. Lecture 3 hours. Total 3 hours per week.

AIR 165 Air Conditioning Systems I (3 cr.)
Introduces comfort survey, house construction, load calculations, types of distribution systems, and equipment selection. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

AIR 166 Air Conditioning Systems II (3 cr.)
Introduces designing, layout, installation, and adjusting of duct systems, job costs, and bidding of job. Prerequisite: AIR 165 or approval. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

AIR 167 Air Conditioning Systems III (4 cr.)
Introduces building survey, commercial load calculations, design conditions, solar heat gain, ventilation, internal heat gains, cooling, heating and humidification with water psychrometrics distribution systems, ice and water for air conditioning. Prerequisite: AIR 166 or approval. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

AIR 181 Planning & Estimating I (2 cr.)
Presents fundamentals of blueprint reading as applied to the building trades. Emphasizes air conditioning and distribution, designing and drawing residential systems take-off of materials and estimating the cost of the systems. Lecture 1 hour. Laboratory 3 hours. Total 4 hours per week.

AIR 213-214 Air Conditioning and Refrigeration Controls III-IV (3 cr. each)
Introduces electrical, pneumatic and electronic control circuits as applied to year-round air conditioning systems. Includes reading wiring and schematic diagrams, troubleshooting, and designing high and low voltage control systems. Prerequisite: AIR 111 or approval. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

AIR 231 Circuits and Controls IV (5 cr.)
Applies controls and control circuits to air conditioning and refrigeration, including components, pilot devices and controls and circuit diagrams. Prerequisite: AIR 136 or approval. Lecture 4 hours. Laboratory 3 hours. Total 7 hours per week.

AIR 232 Circuits and Controls V (3 cr.)
Presents application and design of wiring and schematic diagrams of commercial refrigeration systems. Teaches fundamentals of operation and applications of pneumatic controls including basic pneumatic control circuits. Prerequisite: Air 231 or approval. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

AIR 233 Circuits and Controls VI (3 cr.)
Studies planning and design of electric, pneumatic, and combination control systems used in the air conditioning industry. Prerequisite: AIR 232 or approval. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

AIR 254 Air Conditioning Systems IV (3 cr.)
Presents air balancing including taking duct pressure readings, finding register and grille CFM's, fans, laws and their applications. Explores instruments used for air balancing and proper procedures. Lecture 2 hours. Prerequisite: AIR 167 or approval. Laboratory 3 hours. Total 5 hours per week.

AIR 255 Air Conditioning Systems V (3 cr.)
Studies water-cooled and air-cooled condensers, refrigerant piping design, capacity control, air washers, water and steam piping arrangements. Prerequisite: AIR 254 or approval. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

AIR 271 Refrigeration I (6 cr.)
Studies refrigeration, care and use of refrigeration tools and equipment, soldering, brazing, refrigeration systems, cycles, and compressors, domestic refrigeration, charging and testing systems. Lecture 4 hours. Laboratory 6 hours. Total 10 hours per week.

AIR 272 Refrigeration II (5 cr.)
Studies commercial refrigeration systems, components, sizing, and testing. Includes low temperature refrigeration systems equipment selection, load calculations, absorption systems, air conditioning systems, window units, air-cooled and water-cooled condensers. Prerequisite: AIR 271 or approval. Lecture 3 hours. Laboratory 6 hours. Total 9 hours per week.

AIR 273 Refrigeration III (3 cr.)
Studies heat pumps, sizing, installation, and servicing, reciprocating chillers and centrifugal air conditioners. Prerequisite: AIR 272 or approval. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

(ARC) Architecture

ARC 115 Architectural Graphics (2 cr.)
Covers various types of presentation techniques associated with architecture, including rendered plans and elevations, pictorial drawings and perspectives, and the use of drawing media. Lecture 1 hour. Laboratory 3 hours. Total 4 hours per week.

ARC 121 Architectural Drafting I (3 cr.)
Introduces techniques of architectural drafting, including lettering, dimensioning, and symbols. Requires production of plans, sections, and elevations of a simple building. Studies use of common reference material and the organization of architectural working drawings. Requires development of a limited set of working drawings, including a site plan, related details, and pictorial drawings. Part I of II. Credit will not awarded for both ARC 121 and ARC 123. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

ARC 131 Materials and Methods of Construction I (3 cr.)
Covers use of wood as a building material in all phases of construction. Deals with species used, growth characteristics, hygroscopic properties, and applications of lumber and plywood. Includes wood framing systems, pre-manufactured components, modular systems, windows, doors, cabinets and flooring. Lecture 3 hours per week.

ARC 211 Computer Aided Drafting Applications (3 cr.)
Utilizes computer's hardware and software to create orthographic and pictorial drawings. Requires creation of working drawings by adding the necessary sections, dimensions, and notes to the computer generated views. Prerequisite ARC 210 or equivalent. Lecture 1-2 hours. Laboratory 2-3 hours. Total 3-5 hours per week.

ARC 255 Construction Estimating (2 cr.)
Requires preparation of detailed material quantity surveys from plans and specifications for commercial construction. Discusses cost, bid, and contract procedures. Lecture 2 hours per week.

(ART) Arts

ART 100 Art Appreciation (3 cr.)
Introduces art from prehistoric times to the present day. Describes architectural styles, sculpture, photography, printmaking, and painting techniques. Lecture 3 hours per week.

ART 101-102 History and Appreciation of Art I-II (3 cr. each)
Presents the history and interpretation of architecture, sculpture, and painting. Begins with prehistoric art and follows the development of western civilization to the present. Lecture 3 hours per week.

ART 121-122 Drawing I-II (3 cr. each)
Develops basic drawing skills and understanding of visual language through studio instruction/lecture. Introduces concepts such as proportion, space, perspective, tone and composition as applied to still life, landscape and the figure. Uses drawing media such as pencil, charcoal, ink wash and color media. Includes field trips and gallery assignments as appropriate. Variable hours per week.

ART 130 Introduction to Multimedia (4 cr.)
Introduces the student to the basic components of multimedia: text, graphics, animation, sound, and video, and explores how the components combine to create a multimedia product. Emphasizes the design aspects of multimedia projects and teaches the techniques required to develop a presentation. Lecture 2 hours. Laboratory 4 hours. Total 6 hours per week.

ART 131-132 Fundamentals of Design I-II (3-4 cr. each)
Explores the concepts of two- and three-dimensional design and color. May include field trips as required. Lecture 1-2 hours. Studio instruction 4 hours. Total 5-6 hours per week.

ART 140 Introduction to Graphic Skills (3-4 cr.)
Teaches basic studio skills necessary for communication arts students. Emphasizes use of drafting equipment and materials such as knives, pencils, pens, brushes, glues and papers. Includes introductory production skills. Lecture 1-2 hours. Studio instruction 4 hours. Total 5-6 hours per week.

ART 153 Ceramics I (3-4 cr.)
Presents problems in the design and production of functional and non-functional ceramic works. Includes handbuilding the potter's wheel and clays and glazes. Part I of II. Lecture 0-2 hours. Studio instruction 4-6 hours. Total 5-8 hours per week.

ART 180 Introduction to Computer Graphics (3 cr.)
Provides a working introduction to computer-based electronic technology used by visual artists and designers. Presents the basics of operating platforms and standard industry software. Introduces problems in which students can explore creative potential of the new electronic media environment. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

ART 195-295 Topics In Silkscreen Printing I-II (2 cr. each)
Develops skills in silkscreen stencil techniques with emphasis on design. Includes field trips when applicable. Lecture 1 hours. Studio instruction 2 hours. Total 3 hours per week.

ART 221 Drawing III (3-4 cr.)
Introduces advanced concepts and techniques of drawing as applied to the figure, still life and landscape. Gives additional instruction in composition, modeling, space and perspective. Encourages individual approaches to drawing. Part I of II. Lecture 1-2 hours. Studio instruction 4 hours. Total 5-6 hours per week.

ART 231 Sculpture I (3-4 cr.)
Introduces sculptural concepts and methods of production in traditional and contemporary media. Includes clay, plaster, wood, stone, metal, plastics and terra cotta. May include field trips. Prerequisite ART 131. Part I of II. Lecture 1-2 hours. Studio instruction 4 hours. Total 5-6 hours per week.

ART 241 Painting I (3-4 cr.)
Introduces abstract and representational painting in acrylic and/or oil with emphasis on color composition and value. Prerequisites ART 122 or divisional approval. Part I of II. Lecture 1-2 hours. Studio instruction 4 hours. Total 5-6 hours per week.

ART 242 Painting II (3-4 cr.)
Introduces abstract and representational painting in acrylic and/or oil with emphasis on color composition and value. Prerequisites ART 122 or divisional approval. Part II of II. Lecture 1-2 hours. Studio instruction 4 hours. Total 5-6 hours per week.

ART 243 Watercolor I (3-4 cr.)
Presents abstract and representational painting in watercolor with emphasis on design, color, composition, technique and value. Prerequisite ART 131, or divisional approval. Part I of II. Lecture 1-2 hours. Studio instruction 2-4 hours. Total 4-6 hours per week.

ART 244 Watercolor II (3-4 cr.)
Presents abstract and representational painting in watercolor with emphasis on design, color, composition, technique and value. Prerequisite ART 131, or divisional approval. Part II of II. Lecture 1-2 hours. Studio instruction 2-4 hours. Total 4-6 hours per week.

ART 248 Painting III (3-4 cr.)
Introduces advanced concepts and techniques of representational and abstract painting as applied to the head/figure, still-life, landscape and other subject matter including non-objective painting. Gives additional instruction in color, composition, modeling, space and perspective. Encourages individual approaches to painting. Prerequisite: ART 242 to ART 248. Part I of II. Lecture 2-3 hours. Laboratory 2-3 hours. Total 4-6 hours per week.

ART 283 Computer Graphics I (3 - 4 cr.)
Utilizes microcomputers and software to produce computer graphics. Employs techniques learned to solve studio projects which reinforce instruction and are appropriate for portfolio use. Part I of II. Lecture 1-2 hours. Studio instruction 3-4 hours. Total 5-6 hours per week.

(ASL) American Sign Language

ASL 101-102 American Sign Language I-II (3-4 cr. each)
Introduces the fundamentals of American Sign Language (ASL) used by the Deaf Community, including basic vocabulary, syntax, fingerspelling, and grammatical non-manual signals. Focuses on communicative competence. Develops gestural skills as a foundation for ASL enhancement. Introduces cultural knowledge and increases understanding of the Deaf Community. ASL 101 is a prerequisite for ASL 102.

ASL 115 Fingerspelling and Number Use in ASL (2 cr.)
Provides intensive practice in comprehension and production of fingerspelled words and numbers with emphasis on clarity and accuracy. Focuses on lexicalized fingerspelling and numeral incorporation as used by native users of American Sign Language. Prerequisite: ASL 101 or permission of instructor.

ASL 125 History & Culture of the Deaf Community I (3 cr.)
Presents an overview of various aspects of Deaf Culture, including educational and legal issues. Examines the history of the Deaf Community. Lecture 3 hours per week.

ASL 201-202 American Sign Language III-IV (3-4 cr. each)
Develops vocabulary, conversational competence, and grammatical knowledge with a total immersion approach. Introduces increasingly complex grammatical aspects including those unique to ASL. Discusses culture and literature. Contact with the Deaf Community is encouraged to enhance linguistic and cultural knowledge. Prerequisite: ASL 102 or permission of instructor.

(AST) Administrative Support Technology

AST 55 Certification Preparation (1 cr.)
Serves as a review of objectives for a specific Certification. Uses certification test preparation software, when available, in conjunction with a faculty resource person. May be repeated for credit. Lecture 1 hour per week.

AST 101 Keyboarding I (2 cr.)
Teaches the alpha/numeric keyboard with emphasis on correct techniques, speed, and accuracy. Teaches formatting of basic personal and business correspondence, reports, and tabulation. A laboratory co-requisite (AST 103) is required. Lecture 2 hours per week.

AST 102 Keyboarding II (2 cr.)
Develops keyboarding and document production skills with emphasis on developing proofreading skills in the preparation of specialized business documents. Continues skill building for speed and accuracy. Prerequisite: AST 101. A laboratory co-requisite (AST 104) is required. Lecture 2 hours per week.

AST 103 Keyboarding I Laboratory (1 cr.)
Provides supplemental instruction in AST 101. Should be taken concurrently with AST 101. Laboratory 2 hours per week.

AST 104 Keyboarding II Laboratory (1 cr.)
Provides supplemental instruction in AST 102. Should be taken concurrently with AST 102. Laboratory 2 hours per week.

AST 113 Keyboarding for Speed and Accuracy (1 cr.)
Focuses on improving keyboarding speed and accuracy through assigned exercises that diagnose problem areas. Emphasizes increased productivity through improved speed and accuracy. Prerequisite: AST 101 or equivalent. Laboratory 2 hours per week.

AST 114 Keyboarding for Information Processing (1-2 cr.)
Teaches the alphabetic and numeric keys: develops correct techniques and competency in the use of computer keyboards. May include basic correspondence and report formats. A laboratory co-requisite (AST 115) may be required. Lecture 1-2 hours per week.

AST 115 Keyboarding for Information Processing Laboratory (1 cr.)
Provides supplemental instruction in AST 114. Should be taken concurrently with AST 114, in appropriate curricula, as identified by the college. Laboratory 2 hours per week.

AST 117 Keyboarding for Computer Usage (1 cr.)
Teaches the alphabetic keyboard and 10-key pad. Develops correct keying techniques. Lecture 1 hour per week.

AST 201 Keyboarding III (2 cr.)
Develops decision-making skills, speed, and accuracy in production keying. Applies word processing skills in creating specialized business documents. An internship in an office during the latter part of the course provides on-the-job training. Prerequisite: AST 102. A laboratory co-requisite (AST 202) is required. Lecture 3 hours per week.

AST 202 Keyboarding III Laboratory (1 cr.)
Provides supplemental instruction in AST 201. Should be taken concurrently with AST 201. Laboratory 2 hours per week.

AST 205 Business Communications (3 cr.)
Teaches techniques of oral and written communications. Emphasizes writing and presenting business-related materials including instruction in PowerPoint. Includes brief instruction in voice recognition software use (DRAGON Naturally Speaking). Prerequisite: AST 102, ENG 135, and BUS 235, or departmental approval. Lecture 3 hours per week.

AST 234 Records and Database Management (3 cr.)
Teaches filing and records management procedures. Incorporates both manual and electronic methods using Access database software for managing information. Lecture 3 hours per week.

AST 238 Microsoft Word For Windows (2 cr.)
Teaches advanced word processing features including working with merge files, macros, and graphics; develops competence in the production of complex documents. Prerequisite: Touch Keyboarding Skills (ability to type 20 wpm). A laboratory co-requisite (AST 239) is required. Lecture 2 hours per week.

AST 239 Microsoft Word for Windows Laboratory (1 cr.)
Provides supplemental instruction in AST 238. Should be taken concurrently with AST 238. Laboratory 2 hours per week.

AST 243 Office Administration I (3 cr.)
Develops an understanding of the administrative support role and the skills necessary to provide organizational and technical support in a contemporary office setting. Emphasizes the development of critical-thinking, problem-solving, and job performance skills in a business office environment. Co-requisite or Prerequisite: AST 101 or instructor approval. Lecture 3 hours per week.

AST 244 Office Administration II (3 cr.)
Enhances skills necessary to provide organizational and technical support in a contemporary office setting. Emphasizes administrative and supervisory roles of the office professional, Includes travel and meeting planning, office budgeting, and financial procedures, international issues, and career development. Prerequisite: AST 101 or instructor approval. Lecture 3 hours per week.

AST 253 Advanced Desktop Publishing I (InDesign) (2 cr.)
Introduces specific desktop publishing software. Teaches document layout and design, fonts, type styles, style sheets, and graphics. Develops abilities in creating letterheads, business cards, brochures, newsletters, forms and many other publications. Prerequisite: AST 101 or equivalent, experience in using a word processing package, and ITE 115 or instructor approval. A laboratory co-requisite AST 255 is required. Lecture 2 hours per week.

AST 255 Desktop Publishing I Lab (1 cr.)
Provides supplemental instruction in AST 253. Should be taken concurrently with AST 253. Laboratory 2 hours per week.

AST 260 Presentation Software (2-4 cr.)
Teaches creation of slides including use of text, clip art, and graphs. Includes techniques for enhancing presentations with on-screen slide show as well as printing to transparencies and hand-outs. Incorporates use of sound and video clips. A laboratory co-requisite (AST 261) may be required. Lecture 2-4 hours per week.

AST 265 Legal Office Procedures (3 cr.)
Concentrates on office procedures used in law offices and develops skills necessary to provide organizational and technical support in a legal setting. An internship in a legal environment provides on-the-job training in the course, providing the student has a curricular Grade Point Average (GPA) of 3.0 or higher. Prerequisite: AST 102.

(AUB) Auto Body

AUB 111-112 Automobile Body Theory and Shop Practices I-II (8 cr. each)
Teaches and applies the fundamentals and use of body tools and materials. Emphasizes shop safety, metal working, welding, and cooling systems. Teaches the recommended methods of identifying, analyzing and repairing collision damage to the front, top, side and rear of the vehicle. Lecture 5 hours. Laboratory 9 hours. Total 14 hours per week.

AUB 113 Automobile Body Theory and Shop Practices III (6 cr.)
Presents the fundamentals of refinishing and painting automobiles including the techniques of masking, blending and spraying. Covers paint shop layout, management, equipment, and damage estimating. Lecture 3 hours. Laboratory 9 hours. Total 12 hours per week.

AUB 115 Damage Repair Estimating (2 cr.)
Teaches inspection and estimation of cost to repair collision damage. Emphasizes writing acceptable estimates for insurance companies. Studies practices used by repair shops and insurance adjusters. Lecture 1 hour. Laboratory 3 hours. Total 4 hours per week.

AUB 116 Automotive Body Repair (4 cr.)
Teaches collision straightening procedures and use of equipment, planning repair procedures, disassembly techniques, body fastening systems, glass removal and replacement and panel repair and alignment. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

AUB 190-290 Coordinated Internship In Auto Body Repair (1-5 cr.)
Supervised on-the-job training in selected business, industrial or service firms coordinated by the College. Credit/ practice ratio maximum 1:5 hours. May be repeated for credit. Variable hours.

AUB 198 Seminar and Project (2 cr.)
Teaches and applies the fundamentals and use of body and frame equipment. Teaches body and frame design and frame construction. Teaches frame and body measuring equipment use. Teaches the recommended methods of identifying and repairing the different types of frame damage. Variable hours.

AUB 206 Automotive Body Component Service (2 cr.)
Teaches operating principles, adjustment and service of selected automotive body components. Emphasizes bumper overhaul and adjustments, hood alignment, door overhaul and adjustments, deck lid alignment, and door-glass adjustments. Lecture 1 hour. Laboratory 3 hours. Total 4 hours per week.

AUB 298 Seminar and Project (1-5 cr.)
Requires completion of a project or research report related to the student's occupational objectives and a study of approaches to the selection and pursuit of career opportunities in the field. May be repeated for credit. Variable hours.

(AUT) Automotive

AUT 111-112 Automotive Engines I-II (3 cr. each)
Presents analysis of power, cylinder condition, valves and bearings in the automotive engine to establish the present condition, repairs or adjustments. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

AUT 113 Cylinder Block Service I (3 cr.)
Studies basic cylinder block reconditioning, including boring, resleeving, line-boring and deck resurfacing. Includes repair techniques for damaged block and cylinder head castings to include cold welding, brazing, welding and epoxy. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

AUT 114 Cylinder Head Service II (3 cr.)
Studies cylinder head reconditioning, including valve seat grinding, refacing valves, servicing valve guides, valve seat inserts, cutting for valve seals and spring thread repair and resurfacing mating surfaces. Prerequisite: AUT 113. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

AUT 121-122 Automotive Fuel Systems I-II (4 cr. each)
Analyzes major domestic and foreign automotive fuel systems to include carburetors and fuel injection systems. Includes detailed inspection and discussion of fuel tanks, connecting lines, instruments, filters, fuel pumps, supercharges, and turbo charger. Also includes complete diagnosis, troubleshooting, overhaul and factory adjustment procedures of all major fuel injection systems. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. AUT 122 Prerequisite: AUT 121.

AUT 127 Automotive Lubrication and Cooling Systems (3 cr.)
Analyzes lubrication systems to include lubricants, pumps, lines, filters, and vents. Also analyzes cooling systems, coolants, pumps, fans, lines and connections. Teaches estimating repairs, adjustments needed and their costs. Lecture 2 hour. Laboratory 3 hours. Total 5 hours per week.

AUT 136 Automotive Vehicle Inspection (2 cr.)
Presents information on methods for performing automotive vehicle safety inspection. Virginia State Police approved course. Lecture 1 hour. Laboratory 2 hours. Total 3 hours per week.

AUT 178 Automotive Final Drive and Manual Transmission Systems (4 cr.)
Presents the operation, design, construction and repair of manual transmissions and final drive systems, for both front and rear drive vehicles, including clutches, synchronizers, torque multiplication/gear reduction, along with differentials, transmission/transaxles, drive axles, U-joints, CV joints, 4-wheel drive and all-wheel drive systems. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

AUT 211-212 Automotive Systems III-IV (4 cr. each)
Presents advanced theory and detailed study of automobile systems. Provides laboratory periods for actual field practice in troubleshooting. Prerequisite: AUT 122 or in conjunction with AUT 211. AUT 212 Prerequisite: AUT 211 or with instructor approval. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

AUT 230 Introduction to Alternative Fuels and Hybrid Vehicles (3 cr.)
Introduces current trends in alternative fueled vehicles including current alternative fueled vehicles and the implication and safety precautions necessary for working on hybrid vehicles systems. Hybrid - hours per week.

AUT 236 Automotive Climate Control (4 cr.)
Introduces principles of refrigeration, air conditioning controls, and adjustment and general servicing of automotive air conditioning systems. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

AUT 237 Automotive Accessories (3 cr.)
Introduces the principles, design, construction, adjustment, and maintenance of all automotive equipment classed as an accessory which is not studied in other automotive courses. 3 hours per week – web-based.

AUT 241-242 Automotive Electricity I-II (4 cr. each)
Introduces electricity and magnetism, symbols and circuitry as applied to the alternators, regulators, starters, lighting systems, instruments and gauges. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

AUT 245 Automotive Electronics (3-4 cr.)
Introduces field of electronics as it applies to the modern automobile. Emphasizes basic circuit operation, diagnosis and repair of digital indicator and warning systems. Lecture 3 hours. Laboratory 0-3 hours. Total 3-6 hours per week.

AUT 251 Automatic Transmissions I (4 cr.)
Studies several types of automatic transmissions, torque converters, and their principles of operation. Includes adjustment, maintenance, and rebuilding. Lecture 2 hours. Laboratory 6 hours. Total 8 hours per week.

AUT 265 Automotive Braking Systems (3 cr.)
Presents operation, design, construction, repair, and servicing of braking systems. Explains uses of tools and test equipment, evaluation of test results, estimation of repair cost for power, standard and disc brakes. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

AUT 266 Auto Alignment, Suspension and Steering (4 cr.)
Introduces use of alignment equipment in diagnosing, adjusting, and repairing front and rear suspensions. Deals with repair and servicing of power and standard steering systems. Lecture 2 hours. Laboratory 6 hours. Total 8 hours per week.

AUT 295 Topics In (1-5 cr.)
Provides an opportunity to explore topical areas of interest to or needed by students. May be used also for special honors courses. May be repeated for credit. Variable hours.

AUT 298 Seminar and Project (1-5 cr.)
Requires completion of a project or research report related to the student's occupational objectives and a study of approaches to the selection and pursuit of career opportunities in the field. May be repeated for credit. Variable hours.

(BIO) Biology

BIO 1 Foundations of Biology (1-4 cr.)
Develops a basic understanding of plant and animal form, function, and relationships. Prepares students who have a deficiency in high school biology May be repeated for credit. Lecture 1-4 hours. Laboratory 0-9 hours. Total 1-12 hours per week.

BIO 100 Basic Human Biology (3 cr.)
Presents basic principles of human anatomy and physiology. Discusses cells, tissues, and selected human systems. Lecture 3 hours per week.

BIO 101 General Biology I (4 cr.)
Focuses on foundations in cellular structure, metabolism, and genetics in an evolutionary context. Explores the core concepts of evolution; structure and function; information flow, storage and exchange; pathways and transformations of energy and matter; and systems biology. Emphasizes process of science, interdisciplinary approach, and relevance of biology to society. Part I of a two-course sequence. Lecture 3 hours. Recitation and laboratory 3 hours. Total 6 hours per week.

BIO 102 General Biology II (4 cr.)
Focuses on diversity of life, anatomy and physiology of organisms, and ecosystem organization and processes in an evolutionary context. Explores the core concepts of evolution; structure and function; information flow, storage and exchange; pathways and transformations of energy and matter; and systems biology. Emphasizes process of science, interdisciplinary approach, and relevance of biology to society. Part II of a two-course sequence. Lecture 3 hours. Recitation and laboratory 3 hours. Total 6 hours per week.

Prerequisites Note: Students should show evidence of readiness to enroll in ENG 111 prior to enrollment in BIO 101. Students may demonstrate readiness for ENG 111 through test scores or through completion of required developmental English courses. In addition, students must show completion of math equivalent to MTE 1-3.

BIO 107 Biology of the Environment (4 cr.)
Presents the basic concepts of environmental science through a topical approach. Includes the scientific method, population growth and migration, use of natural resources and waste management, ecosystem simplification recovery, evolution, biogeochemical cycles, photosynthesis and global warming, geological formations, atmosphere and climate, and ozone depletion and acid deposition. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

BIO 141-142 Human Anatomy and Physiology I-II (4 cr. each)
Integrates anatomy and physiology of cells, tissues, organs, and systems of the human body. Integrates concepts of chemistry, physics, and pathology. Lecture 3 hours. Laboratory 2-3 hours. Total 5-6 hours per week.

BIO 205 General Microbiology (4 cr.)
Examines morphology, genetics, physiology, ecology, and control of microorganisms. Emphasizes application of microbiological techniques to selected fields. Prerequisites: BIO 101, one year of college biology and one year of college chemistry or divisional approval. Lecture 3 hours. Recitation and laboratory 3 hours. Total 6 hours per week.

BIO 231-232 Human Anatomy and Physiology I-II (4 cr. each)
Integrates the study of gross and microscopic anatomy with physiology, emphasizing the analysis and interpretation of physiological data. Prerequisites: BIO 101, one year of college biology and one year of college chemistry or divisional approval. Lecture 3 hours. Recitation and laboratory 3 hours. Total 6 hours per week.

BIO 256 General Genetics (4 cr.)
Explores the principles of genetics ranging from classical Mendelian inheritance to the most recent advances in the biochemical nature and function of the gene. Includes experimental design and statistical analysis. Prerequisite: BIO 101-102 or equivalent. Lecture 3 hours. Recitation and laboratory 3 hours. Total 6 hours per week.

BIO 270 General Ecology (2-6 cr.)
Studies interrelationships between organisms and their natural and cultural environments with emphasis on populations, communities, and ecosystems. Prerequisite BIO 101-102 or divisional approval. Lecture 1-4 hours. Recitation and laboratory 3-6 hours. Total 4-10 hours per week.

(BLD) Building

BLD 103 Principles of Residential Building Construction Inspection (3 cr.)
Introduces general principles of residential building inspection including materials, foundations, framing, finishing, and building codes. Use local pre/co-requisites. Lecture 3 hours per week.

BLD 110 Introduction to Construction (3 cr.)
Covers basic knowledge and requirements needed in the construction trades. Introduces use of tools and equipment, with emphasis on construction safety, including personal and tool safety. Provides a working introduction to basic blueprint reading and fundamentals of construction mathematics. Lecture 3 hours per week.

BLD 120 Applied Construction Mathematics (3 cr.)
Presents a review of mathematic principles and concepts necessary for typical construction applications. Includes: whole numbers, order of operations, fractions, decimals, weights, measures and conversions, ratio and proportions, percentages, angles and perimeters, volume and surface area solids, board measure, lumber pricing, computations for preparing footing, foundations and slabs, beams and framing roofs systems and stairs. Covers basic estimation and working from construction plans. This course is not intended to satisfy general education requirements. Prerequisite: MTE 2. Lecture 3 hours per week.

BLD 131-132 Carpentry Framing I-II (5 cr. each)
Presents an introduction to carpentry with emphasis on residential construction. Covers safety on the job, appropriate use of power tools, basic construction techniques, and introduction to working drawings, and the team approach to residential buildings. Presents an introduction to selection and use of ladders and scaffolds, basic form removal and demolition, and use of basic first aid. Includes the concepts of carpentry framing for floors, walls, ceilings, porches and decks. Includes theoretical and practical application as well as the concepts of carpentry framing for roof, truss installation and door and window installation. Lecture 3 hours. Laboratory 4 hours. Total 7 hours.

BLD 133-134 Carpentry Framing III-IV (5 cr. each)
Continues the study of carpentry with emphasis on residential construction. Lecture 3 hours. Laboratory 4 hours. Total 7 hours per week.

BLD 184 Interior and Exterior Finishes (3 cr.)
Introduces the student to interior wall framing with wood and/or metal studs, layout of walls, and the steps required to successfully complete interior framing. Also covers the steps used for exterior finishes, such as siding, cornice work, and gutters. Lecture 3 hours per week.

BLD 195 Introduction to Construction Mathematics (3 cr.)
Covers fundamentals of construction mathematics and requirements needed in the construction trades. Introduces use of techniques and equations, with emphasis on construction applications, including areas, volumes and ratios. Introduces basic material estimation and costing projects. Lecture 3 hours per week.

BLD 195 Plumbing I (3 cr.)
Course will include topics in understanding blueprints and their symbols; the Cabo/ Ansi A117.1-1992 Standard for Accessible Facilities; water heaters; water supply and distribution systems; and sizing water lines.

BLD 195 Plumbing II (3 cr.)
Topics include the design of sanitary systems, learning drainage fixture units, materials, joints and connections. Health care plumbing, plumbing math, and plumbing in one and two family dwelling units will also be covered.

BLD 195 Plumbing III (3 cr.)
Covers the study of indirect/special waste, vents, vent stack and stack vents, wet venting, waste stack venting, island fixture venting, relief vents, combination drain and vent system, and sizing vents.

BLD 195 Plumbing IV (3 cr.)
Understanding traps, interceptors, separators, storm water drainage, sizing conductors, leaders and storm drains; root drains, cabo one and two-family dwelling plumbing.

BLD 195 Plumbing V (3 cr.)
Topics include the study of the current uniform Statewide Building Code and how it relates to plumbing, Department of Building Inspections, Application for Permits, Conditions of Permits, Inspections, Violations, Plumbing Definitions, General Regulations, and Plumbing Fixtures.

BLD 195 Topics In (1-5 cr.)
Provides an opportunity to explore topical areas of interest to or needed by students. May be used also for special honors courses. May be repeated for credit. Variable hours.

BLD 196 On-Site Training (1-5 cr.)
Specializes in career orientation and training program without pay in selected businesses and industry, supervised and coordinated by the college. Credit/work ratio not to exceed 1:5 hours. May be repeated for credit. Variable hours.

(BUS) Business Management and Administration

BUS 100 Introduction To Business (3 cr.)
Presents a broad introduction to the functioning of business enterprises within the U.S. economic framework. Introduces economic systems, essential elements of business organizations, production, human resource management, marketing, finance, and risk management. Develops business vocabulary. Lecture 3 hours per week.

BUS 111 Principles of Supervision (3 cr.)
Teaches the fundamentals of supervision, including the primary responsibilities of the supervisor. Introduces factors relating to the work of supervisor and subordinates. Covers aspects of leadership, job management, work improvement, training, orientation, performance evaluation, and effective employee/supervisor relationships. Prerequisite: BUS 100 or Department/Instructor approval. Lecture 3 hours per week.

BUS 121 Business Mathematics I (3 cr.)
Applies mathematical operations to business processes and problems. Reviews operations, equations, percents, sales taxes, checkbook and cash records, wage and payroll computations, discounts, markup, mark-down and simple interest. Lecture 3 hours per week.

BUS 122 Business Mathematics II (3 cr.)
Applies mathematical operations to business problems. Reviews basic statistics, distribution of profit and loss in partnerships, distribution of corporate dividends, mortgage amortization, insurance, simple interest, present value, bank discount notes, multiple payment plans, compound interest, annuities, sinking funds, and depreciation, and mortgage amortization. Lecture 3 hours per week.

BUS 147 Introduction To Business Information Systems (3 cr.)
Presents an overview of business information systems. Introduces computer hardware, software, procedures, systems, and human resources, and explores their integration and application in business. Discusses fundamentals and applications of computer problem solving and programming. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

BUS 149 Workplace Ethics (1 cr.)
Provides a broad overview of ethics in the modern day business world including workforce skill building and self awareness through group discussions. Discusses workplace topics such as diversity, substance abuse, hiring and firing and workplace practices, appropriate dress, communication, business ethics, and interviewing. Lecture 1 hour per week.

BUS 165 Small Business Management (3 cr.)
Identifies management concerns unique to small businesses. Introduces the requirements necessary to initiate a small business, and identifies the elements comprising a business plan. Presents information establishing financial and administrative controls, developing a marketing strategy, managing business operations, and the legal and government relationships specific to small businesses. Lecture 3 hours per week.

BUS 195 Workplace Preparedness (3 cr.)
The class provides workforce skill building through workplace assessments and group discussions. Students will be introduced to workforce topics such as teambuilding, communication, problem solving, business ethics, customer service and personal finances. Lecture 3 hours per week.

BUS 205 Human Resource Management (3 cr.)
Introduces employment, selection, and placement of personnel, usage levels and methods, job descriptions, training methods and programs, employee evaluation systems, compensation and labor relations. Includes procedures for management of human resources and uses case studies and problems to demonstrate implementation of these techniques. Lecture 3 hours per week.

BUS 209 Continuous Quality Improvement (3 cr.)
Presents the different philosophies in Continuous Quality Improvement. Introduces students to Process Improvement, Team Development, Consensus Building, and Problem Solving strategies. Identifies methods for Process Improvement in manufacturing and service organizations, which includes Statistical Process Control when used in the quality assurance function of business and industry. Lecture 3 hours per week.

BUS 220 Introduction To Business Statistics (3 cr.)
Introduces statistics as a tool in decision-making. Emphasizes ability to collect, present, and analyze data. Employs measures of central tendency and dispersion, statistical inference, index number, and time series analysis. Lecture 3 hours per week.

BUS 221 Business Statistics I (3 cr.)
Focuses on statistical methodology in the collection, organization, presentation, and analysis of data; concentrates on measures of central tendency, dispersion, probability concepts and distribution, sampling, statistical estimation, normal and T-distribution, and hypothesis testing for means and proportions. Prerequisite: MTH 163, or departmental approval. Lecture 3 hours per week.

BUS 223 Distribution and Transportation (3 cr.)
Examines the background and history of transportation, emphasizing the fundamental role and importance the industry plays in companies, society, and the environment in which transportation service is provided. Provides an overview of carrier operations, management, technology, and strategies including transportation regulations and public policy. Lecture 3 hours per week.

BUS 227 Quantitative Methods (3 cr.)
Includes an overview of quantitative methods in business decision-making, simple and multiple regression and correlation analysis, time series analysis and business forecasting, decision analysis, linear programming, transportation and assignment methods, and network models. Includes computer applications. Prerequisite: MTH 163, or departmental approval. Lecture 3 hours per week.

BUS 235 Business Letter Writing (3 cr.)
Applies composition principles to business correspondence, employment documents, and reports (including presentation of data in various chart formats). Focuses on preparing effective communications with customers, suppliers, employees, the public, and other business contacts. Prerequisite: AST 102/104, ENG 134. Co-requisite: ENG 135. Lecture 3 hours per week.

BUS 236 Communication In Management (3 cr.)
Introduces the functions of communication in management with emphasis on gathering, organizing, and transmitting facts and ideas. Teaches the basic techniques of effective oral and written communication. Lecture 3 hours per week.

BUS 240 Introduction to Business Law (3 cr.)
Presents an introduction to the American legal system, including an overview of the courts, civil and criminal law. Develops an in-depth understanding of contracts, agency law, and business organizations. Also includes an overview of property, UCC Sales, and Commercial Paper. Lecture 3 hours per week.

BUS 255 Inventory and Warehouse Management (3 cr.)
Emphasizes the relationships of inventory and warehouse management to customer service and profitability of the wholesale distributor. Focuses on the role of computerized systems and resulting information for effective management of inventory and the warehouse under various conditions. Lecture 3 hours per week.

BUS 295 Topics in: (1-5 cr.)
Provides an opportunity to explore topical areas of interest to or needed by students. May be also used for special honors courses. May be repeated for credit. Variable hours.

BUS 297 Cooperative Education in Business (1-5 cr.)
Provides on-the-job training in approved business, industrial and service firms. Credit/work ratio not to exceed 1:5 hours. Variable hours per week.

BUS 298 Seminar and Project in Business (3 cr.)
Requires completion of a project or research report related to the student's occupational objectives and a study of approaches to the selection and pursuit of career opportunities in the field. May be repeated for credit. Prerequisite: Sophomore standing in business management plus ACC 111 (or departmental approval). Lecture 3 hours per week.

(CAD) Computer Aided Drafting and Design

CAD 116 Drafting III (3 cr.)
Focuses on auxiliaries, basic concepts, terms of reference, choice of views, axis, proportioning distances and perspective drawings. Prerequisite: DRF 114. Lecture 1 hour. Laboratory 6 hours. Total 7 hours per week.

CAD 120 Introduction to Graphic Representation (3 cr.)
Teaches use of instruments, lettering, sketching, and drawing conventions. Emphasizes legible drawings and the value of presentation. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

CAD 160 Machine Blueprint Reading (3 cr.)
Introduces interpreting of various blueprints and working drawings. Applies basic principles and techniques such as visualization of an object, orthographic projection, technical sketching and drafting terminology. Requires outside preparation. (Credit will not be awarded for both CAD 160 and DRF 160.) Lecture 3 hours per week.

CAD 199 Supervised Study (1-5 cr.)
Assigns problems for independent study outside the normal classroom setting under the guidance and direction of an instructor. Incorporates prior experience and instruction in the discipline. Variable hours per week.

CAD 200 Survey of Computer Aided Drafting (3-4 cr.)
Surveys computer-aided drafting equipment and concepts. Develops general understanding of components, operations and use of a typical CAD system. Lecture 2-3 hours. Laboratory 2-3 hours. Total 4-6 hours per week.

CAD 201 Computer Aided Drafting and Design I (3 cr.)
Teaches computer-aided drafting concepts and equipment designed to develop a general understanding of components of a typical CAD system and its operation. Prerequisite: DRF 114 or department approval. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

CAD 202 Computer Aided Drafting and Design II (3 cr.)
Teaches working drawings and advanced operations in computer aided drafting. Prerequisite: CAD 201. Lecture 3 hours. Laboratory 2 hours. Total 5 hours per week.

CAD 210 Advanced Technical Drafting (4 cr.)
Intersections of plane surfaces, lines and planes, skew lines and surfaces; intersections of prisms, pyramids and other shapes, developments, sheet metal-drafting, screw threads and fasteners, keys and springs. Prerequisite: DRF 114. Lecture 1 hour. Laboratory 9 hours. Total 10 hours per week.

CAD 232 Computer Aided Drafting II (2 cr.)
Teaches advanced operation in computer aided drafting. Lecture 1 hour per week. Laboratory 2 hours per week. Total 3 hours per week.

CAD 233 Computer Aided Drafting III (3 cr.)
Exposes student to 3-D and modeling. Focuses on proficiency in Production drawing using a CAD system. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

CAD 280 - Design Capstone Project (2-3 cr.)
Focuses on design projects developed in independently and in consultation with the Instructor. Topics covered but not limited to, parametric modeling, civil, mechanical piping, architectural applications, structural, electro-mechanical, 3-D Solids, exploration of application software and the integration of CAD/CAM. Prerequisites: CAD 211 or 212, and CAD 199 or 201. (Credit will not be awarded for both CAD 280 and DRF 280.) Lecture 2-3 hours per week.

CAD 295 Blueprint Reading I (2-3 cr.)
Focuses on design projects developed independently and in consultation with the instructor. Topics covered include parametric modeling, civil, mechanical piping, architectural applications, structural, electro-mechanical, 3-D Solids, exploration of application software and the integration of CAD/CAM. Lecture 2-3 hours per week.

(CHD) Childhood Development

CHD 118 Language Arts for Young Children (3 cr.)
Presents techniques and methods for encouraging the development of language and perceptual skills in young children. Stresses improvement of vocabulary, speech and methods to stimulate discussion. Surveys children's literature, examines elements of quality story telling and story reading, and stresses the use of audio-visual materials. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

CHD 119 Introduction to Reading Methods (3 cr.)
Focuses on promoting language and literacy skills as the foundation for emergent reading. Emphasizes phonetic awareness and alphabetic knowledge, print awareness and concepts, comprehension and early writing. Addresses strategies for intervention and support for exceptional children and English Language Learners. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

CHD 120 Introduction to Early Childhood Education (3 cr.)
Introduces early childhood development through activities and experiences in nursery, pre-kindergarten, and primary programs. Investigates classroom organization and procedures, and use of classroom time and materials, approaches to education for young children, professionalism, and curricular procedures. Lecture 3 hours per week.

CHD 125 Creative Activities for Children (3 cr.)
Prepares individuals to work with young children in the arts and other creative age-appropriate activities. Investigates affective classroom experiences and open-ended activities. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

CHD 145 Methods for Teaching Art, Music, and Movement to Children (3 cr.)
Provides experiences in developing the content, methods, and materials for directing children in art, music, and movement activities. Lecture 3 hours.

CHD 146 Science & Math Concepts for Children (3 cr.)
Covers the selection of appropriate developmental learning materials for developing activities to stimulate the logical thinking skills in children. Lecture 3 hours.

CHD 165 Observation and Participation in Early Childhood/Primary Settings (3 cr.)
Observes and participates in early childhood settings such as child care centers, pre-schools, Montessori schools or public schools in Kindergarten through 3rd grade levels. Students spend one hour each week in a seminar session in addition to 60 clock hours in the field. May be taken again for credit. Lecture 1 hour. Laboratory 6 hours. Total 7 hours per week.

CHD 166 Infant and Toddler Programs (3 cr.)
Examines the fundamentals of infant and toddler development, including planning and implementing programs in group care. Emphasizes meeting physical, social, emotional, and cognitive needs: scheduling, preparing age-appropriate activities, health and safety policies, record keeping, and reporting to parents. Lecture 3 hours per week.

CHD 205 Guiding the Behavior of Children (3 cr.)
Explores positive ways to build self-esteem in children and help them develop self-control. Presents practical ideas for encouraging pro-social behavior in children and emphasizes basic skills and techniques in classroom management. Lecture 3 hours per week.

CHD 210 Introduction to Exceptional Children (3 cr.)
Reviews the history of education for exceptional children. Studies the characteristics associated with exceptional children. explores positive techniques for managing behavior and adapting materials for classroom use. Lecture 3 hours per week.

CHD 215 Models of Early Childhood Education Programs (3 cr.)
Studies and discusses the various models and theories of early childhood education programs, including current trends and issues. Presents state licensing and staff requirements. Lecture 3 hours per week.

CHD 216 Early Childhood Programs, School, and Social Change (3 cr.)
Explores methods of developing positive, effective relations with families to enhance their developmental goals for children. Considers diverse needs, perspectives and abilities of both families and teaching staff. Reviews current trends and issues in early care and education. Lecture 3 hours per week.

CHD 265 Advanced Observation and Participation in Early Childhood/Primary Settings (3 cr.)
Observes and participates in early childhood settings such as child care centers, pre-school, Montessori schools or public school settings (Kindergarten through third grade). Emphasizes planning and implementation of appropriate activities and materials for children. Students will spend one hour each week in a seminar session in addition to 60 clock hours in the field. May be taken again for credit. Lecture 1 hour. Laboratory 6 hours. Total 7 hours per week.

CHD 270 Administration of Child Care Programs (3 cr.)
Examines the skills needed for establishing and managing early childhood programs. Emphasizes professionalism and interpersonal skills, program planning, staff selection and development, creating policies, budgeting and developing forms for recordkeeping. Lecture 3 hours per week.

CHD 298 Portfolio Development (1 cr.)
In conjunction with CHD 265, serves as the capstone course for the Early Childhood Associate in Applied Science Degree. Focuses on the development of a portfolio to demonstrate professional competence in the field of early care and education. The resulting portfolio will be reviewed by early childhood faculty and other designated early childhood professionals. Lecture 1 hour per week.

(CHM) Chemistry

CHM 5 Developmental Chemistry for Health Sciences (1-5 cr.)
Introduces basic principles of inorganic, organic, and biological chemistry. Emphasizes applications to the health sciences. Laboratory is optional. Lecture 1-4 hours. Laboratory 0-3 hours. Total 1-7 hours per week.

CHM 101-102 General Chemistry I-II (4 cr. each)
Emphasizes experimental and theoretical aspects of inorganic, organic, and biological chemistry. Discusses general chemistry concepts as they apply to issues within our society and environment. Designed for the non-science major. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

CHM 111-112 College Chemistry I-II (4 cr. each)
Explores the fundamental laws, theories, and mathematical concepts of chemistry. Designed primarily for science and engineering majors. Requires a strong background in mathematics. Prerequisite: MTH 03 or equivalent. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

CHM 241-242 Organic Chemistry I-II (3 cr. each)
Introduces fundamental chemistry of carbon compounds, including structures, physical properties, syntheses, and typical reactions. Emphasizes reaction mechanisms. Prerequisite: CHM 112, co-requisite CHM 243-244 or CHM 245-246. Lecture 3 hours per week.

CHM 243-244 Organic Chemistry Lab. I-II (1 cr. each)
Taken concurrently with CHM 241 and CHM 242. Laboratory 3 hours per week.

CHM 245-246 Organic Chemistry Lab. I-II (2 cr. each)
Taken concurrently with CHM 241 and CHM 242 by chemistry and chemical engineering majors. Includes qualitative organic analysis. Laboratory 6 hours per week.

(CIV) Civil Engineering Technology

CIV 171 Surveying I (3 cr.)
Introduces surveying equipment, procedures and computations including adjustment of instruments, distance measurement, leveling, angle measurement, traversing, traverse adjustments, area computations and introduction to topography. Prerequisite: Engineering Technical Math or divisional approval. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

(CRF) Crafts

CRF 159 Introduction to Fine Woodworking (3 cr.)
Introduces wood as a medium for realizing their designs. Includes the milling technique, mortise and tenon joinery, surface preparation, and application of oil finishes. Students learn safe use of the radial arm saw, jointer, planer, table saw, band saw, drill press, horizontal boring machine, and router. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

(CSC) Computer Science

CSC 200 Introduction to Computer Science (3-4 cr.)
Provides broad introduction to computer science. Discusses architecture and function of computer hardware, including networks and operating systems, data and instruction representation and data organization. Covers software, algorithms, programming languages and software engineering. Discusses artificial intelligence and theory of computation. Includes a hand-on component. Lecture 3-4 hours per week.

CSC 201 Computer Science I (4 cr.)
Introduces algorithm and problem solving methods. Emphasizes structured programming concepts, elementary data structures and the study and use of a high level programming language. Corequisite CSC 100 or equivalent and MTH 173 or equivalent or divisional approval. Lecture 4 hours per week.

CSC 202 Computer Science II (4 cr.)
Examines data structures and algorithm analysis. Covers data structures (including sets, strings, stacks, queues, arrays, records, files, linked lists, and trees), abstract data types, algorithm analysis (including searching and sorting methods), and file structures. Prerequisite CSC 201. Corequisite MTH 174. Lecture 4 hours per week.

CSC 205 Computer Organization (3-4 cr.)
Examines the hierarchical structure of computer architecture. Focuses on multi-level machine organization. Uses a simple assembler language to complete programming projects. Includes processors, instruction, execution, addressing techniques, data representation and digital logic. Lecture 3-4 hours per week.

(CST) Communications Studies and Theatre

CST 100 Principles of Public Speaking (3 cr.)
Applies theory and principles of public address with emphasis on preparation and delivery. Lecture 3 hour per week.

CST 110 Introduction to Communication (2-3 cr.)
Examines the elements affecting speech communication at the individual, small group, and public communication levels with emphasis on practice of communication at each level. Lecture 2-3 hours per week.

CST 126 Interpersonal Communication (3 cr.)
Teaches interpersonal communication skills for both daily living and the world of work. Includes perception, self- concept, self-disclosure, listening and feedback, nonverbal communication, attitudes, assertiveness and other interpersonal skills. Lecture 3 hours per week.

CST 130 Introduction to the Theatre (3 cr.)
Surveys the principles of drama, the development of theatre production, and selected plays to acquaint the student with various types of theatrical presentations. Lecture 3 hours per week.

CST 131 Acting I (3 cr.)
Develops personal resources and explores performance skills through such activities as theatre games, role playing, improvisation, work on basic script units, and performance of scenes. Part I of II. Lecture 2 hours. Laboratory 3 hour. Total 5 hours per week.

CST 132 Acting II (3 cr.)
Develops personal resources and explores performance skills through such activities as theatre games, role playing, improvisation, work on basic script units, and performance of scenes. Part II of II. Lecture 2 hours. Laboratory 3 hour. Total 5 hours per week.

CST 136 Theatre Workshop (1-6 cr.)
Enables students to work in various activities of play production. The student participates in performance, set design, stage carpentry, sound, costuming, lighting, stage managing, props, promotion, or stage crew. May be repeated for credit. Variable hours per week.

CST 151, CST 152 Film Appreciation I, II (3 cr. each)
Provides students with a critical understanding of film through the discussion and viewing of motion pictures with emphasis upon the study of film history and the forms and functions of film. Students will develop skills to analyze the shared social, cultural and historical influences of films and their contexts. Lecture 3 hours per week.

CST 231 History of Theatre I (3 cr.)
Analyzes and studies theatre history to include architecture, performers and performance, playwrights, stage, production methods, and audience from the Greeks through modern drama. Part I of II. Lecture 3 hours per week.

(DNA) Dental Assisting

DNA 100 Introduction to Oral Health Professions (1 cr.)
Provides an introduction to the oral health profession and covers basic terminology, historical perspective, the credentialing process, accreditation, professional organizations, and legal and ethical considerations. Lecture 1 hour per week.

DNA 103 Introduction to Oral Health (1 cr.)
Teaches anatomy of the head and neck, the oral cavity hard and soft tissues, as well as tooth morphology. Includes dental terminology, deciduous and permanent dentition as well as pathology. Lecture 1 hour per week.

DNA 109 Practical Infection Control (3 cr.)
Studies principles of management of disease producing microorganisms and diseases associated. Emphasis is placed on sterilization, asepsis, and disinfection techniques applicable in the dental office. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

DNA 110 Dental Materials (3 cr.)
Studies the materials utilized in the laboratory aspect of dentistry as support in treatment. Emphasis is placed on the characteristics, manipulation, economical control, storage, and delivery of materials. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

DNA 113 Chairside Assisting I (3 cr.)
Provides instruction on the principles of clinical chair side dental assisting, dental equipment use and maintenance, safety, instrument identification, tray set-ups by procedures, and patient data collection. Emphasis on patient management during restorative procedures. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

DNA 134 Dental Radiology and Practicum (3 cr.)
Teaches the physics of dental radiation and safety, equipment operation, cone placement for the parallel and bisection techniques, panoramic exposures, mounting and film processing. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

DNA 190 Coordinated Internship (1-5 cr.)
Supervises on-the-job training in selected business, industrial or service firms coordinated by the college. Credit/practice ratio not to exceed 1:5 hours. May be repeated for credit. Variable hours.

(DRF) Drafting
(see also CAD – Computer Aided Drafting)

DRF 114-115 Drafting I-II (4 cr. each)
Focuses on instruments, geometric construction, orthographic projection, sections and conventions, pictorial drawings, isometric principles, oblique drawing, and dimensioning. Prerequisite: for DRF 115: DRF 114. Lecture 1 hour. Laboratory 6 hours. Total 7 hours per week.

DRF 160 Machine Blueprint Reading (3 cr.)
Introduces interpreting of various blueprints and working drawings. Applies basic principles and techniques such as visualization of an object, orthographic projection, technical sketching and drafting terminology. Requires outside preparation. Lecture 3 hours per week.

DRF 165 Architectural Blueprint Reading (3 cr.)
Emphasizes reading, understanding and interpreting standard types of architectural drawings including plans, elevation, sections and details. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

(ECO) Economics

ECO 100 Elementary Economics (3 cr.)
Introduces students to the most basic elements of economics without detailed study of theory. Presents and interprets current issues and concerns publicized in the media. Allows students to understand and grasp the importance of current local, state, and national issues with economic themes and overtones. Lecture 3 hours per week.

ECO 120 Survey of Economics (3 cr.)
Presents a broad overview of economic theory, history, development, and application. Introduces terms, definitions, policies, and philosophies of market economies. Provides some comparison with other economic systems. Includes some degree of exposure to microeconomic and macroeconomic concepts. Lecture 3 hours per week.

ECO 201 Principles of Macroeconomics (3 cr.)
Introduces macroeconomic principles and their relationship to current economic conditions. Presents the concept of a free enterprise economy and how it compares to other economic systems. Introduces the concepts of supply and demand and discusses how markets allocate resources. Presents measures of economic activity and discusses the problems of economic instability - inflation and unemployment. Discusses the various approaches to achieving economic stability including classical, Keynesian, monetarist and supply side positions. The structure of the banking system and the role of the Federal Reserve are discussed. Lecture 3 hours per week.

ECO 202 Principles of Microeconomics (3 cr.)
Introduces microeconomic principles and their relationship to current economic conditions. Further analysis of the theories of supply and demand is presented. The costs of production for private business firms are analyzed. The concept of profit maximization by business firms under various market conditions is presented. Describes the four basic market models and their implications for business decision making. Analyzes resource markets and the determination of resource prices. Discusses the U.S. role in the global economy and the importance of competitiveness. Lecture 3 hours per week.

(EDU) Education

EDU 114 Driver Task Analysis (3 cr.)
Introduces the "driver task" as related to the highway transportation system and factors that influences performance ability. Prepares students so they may be eligible to take certification exams for driving school instructors in both public and private schools. Prerequisite: Must be eligible for ENG 3 and ENG 5 or ESL 13. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

EDU 200 Introduction to Teaching as a Profession (3 cr.)
Provides an orientation to the teaching profession in Virginia, including historical perspectives, current issues, and future trends in education on the national and state levels. Emphasizes information about teacher licensure examinations, steps to certification, teacher preparation and induction programs, and attention to critical shortage areas in Virginia. Includes supervised field placement (recommended: 40 clock hours) in a K-12 school. Prerequisite: Successful completion of 24 credits of transfer courses. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

EDU 214 Instructional Principles of Driver Education (3 cr.)
Analyzes rules and regulations that govern the conduct of Driver Education programs with special emphasis on organization and administration. Includes uses in the classroom, driving range and on the street. Prepares students so they may be eligible to take the state certification exam in driver education. Prerequisite: EDU 114. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

EDU 235 Health, Safety, and Nutrition Education (3 cr.)
Focuses on the physical needs of children and explores strategies to meet these needs. Emphasizes positive health routines, hygiene, nutrition, feeding and clothing habits, childhood diseases, and safety. Places emphasis on the development of food habits and concerns in food and nutrition. Describes symptoms and reporting procedures for child abuse. Lecture 3 hours per week.

(EIP) Educational Interpreter Program
(Note: These courses may not transfer to any other Virginia Community College System (VCCS) institutions in ASL or INT programs.)

EIP 100 Foundations of Vocabulary Building (1 cr.)
Expands general expressive and receptive sign skills necessary for effective communication. Includes incorporation of non-manual skills, including mime and gestures. Includes expressive and receptive vocabulary building within context, refinement of sign production and general memory exercises. Lecture 1 hour per week.

EIP 101 Orientation to Deafness I (1 cr.)
Provides an overview of the Deaf community and its inherent Culture. Includes Deaf Culture, Deaf community dynamics, causes of hearing loss/deafness, and education of the Deaf. This course may not transfer to any other VCCS institutions in ASL or INT programs. Lecture 1 hour per week.

EIP 102 Orientation to Deafness II (1 cr.)
Further investigates the dynamics of the Deaf Community and its inherent Culture, including the differences between the Deaf Community/Culture and the Hearing Community/ Culture in areas such as sociolinguistics, political aspects and the development and role of organizations of and by the Deaf. Prerequisite: EIP 101 or consent of instructor. This course may not transfer to any other VCCS institutions in ASL or INT programs. Lecture 1 hour per week.

EIP 111 Introduction to Expressive and Receptive Fingerspelling and Number Systems (1 cr.)
Provides intensive practice in expressive and receptive fingerspelling and numbers with emphasis on clarity, accuracy and speed. Focuses on increasing skills in vocabulary, spelling, letter production, number incorporation and improving fluency. Prerequisite: EIP 11 or consent of instructor. This course may not transfer to any other VCCS institutions in ASL or INT programs. Lecture 1 hour per week.

EIP 112 Advanced Expressive and Receptive Fingerspelling and Number Systems (1 cr.)
Provides more intensive practice in expressive and receptive fingerspelling and numbers with an emphasis on clarity, accuracy, speed and fluency. Addresses appropriate incorporation of fingerspelling and numbers into expressive skills and appropriate comprehension of receptive fingerspelling and numbers and within texts. This course may not transfer to any other VCCS institutions in ASL or INT programs. Lecture 1 hour per week.

EIP 150 Expressive Vocabulary Building and Expressive Text Analysis for Interpreters I (1 cr.)
Expands and improves expressive sign language skills necessary for effective communication and interpreting. Includes vocabulary building within context (spoken and written), refinement of sign production and auditory memory training. This course may not transfer to any other VCCS institutions in ASL or INT programs. Lecture 1 hour per week.

EIP 151 Expressive Vocabulary Building and Expressive Text Analysis for Interpreters II (1 cr.)
Further develops expressive sign language skills, with a continuing emphasis on vocabulary building within context (spoken and signed) and appropriate sign production. Prerequisite: EIP 150 or consent of instructor. This course may not transfer to any other VCCS institutions in ASL or INT programs. Lecture 1 hour per week.

EIP 160 Receptive Vocabulary Building and Receptive Text Analysis for Interpreters I (1 cr.)
Expands and improves receptive sign language skills necessary for effective communication and interpreting. Includes vocabulary building within context (signed), receptive sign analysis and visual memory training. This course may not transfer to any other VCCS institutions in ASL or INT programs. Lecture 1 hour per week.

EIP 161 Receptive Vocabulary Building and Receptive Text Analysis for Interpreters II (1 cr.)
Further develops receptive sign language skills, with a continuing emphasis on vocabulary building within context (signed) and receptive sign analysis. Prerequisite: EIP 160 or consent of instructor. This course may not transfer to any other VCCS institutions in ASL or INT programs. Lecture 1 hour per week.

EIP 181 Pre-Interpreting Skills I (1 cr.)
Develops fundamental skills towards the task of interpreting, specifically building memory and processing skills (both auditory and visual). This course may not transfer to any other VCCS institutions in ASL or INT programs. Lecture 1 hour per week.

EIP 182 Pre-Interpreting Skills II (1 cr.)
Further develops fundamental skills towards the task of interpreting, including review of the Models of Interpreting, English skills and text analysis of spoken English and signed source messages. Prerequisite: EIP 181 or consent of instructor. This course may not transfer to any other VCCS institutions in ASL or INT programs. Lecture 1 hour per week.

EIP 200 Linguistics of American Sign Language: An Overview (1 cr.)
Reviews linguistical aspects of ASL, including ASL phonology and ASL morphology. Introduces ASL syntax, including topicalization and question forms. Includes classifiers and locatives and time references and time sequencing. Lecture 1 hour per week.

EIP 201 Linguistics of American Sign Language for Interpreters I (1 cr.)
Emphasizes linguistical aspects of ASL, including ASL phonology, time references and time sequencing, pronominalization, directional placement, and an introduction to classifiers and locatives. This course may not transfer to any other VCCS institutions in ASL or INT programs. Lecture 1 hour per week.

EIP 202 Linguistics of American Sign Language for Interpreters II (1cr.)
Review and expands linguistical aspects taught in EIP 201, including more intensive practice with classifiers and locatives, and emphasizes additional linguistical features of ASL (e.g., pluralization, numbers in ASL, and unique morphological characteristics, such as loan signs and noun-verb pairs). Prerequisite: EIP 201 or consent of instructor. This course may not transfer to any other VCCS institutions in ASL or INT programs. Lecture 1 hour per week.

EIP 203 Linguistics of American Sign Language for Interpreters III (1 cr.)
Emphasizes ASL syntax, including ASL sentence types and grammatical features as well as additional morphological characteristics (e.g., temporal aspect and distributional aspect). Prerequisite: EIP 201 or consent of instructor. This course may not transfer to any other VCCS institutions in ASL or INT programs. Lecture 1 hour per week.

EIP 211 Sign-to-Voice Transliterating I (1 cr.)
Introduces skill development techniques for consecutive sign-to- voice transliterating. Incorporates use of visual memory and visual processing skills in reading sign language (e.g., contact signing/Pidgin Signed English). Develops fluency, accuracy and speed through extensive practice with a variety of consecutive sign-to-voice materials. Emphasizes incorporation of appropriate English grammar and vocal intonation. Prerequisites: EIP 181, EIP 202 or consent of instructor. This course may not transfer to any other VCCS institutions in ASL or INT programs. Lecture 1 hour per week.

EIP 212 Sign-to-Voice Transliterating II (1 cr.)
Further develops consecutive sign-to-voice transliterating skills through extensive practice. Continues to develop and refine fluency, accuracy and speed. Additional enhancement of appropriate English grammar skills and appropriate vocal intonation. Prerequisite: EIP 211 or consent of instructor. This course may not transfer to any other VCCS institutions in ASL or INT programs. Lecture 1 hour per week.

EIP 213 Sign-to-Voice Transliterating III (1 cr.)
Introduces skill development techniques for simultaneous sign-to-voice transliterating skills. Develops fluency, accuracy and speed through extensive practice with a variety of simultaneous sign-to-voice materials. Emphasizes use of appropriate English grammar and vocal intonation. Prerequisite: EIP 212 or consent of instructor. This course may not transfer to any other VCCS institutions in ASL or INT programs. Lecture 1 hour per week.

EIP 214 Sign-to-Voice Transliterating IV (1 cr.)
Further develops simultaneous sign-to-voice transliterating skills through extensive practice. Continues to develop and refine fluency, accuracy and speed with a variety of simultaneous sign-to-voice materials. Accentuates use of appropriate English grammar and vocal intonation. Prerequisite: EIP 213 or consent of instructor. This course may not transfer to any other VCCS institutions in ASL or INT programs. Lecture 1 hour per week.

EIP 215 Advanced Sign-to-Voice Interpreting I (1 cr.)
Provides instruction on refining and enhancing sign-to-voice skills, specifically sign-to-voice transliterating and interpreting. Students will self- identify strengths (in voicing) and areas of weakness as the springboard for individual improvement through group work and feedback. Group work will entail student self-analysis and giving and receiving feedback. Prerequisites: EIP 214 and EIP 203, or consent of instructor. This course may not transfer to any other VCCS institutions in ASL or INT programs. Lecture 1 hour per week.

EIP 216 Advanced Sign-to-Voice Interpreting II (1 cr.)
Further refines and enhances simultaneous sign-to-voice skills. Continued emphasis on student self-analysis and group feedback. Prerequisites: EIP 215 or consent of instructor. This course may not transfer to any other VCCS institutions in ASL or INT programs. Lecture 1 hour per week.

EIP 231 Expressive Transliterating I (1 cr.)
Introduces the skills required to transmit spoken English into a manual code of English consecutively. While a variety of manual codes and their relationships to ASL will be identified, concentration will be on the use of contact signing/ Pidgin Signed English (PSE) and the incorporation of conceptually accurate signs. Incorporates use of auditory memory and auditory processing skills in listening to spoken English. Develops fluency and accuracy through extensive practice with a variety of consecutive voice-to-sign materials. Prerequisites: EIP 181, EIP 202 or consent of instructor. This course may not transfer to any other VCCS institutions in ASL or INT programs. Lecture 1 hour per week.

EIP 232 Expressive Transliterating II (1 cr.)
Further develops consecutive voice-to-sign transliterating skills through extensive practice. Continued emphasis on contact signing/Pidgin Signed English (PSE) and conceptually accurate sign choices. Prerequisite: EIP 231 or consent of instructor. This course may not transfer to any other VCCS institutions in ASL or INT programs. Lecture 1 hour per week.

EIP 233 Expressive Transliterating III (1 cr.)
Introduces skill development techniques for simultaneous voice-to-sign transliterating. Emphasis is on use of contact signing/Pidgin Signed English (PSE) and the incorporation of conceptually accurate signs. Develops fluency and accuracy through extensive practice with a variety of simultaneous voice-to-sign materials. Prerequisite: EIP 232 or consent of instructor. This course may not transfer to any other VCCS institutions in ASL or INT programs. Lecture 1 hour per week.

EIP 234 Expressive Transliterating IV (1 cr.)
Further develops simultaneous voice-to-sign transliterating skills through extensive practice. Continued emphasis on contact signing/Pidgin Signed English (PSE) and conceptually accurate sign choices. Prerequisite: EIP 233 or consent of instructor. This course may not transfer to any other VCCS institutions in ASL or INT programs. Lecture 1 hour per week.

EIP 235 Advanced Expressive Transliterating I (1 cr.)
Provides instruction on refining and enhancing simultaneous voice-to-sign transliterating skills. Students will self identify strengths (in signing) and areas of weakness as the springboard for individual improvement through group work and feedback. Group work will entail student self-analysis and giving and receiving feedback. Prerequisite: EIP 234 or consent of instructor. This course may not transfer to any other VCCS institutions in ASL or INT programs. Lecture 1 hour per week.

EIP 236 Advanced Expressive Transliterating II (1 cr.)
Further refines and enhances simultaneous voice-to-sign transliterating skills. Continued emphasis on student self-analysis and group feedback. Prerequisite: EIP 235 or consent of instructor. This course may not transfer to any other VCCS institutions in ASL or INT programs. Lecture 1 hour per week.

EIP 240 Interpreting in the Educational Setting (1 cr.)
Examines roles, responsibilities and communication techniques of the Educational Interpreter. Provides information on the needs of the Deaf student and methods used in teaching students who are Deaf and Hard-of-Hearing. Emphasizes skill development using conceptually accurate signs. Prerequisites: EIP 214 and EIP 234 or consent of instructor. This course may not transfer to any other VCCS institutions in ASL or INT programs. Lecture 1 hour per week.

EIP 242 Interpreting in Special Situations (1 cr.)
Presents techniques and vocabulary involved in interpreting in specific contexts (e.g., medical, legal, platform, artistic, etc). Prerequisites: EIP 214 and EIP 234 or consent of instructor. This course may not transfer to any other VCCS institutions in ASL or INT programs. Lecture 1 hour per week.

EIP 245 Interpreter Ethics and Responsibilities (1 cr.)
Reviews the basic principles and practices of interpreting, including the logistics of interpreting situations, regulatory and legislative issues, resources, review of the Code of Ethics, professional appearance, and interpreter responsibilities. This course may not transfer to any other VCCS institutions in ASL or INT programs. Lecture 1 hour per week.

EIP 261 Introduction to English-to-ASL Interpreting I (1 cr.)
Develops consecutive interpreting skills from English to ASL. Review of ASL structure and linguistical features and text analysis of English sources into ASL. Incorporates use of auditory memory and auditory processing skills. Emphasis on appropriate incorporation of "restructuring" between English and ASL. Prerequisites: EIP 181 and EIP 203 or consent of instructor. This course may not transfer to any other VCCS institutions in ASL or INT programs. Lecture 1 hr. per week.

EIP 262 English-to-ASL Interpreting II (1 cr.)
Builds on consecutive voice-to-sign interpreting skills. Continued review of ASL structure and linguistical features, text analysis of English sources into ASL and appropriate "restructuring". Prerequisite: EIP 261 or consent of instructor. This course may not transfer to any other VCCS institutions in ASL or INT programs. Lecture 1 hour per week.

EIP 263 English-to-ASL Interpreting III (1 cr.)
Introduces skills needed for simultaneous voice-to-sign interpreting. Emphasis on appropriate processing time needed for simultaneous "restructuring" into ASL. Prerequisite: EIP 262 or consent of instructor. This course may not transfer to any other VCCS institutions in ASL or INT programs. Lecture 1 hour per week.

EIP 264 English-to-ASL Interpreting IV (1 cr.)
Further refines and enhances simultaneous voice-to-sign interpreting skills. Continued emphasis on appropriate processing time needed for simultaneous "restructuring" into ASL. Prerequisite: EIP 263 or consent of instructor. This course may not transfer to any other VCCS institutions in ASL or INT programs. Lecture 1 hour per week.

EIP 280 Interactive Transliterating (1 cr.)
Provides instruction on transliterating in interactive situations. Prerequisites: EIP 214 and EIP 234 or consent of instructor. This course may not transfer to any other VCCS institutions in ASL or INT programs. Lecture 1 hour per week.

EIP 281 Interactive Interpreting (1 cr.)
Provides instruction on interpreting in interactive situations. Prerequisites: EIP 216 and EIP 264 or consent of instructor. This course may not transfer to any other VCCS institutions in ASL or INT programs. Lecture 1 hour per week.

EIP 289 Preparation for Performance Evaluations: Transliterating (1 cr.)
Provides a "mock" performance evaluation with a focus on transliterating. Students will receive feedback as well perform self-analyses in order to better prepare them to take the Transliterating component of the Virginia Quality Assurance Screening (VQAS). Prerequisites: EIP 214, EIP 280 or consent of instructor. This course may not transfer to any other VCCS institutions in ASL or INT programs. Lecture 1 hour per week.

EIP 291 Preparation for Performance Evaluations: Interpreting (1 cr.)
Provides a "mock" performance evaluation with a focus on interpreting. Students will receive feedback as well perform self-analyses in order to better prepare them to take the Interpreting component of the Virginia Quality Assurance Screening (VQAS). Prerequisites: EIP 216, EIP 264, EIP 281 or consent of instructor. This course may not transfer to any other VCCS institutions in ASL or INT programs. Lecture 1 hour per week.

(EGR) Engineering

EGR 100 Engineering Technology Orientation (1 cr.)
Focuses on the roles and responsibilities of the engineering team, professional ethics, problem solving with hand calculator and computer applications. Laboratory 2 hours per week.

EGR 115 Engineering Graphics (2 cr.)
Applies principles of orthographic projection and multi-view drawings. Teaches descriptive geometry, including relationships of points, lines, planes, and solids. Introduces sectioning, dimensioning, and computer graphic techniques. Includes instruction in Computer Aided Drafting. Lecture 1 hour. Laboratory 3 hours. Total 4 hours per week.

EGR 120 Introduction to Engineering (1-2 cr.)
Introduces the engineering profession, professional concepts, ethics, and responsibility. Reviews hand calculators, number systems, and unit conversions. Introduces the personal computer and operating systems. Includes engineering problem solving techniques using computer software. Lecture 0-2 hours. Laboratory 0-3 hours. Total 1-4 hours per week. Requires MTH 163 or higher as a co-requisite.

EGR 126 Computer Programming for Engineers (3 cr.)
Introduces computers, their architecture and software. Teaches program development using flowcharts. Solves engineering problems involving programming in languages such as FORTRAN, PASCAL, or C++. Requires MTH 163 or higher as a co-requisite. Lecture 2-3 hours. Laboratory 0-2 hours. Total 3-4 hours per week.

EGR 140 Engineering Mechanics - Statics (3 cr.)
Introduces mechanics of vector forces and space, scalar mass and time, including S.I. and U.S. customary units. Teaches equilibrium, free-body diagrams, moments, couples, distributed forces, centroids, moments of inertia analysis of two- force and multi-force members and friction and internal forces. Requires MTH 174 or higher and PHY 241 as pre-requisites. Lecture 3 hours per week.

EGR 235 Material and Energy Balances (3 cr.)
Covers fundamental chemical engineering topics including engineering problem solving, stoichiometric and composition relationships, material balances, energy balances, chemical operations and processes, reactive and non-reactive systems (batch, continuous, single-phase and multi-phase). Introduces thermodynamics and physical chemistry. Lecture 3 hours, Lab 0; Total 3 hours per week.

EGR 245 Engineering Mechanics - Dynamics (3 cr.)
Presents approach to kinematics of particles in linear and curvilinear motion. Includes kinematics of rigid bodies in plane motion. Teaches Newton's second law, work-energy and power, impulse and momentum, and problem solving using computers. Requires MTH 174, EGR 140, and PHY 241 as pre-requisites. Lecture 3 hours per week.

EGR 246 Mechanics of Materials (3 cr.)
Teaches concepts of stress, strain, deformation, internal equilibrium, and basic properties of engineering materials. Analyzes axial loads, torsion, bending, shear and combined loading. Studies stress transformation and principle stresses, column analysis and energy principles. Requires EGR 140, MTH 174 and PHY 241 as pre-requisites. Lecture 3 hours per week.

EGR 248 Thermodynamics for Engineering (3 cr.)
Studies formulation of the first and second law of thermodynamics. Presents energy conversion, concepts of energy, temperature, entropy, and enthalpy, equations of state of fluids. Covers reversibility and irreversibility in processes, closed and open systems, cyclical processes and problem solving using computers. Requires MTH174 and PHY 242 as pre-requisites. Lecture 3 hours per week.

(ELE) Electrical Technology

ELE 90-190-290 Coordinated Internship (1-5 cr.)
Supervised on-the-job training in selected business, industrial or service firms coordinated by the College. Credit/ practice ratio maximum 1:5 hours. May be repeated for credit. Variable hours.

ELE 95-195-295 Topics in: (1-5 cr.)
Provides an opportunity to explore topical areas of interest to or needed by students. May be used also for special honors courses. May be repeated for credit. Variable hours.

ELE 98-198-298 Seminar and Project in: (1-5 cr.)
Requires completion of a project or research report related to the student's occupational objective and a study of approaches to the selection and pursuit of career opportunities in the field. May be repeated for credit. Variable hours.

ELE 99-199-299 Supervised Study in: (1-5 cr.)
Assigns problems for independent study incorporating previous instruction and supervised by the instructor. May be repeated for credit. Variable hours.

ELE 110 Home Electric Power (3 cr.)
Covers the fundamentals of residential power distribution, circuits, panels, fuse boxes, breakers, transformers. Includes study of the national electrical code, purpose and interpretation. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

ELE 113-114 Electricity I-II (3 cr. each)
Teaches principles of electricity covering fundamentals, devices and components in both DC and AC circuits. Lecture 3 hours per week.

ELE 115 Basic Electricity (2-3 cr.)
Covers basic circuits and theory of fundamental concepts of electricity. Presents a practical approach through discussion of components and devices. Prerequisite: MTE 3 or equivalent. Lecture 2-3 hours per week.

ELE 123-124 Electrical Applications I-II (2 cr. each)
Provides laboratory and shop assignments/jobs as applied to fundamental principles of electricity with emphasis on measurements and evaluation of electrical components, devices and circuits. May require preparation of a report as an out-of-class activity. Lecture 1 hour. Laboratory 2 hours. Total 3 hours per week.

ELE 131-132 National Electrical Code I-II (3 cr. each)
Provides comprehensive study of the purpose and interpretations of the National Electric Code as well as familiarization and implementation of various charts, code rulings and wiring methods including state and local regulations. Lecture 3 hours per week.

ELE 133-134 Practical Electricity I-II (3 cr. each)
Teaches the fundamentals of electricity, terminology, symbols, and diagrams. Includes the principles essential to the understanding of general practices, safety and the practical aspects of residential and non-residential wiring and electrical installation, including fundamentals of motors and controls. Pre/Co requisite MTE 2 or equivalent. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

ELE 143 Programmable Controllers I (4 cr.)
Studies operating characteristics, programming techniques, interfacing, and networking capabilities of programmable logic controllers. Studies controllers with analog and/or digital interfacing, hand-held and/or software programming. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

ELE 147 Electrical Power and Control Systems (2-3 cr.)
Reviews basic DC and AC circuits. Covers single-phase and three-phase AC power distribution systems, and protection devices, including types of AC motors. Presents analyzing and troubleshooting electrical control systems and motor protection devices. Prerequisite ELE 134 or equivalent. Lecture 2-3 hours. Laboratory 0-2 hours. Total 2-4 hours per week.

ELE 152 Electrical-Electronic Calculations I (3 cr.)
Includes general math, scale readings, conversions between units of measure and algebra with exponents and radicals as it applies to DC circuits. (First of a three-course sequence). Lecture 3 hours. Total 3 hours per week.

ELE 153 Electrical-Electronic Calculations II (3 cr.)
Includes a review of DC applications, angular measurements, right triangle ratios, vector and vector algebra as it applies to AC circuits. (Second of a three-course sequence). Prerequisite: ELE 152. Lecture 3 hours per week.

ELE 154 Electrical-Electronic Calculations III (3 cr.)
Includes a review of DC and AC applications and includes exponential equations and logarithms as it applies to electrical-electronic circuits. (Third of a three-course sequence). Prerequisite: ELE 153. Lecture 3 hours per week.

ELE 156 Electrical Control Systems (3 cr.)
Includes troubleshooting and servicing electrical controls, electric motors, motor controls, motor starters, relays, overload, instruments and control circuits. May include preparation of a report as an out-of-class activity. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

ELE 158 Surface Mount Soldering (1 cr.)
Emphasizes high reliability soldering concepts and soldering standards as applied to surface mount soldering and rework, covering identification, installation and removal of components, using various equipment including hot air and soldering iron. Provides an introduction to IPC-A-610 soldering standards. Laboratory 3 hours per week.

ELE 195 Mechatronics (Control Panel Navigation/System Integration) (3 cr.)
Studies current flow in direct and alternating current circuits with emphasis upon practical problems. Reviews mathematics used in circuit calculations. Introduces concepts of resistance, capacitance, inductance and magnetism. Focuses on basic electrical / electronics / circuits application.

ELE 195 Applications in Motor Control (3 cr.)
Studies electrical safety, three phase power & motors, manual motor control and protection, control ladder logic, troubleshooting, input devices, timers and other areas.

ELE 201 Applications and Instruments I (1 cr.)
Presents assignments and individual projects to supplement the course of study. Requires the selection, operation, and interpretation of laboratory instruments. May require formal reports to demonstrate state-of-the-art techniques. Laboratory 3 hours.

ELE 216 Industrial Electricity (3 cr.)
Studies rotating devices, single phase and polyphase distribution, magnetic devices, circuits and systems for industrial applications. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

ELE 217 Electric Power Utilities (2-3 cr.)
Provides an introduction to the electric power utilities field. Examines the generation, transmission and distribution of electrical energy. Lecture 2-3 hours per week.

ELE 233 Programmable Logic Controller Systems I (3-4 cr.)
Teaches operating and programming of programmable logic controllers. Covers analog and digital interfacing and communication schemes as they apply to system. Prerequisites: ETR 156 and ETR 211 or equivalent. Part I of II. Lecture 2-3 hours. Laboratory 3 hours. Total 5-6 hours per week.

ELE 234 Programmable Logic Controller Systems II (3-4 cr.)
Teaches operating and programming of programmable logic controllers. Covers analog and digital interfacing and communication schemes as they apply to system. Prerequisites: ETR 156 and ETR 211 or equivalent. Part II of II. Lecture 2-3 hours. Laboratory 3 hours. Total 5-6 hours per week.

ELE 237 Human Machine Interface Systems (2 cr.)
Introduces operation of human machine interface devices (HMI), hardware configuration, software programming and programmable logic controller network configuration of HMI devices. Offers troubleshooting practices concerning HMI devices used in industrial machine applications. Lecture 0 hours. Lab 2 hour. Total 2 hours per week.

ELE 239 Programmable Controllers (3 cr.)
Deals with installation, programming, interfacing, and concepts of troubleshooting programmable controllers. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

ELE 240 Advanced Programmable Logic Controllers (3 cr.)
Advances further study of Programmable Logic Controllers that was initiated in ELE 239. Students will learn to use more advanced program instructions, including data manipulation, sequences and program control, and advanced PLC features, including timers, counters. Covers connectivity and use of a variety of real world I/O devices. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

ELE 248 Microcontroller Interfacing & Programming (3 cr.)
Explores issues and concerns related to the programming and interfacing of microcontrollers. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

(EMS) Emergency Medical Services

EMS 112 Emergency Medical Technician - Basic I (4 cr.)
Prepares student for certification as a Virginia and/or National Registry EMT-Basic. Focuses on all aspects of pre-hospital basic life support as defined by the Virginia office of Emergency Medical Services curriculum for Emergency Medicine Technician Basic Lecture 3 hours. Laboratory 2 hours. Total 5 hours per week.

EMS 113 Emergency Medical Technician- Basic II (3 cr.)
Continues preparation of student for certification as a Virginia and/or National Registry EMT-Basic. Includes all aspects of pre-hospital basic life support as defined by the Virginia Office of Emergency Medical Services curriculum for Emergency Medicine Technician Basic. Lecture 2 hours per week. Laboratory 2 hours per week. Total 4 hours per week.

EMS 120 Emergency Medical Technician - Basic Clinical (1 cr.)
Observes in a program approved clinical/field setting. Includes topics for both EMS 111 and EMS 113, dependent upon the program in which the student is participating and is a co-requisite to both EMS 111 and EMS 113. Laboratory 2 hours; Total 2 hours per week.

EMS 151 Introduction to Advanced Life Support (4 cr.)
Prepares the student for Virginia Enhanced certification eligibility and begins the sequence for National Registry Intermediate and/or Paramedic certification. Includes the theory and application of the following: foundations, human systems, pharmacology, overview of shock, venous access, airway management, patient assessment, respiratory emergencies, allergic reaction, and assessment based management. Conforms at a minimum to the Virginia Office of Emergency Medical Services curriculum. Co-requisite: EMS 170. Lecture 3 hours. Laboratory 2 hours. Total 5 hours per week.

EMS 153 Basic ECG Recognition (2 cr.)
Focuses on the interpretation of basic electrocardiograms (ECG) and their significance. Includes an overview of anatomy and physiology of the cardiovascular system including structure, function and electrical conduction in the heart. Covers advanced concepts that build on the knowledge and skills of basic dyshythmia determination and introduction to 12 lead ECG. Lecture 2 hours per week.

EMS 155 ALS-Medical Care (4 cr.)
Continues the Virginia Office of Emergency Medical Services Intermediate and/or Paramedic curricula. Includes ALS pharmacology, drug and fluid administration with emphasis on patient assessment, differential diagnosis and management of multiple medical complaints. Includes, but are not limited to conditions relating to cardiac, diabetic, neurological, non-traumatic abdominal pain, environmental, behavioral, gynecology, and toxicological disease conditions. Prerequisites: Current EMT-B certification, EMS 151 and EMS 153. Lecture 3 hours. Laboratory 2 hours. Total 5 hours per week.

EMS 157 ALS-Trauma Care (3 cr.)
Continues the Virginia Office of Emergency Medical Services Intermediate and/ or Paramedic curricula. Utilizes techniques which will allow the student to utilize the assessment findings to formulate a field impression and implement the treatment plan for the trauma patient. Prerequisites: Current EMT-B certification and EMS 151. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

EMS 159 ALS-Special Populations (2 cr.)
Continues the Virginia office of Emergency Medical Services Intermediate and/or Paramedic curricula. Focuses on the assessment and management of specialty patients including obstetrical, neonates, pediatric, and geriatrics. Prerequisites: EMS 151 and EMS 153. Pre or co-requisite: EMS 155. Lecture 1 hour. Laboratory 2 hours. Total 3 hours per week.

EMS 170 ALS Internship I (1-2 crs.)
Begins the first in a series of clinical experiences providing supervised direct patient contact in appropriate patient care facilities in and out of hospitals. Includes but not limited to patient care units such as the Emergency Department, Critical Care units, Pediatric, Labor and Delivery, Operating Room, Trauma centers and various advanced life support units. Laboratory 3-6 hours per week.

EMS 172 ALS Clinical Internship II (1-2 crs.)
Continues with the second in a series of clinical experiences providing supervised direct patient contact in appropriate patient care facilities in and out of hospitals. Includes but not limited to patient care units such as the Emergency Department, Critical Care units, Pediatric, Labor and Delivery, Operating Room and Trauma Centers. Co-requisite: EMS 151. Laboratory 3-6 hours per week.

EMS 173 ALS Field Internship II (1 cr.)
Continues with the second in a series of field experiences providing supervised direct patient care in out-of-hospital advanced life support units. Laboratory 3 hours per week.

EMS 213 ALS Skills Development (1-2 cr.)
Utilizes reinforcement and remediation of additional advanced life support skills, as needed. Laboratory 2-4 hours per week.

(ENE) Energy Technology

ENE 100 Conventional and Alternate Energy Applications (4 cr.)
Provides an overview of hydroelectric, coal, and nuclear energy production methods and renewable solar, geothermal, wind, and fuel cell technology. A complete system breakdown of conventional power production methods, efficiency, and sustainability when compared with solar, geothermal, wind, and fuel cell applications. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

ENE 110 Solar Power Installations (4 cr.)
Covers wiring, control, conversion, and ties to established power systems. Studies use of inverters, batteries, and charging systems. Prerequisite: ELE 115 or equivalent. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

ENE 195 Intro to Battery Technologies (3 cr.)
Provides lectures and hands-on exercises in the theory and applications of modern battery chemistries, including Lithium Iron Phosphate. Prepares students for work in the modern battery assembly, solar, electric vehicle and other alternative energy related industries. Topics include battery chemistry, battery management systems, communication systems and electric vehicle, solar and other applications. Students will conduct hands-on exercises to gain skills in advanced assembly techniques of LiFePO4 batteries, as well as quality testing, charging/discharging, wiring and troubleshooting of these high technology battery systems.

ENE 105 Solar Thermal Active and Passive Technology (4 cr.)
Provides a comprehensive study of thermal technology as it applies to collector types and ratings, open-loop versus closed-loop and system sizing. Introduces hydronics, hot water, and pool heating applications. Provides an introduction to fluid dynamics and chemistry as it applies to system installation and maintenance. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

(ENF) English Fundamentals

ENF 1 Preparing for College English I (8 cr.)
Provides integrated reading and writing instruction for students who require extensive preparation to succeed in college-level English courses. Students will place into this course based on placement test score. Upon successful completion and faculty recommendation, students will move into Preparing for College English III (if they require additional preparation) or into college-level English (if they require no additional preparation). Credit is not applicable toward graduation. Lecture 8 hours per week. Contact Hours 8. Qualifying placement test score.

ENF 2 Preparing for College English II (4 cr.)
Provides integrated reading and writing instruction for students who require intermediate preparation to succeed in college-level English courses. Students will place into this course based on placement test score. Upon successful completion and faculty recommendation, students will move into Preparing for College Level III (if they require additional preparation) or into college-level English (if they require no additional preparation). Credit is not applicable toward graduation. Four (4) lecture and four (4) contact hours. Qualifying placement test score.

ENF 3 Preparing for College English III (2 cr.)
Provides integrated reading and writing instruction for students who require minimal preparation for college-level English but still need some preparation to succeed. Students in this course will be co-enrolled in college-level English. Students will place into this course based on placement test score. Credit is not applicable toward graduation. Two (2) lecture and two (2) contact hours. Qualifying placement score. Co-Enrollment in a college-level English course.

(ENG) English

ENG 111 College Composition 1 (3 cr.)
Introduces students to critical thinking and the fundamentals of academic writing. Through the writing process, students refine topics: develop and support ideas; investigate, evaluate, and incorporate appropriate resources; edit for effective style and usage; and determine appropriate approaches for a variety of contexts, audiences, and purposes. Writing activities will include exposition and argumentation with at least one researched essay. Lecture 3 hours per week.

ENG 112 College Composition II (3 cr.)
Continues to develop college writing with increased emphasis on critical essays, argumentation, and research, developing these competencies through the examination of a range of texts about the human experience. Requires students to locate, evaluate, integrate, and document sources and effectively edit for style and usage. Prerequisite: Students must successfully complete ENG 111 or its equivalent, and must be able to use word processing software. Lecture 3 hours per week.

ENG 115 Technical Writing (3 cr.)
Develops ability in technical writing through extensive practice in composing technical reports and other documents. Guides students in achieving voice, tone, style, and content in formatting, editing, and graphics. Introduces students to technical discourse through selected reading. Prerequisite: ENG 131 or ENG 111. Lecture 3 hours per week.

ENG 121-122 Introduction to Journalism I-II (3 cr. each)
Introduces students to all news media, especially news gathering and preparation for print. Prerequisite: ENG 111 or ENG 112, or divisional approval. Lecture 3 hours per week.

ENG 123 Writing for the World Wide Web (3 cr.)
Teaches students how to outline, compose, organize, and edit written materials for publication on the World Wide Web. Teaches students how to design basic web pages, compose website content, design web site layout and develop website navigation for a variety of possible audiences. Prerequisite: ENG 111 or approval. Lecture 3 hours per week.

ENG 131 Technical Report Writing I (3 cr.)
Offers a review of organizational skills including paragraph writing and basic forms of technical communications, various forms of business correspondence, and basic procedures for research writing. Includes instruction and practice in oral communication skills. Lecture 3 hours per week.

ENG 134 Grammar for Writing and Speaking (3 cr.)
Studies the various parts of speech with application to both writing and speaking. Includes significant assignments to demonstrate skills in a variety of written and verbal communication, and emphasizes the skills necessary for correct everyday usage of the English language. Lecture 3 hours per week.

ENG 135 Applied Grammar (3 cr.)
Develops ability to edit and proofread correspondence and other documents typically produced in business and industry. Instructs the student in applying conventions of grammar, usage, punctuation, spelling, and mechanics. Prerequisite: ENG 134 or divisional approval. Lecture 3 hours per week.

ENG 210 Advanced Composition (3 cr.)
Helps students refine skills in writing non-fiction prose. Guides development of individual voice and style. Introduces procedures for publication. Prerequisite: ENG 112 or divisional approval. Lecture 3 hours per week.

ENG 211-212 Creative Writing I-II (3 cr. each)
Introduces the student to the fundamentals of writing imaginatively. Students write in forms to be selected from poetry, fiction, drama, and essays. Prerequisite: ENG 112 or divisional approval. Lecture 3 hours per week.

ENG 217 Creative Writing - Poetry I (3 cr.)
Introduces the fundamentals and techniques of writing poetry. Part I of II. Lecture 3 hours per week.

ENG 241, ENG 242 Survey of American Literature I-II (3 cr. each)
Examines American literary works from colonial times to the present, emphasizing the ideas and characteristics of our national literature. Involves critical reading and writing. Prerequisite: ENG 112 or divisional approval. Lecture 3 hours per week.

ENG 243, ENG 244 Survey of English Literature I-II (3 cr. each)
Studies major English works from the Anglo-Saxon period to the present, emphasizing ideas and characteristics of the British literary tradition. Involves critical reading and writing. Prerequisite: ENG 112 or divisional approval. Lecture 3 hours per week.

ENG 250 Children's Literature (3 cr.)
Surveys the history of children's literature, considers learning theory and developmental factors influencing reading interests. Introduces the forms, themes, history, and uses of literature written for children ages three to fourteen. Students learn to evaluate and select literature critically and understand its use in preschool, elementary, and middle school classrooms. Genres to be studied include traditional fiction / folktales, contemporary realistic fiction, picture books, fantasy / science fiction, historical fiction, biography, nonfiction, and poetry / verse. Prerequisites: ENG 111 and ENG 112. Lecture 3 hours per week.

ENG 251 Survey of World Literature I (3 cr.)
Examines major works of world literature. Involves critical reading and writing. Prerequisite ENG 112 or divisional approval. Part I of II. Lecture 3 hours per week.

ENG 255 Major Writers in World Literature (3 cr.)
Examines major writers selected from a variety of literary traditions. Involves critical reading and writing. Prerequisite: ENG 112 or divisional approval. Lecture 3 hours per week.

ENG 257 Mythology (3 cr.)
Studies selected mythologies of the world, emphasizing their common origins and subsequent influence on human thought and expression. Involves critical reading and writing. Prerequisite ENG 112 or divisional approval. Lecture 3 hours per week.

(ENV) Environmental Science

ENV 170 Fundamentals of Energy Technology (2 cr.)
Gives the student an overview of the field of energy conservation and use and provides descriptions of job functions typical to energy technicians. Lecture 2 hours per week.

(ESL) English as a Second Language

ESL 05 English as a Second Language: Reading I (3-6 cr.)
Helps students improve their reading comprehension and vocabulary. Improves students' reading proficiency to a level which would allow the students to function adequately in ESL 06 and other college classes. Variable hours per week.

ESL 06 English as a Second Language: Reading II (3-6 cr.)
Helps students improve their reading comprehension and vocabulary. Improves students' reading proficiency to a level which would allow the students to function adequately in ESL 06 and other college classes. Variable hours per week.

ESL 06 English as a Second Language: Reading II (3-6 cr.)
Helps students improve their reading comprehension and vocabulary. Improves students' reading proficiency to a level which would allow the students to function adequately in college classes. Variable hours per week.

ESL 07 Oral Communication I (3-6 cr.)
Helps students practice and improve listening and speaking skills as needed for functioning successfully in academic, professional, and personal settings. Assesses students' oral skills and includes, as needed, practice with pronunciation, rhythm, stress, and intonation. Provides exercises, practices, small and large group activities, and oral presentations to help students overcome problems in oral communication. Variable hours per week.

ESL 08 Oral Communication II (3-6 cr.)
Provides further instruction and practice in helping students to improve listening and speaking skills. Assesses students' oral skills and includes, as needed, practice with pronunciation, rhythm, stress, and intonation. Emphasizes the development of fluency through exercises, practices, small and large group activities, and formal and informal presentations. Variable hours per week.

(ETR) Electronics Technology

ETR 90-190-290 Coordinated Internship (1-5 cr.)
Supervised on-the-job training in selected business, industrial or service firms coordinated by the College. Credit/ practice ratio maximum 1:5 hours. May be repeated for credit. Variable hours.

ETR 95-195-295 Topics in: (1-5 cr.)
Provides an opportunity to explore topical areas of interest to or needed by students. May be used also for special honors courses. May be repeated for credit. Variable hours.

ETR 98-198-298 Seminar and Project in: (1-5 cr.)
Requires completion of a project or research report related to the student's occupational objective and a study of approaches to the selection and pursuit of career opportunities in the field. May be repeated for credit. Variable hours.

ETR 99-199-299 Supervised Study in: (1-5 cr.)
Assigns problems for independent study incorporating previous instruction and supervised by the instructor. May be repeated for credit. Variable hours.

ETR 115 D.C. and A.C. Fundamentals (3 cr.)
Studies current flow in direct and alternating current circuits with emphasis upon practical problems. Reviews the mathematics used in circuit calculations. Introduces concepts of resistance, capacitance, inductance and magnetism. Lecture 3 hours per week.

ETR 123-124 Electronic Applications I-II (2 cr. each)
Provides laboratory and shop experience as applied to basic electronic devices, circuits and systems with emphasis on practical measurements. Lecture 1 hour. Laboratory 2 hours. Total 3 hours per week.

ETR 136 General Industrial Electronic Systems (3 cr.)
Studies devices, circuits, power modules, analog and digital, open and closed loop control and servo systems. May include laboratory projects and modular troubleshooting. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

ETR 141-142 Electronics I-II (3 cr. each)
Introduces electronic devices as applied to basic electronic circuits and systems. Lecture 3 hours per week.

ETR 149 PC Repair (3 cr.)
Teaches the maintenance, troubleshooting and repair of personal computer systems. Uses IBM or compatible computer systems to provide fault isolation drill and practice. Lecture 3 hours. Total 3 hours per week.

ETR 151-152 Electronic Circuits and Troubleshooting I-II (2 cr. each)
Studies analog and digital circuits and systems with standard circuit test and troubleshooting procedure. Lecture 2 hours per week.

ETR 177 Industrial Robotics and Robotics Programming (2-3 cr.)
Prepares the student to safely operate and maintain a robot and develop and maintain basic robot programs. Lecture 1-2 hours. Laboratory 2-3 hours. Total 3-5 hours per week.

ETR 180 Industrial Ethernet Networking (2-3 cr.)
Examines the theory and implementation of digital and communications systems. Features OSI model and plant floor networks. May include optical, wireless, satellite and other communications systems. Lecture 1-2 hours. Laboratory 2-3 hours. Total 3-5 hours per week.

ETR 241-242 Electronic Communications I-II (3-4 cr. each)
Studies noise, information and bandwidth, modulation and demodulation, transmitters and receivers, wave propagation, antennas and transmission lines. May include broad, band communication systems, microwave, both terrestrial and satellite, fiber optics, multiplexing and associated hardware. Prerequisite: Knowledge of DC/AC Theory and devices. Lecture 2-3 hours. Laboratory 3 hours. Total 5-6 hours per week.

ETR 243 Digital, Analog, and Data Communications Systems I (4 cr.)
Teaches theory and implementation of digital and analog circuits in communication systems. Includes PCM, multiplexing, analog modulation, analysis and performance of transmitters and receivers. Includes optical satellite and other communications systems. Prerequisite: Knowledge of D.C./A.C. theory and devices. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

ETR 255 Active Devices and Circuits (3 cr.)
Teaches theory of active devices and circuits, devices and circuit parameters, semi-conductor characteristics and the application of circuits to active systems. Includes testing and analysis of active devices and circuits. Prerequisite: Knowledge of DC/AC Theory. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

ETR 282-283 Digital Systems I-II (3 cr. each)
Includes fundamental definition, programming, circuitry, logic, operation/interfacing of computer and microprocessor systems. May include pulse circuits and pulse logic systems as applied to computer and microprocessor technology. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

ETR 286 Principles and Applications of Robotics (2-3 cr.)
Provides an overview of terminology, principles, practices, and applications of robotics. Studies development, programming; hydraulic, pneumatic, electronic controls; sensors, and system troubleshooting. Lecture 1-2 hours. Laboratory 2 hours. Total 3-4 hours per week.

(FIN) Financial Services

FIN 215 Financial Management (3 cr.)
Introduces basic financial management topics, including statement analysis, working capital, capital budgeting, and long-term financing. Focuses on Net Present Value and Internal Rate of Return Techniques, lease verses buy analysis, and Cost of Capital computations. Uses problems and cases to enhance skills in financial planning and decision making. Prerequisite: ACC 111 or ACC 211. Lecture 3 hours per week.

(FRE) French

FRE 203-204 Intermediate French I-II (3 cr. each)
Continues to develop understanding, speaking, reading, and writing skills. Prerequisite French 102 or equivalent. Lecture 3 hours per week.

(FUR) Furniture

FUR 127 Furniture Plant Maintenance (3 cr.)
Introduces need for and methodology for establishing a systemic preventive maintenance schedule on production and auxiliary equipment. Includes lubrication, filter changes, tool sharpening, fixture maintenance, sanding belt replacements and finish sprayer

FUR 129 Furniture Finishing & Repair (3 cr.)
Utilizes hands on training to learn the proper finishing and repair of furniture. Presents the processes and systems for finishing wood products to meet changing environment regulations. Stresses tool and equipment use and safety. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

FUR 298 Seminar and Project (1-5 cr.)
Requires completion of a project or research report related to the student's occupational objectives and a study of approaches to the selection and pursuit of career opportunities in the field. Variable hours.

(GEO) Geography

GEO 210 People and the Land: An Introduction to Cultural Geography (3 cr.)
Focuses on the relationship between culture and geography. Presents a survey of modern demographics, landscape modification, material and non-material culture, language, race and ethnicity, religion, politics, and economic activities. Introduces the student to types and uses of maps. Lecture 3 hours per week.

GEO 220 World Regional Geography (3 cr.)
Studies physical and cultural characteristics of selected geographical regions of the world. Focuses upon significant problems within each of the regions, and examines the geographical background of those problems. Introduces the student to types and uses of maps. Lecture 3 hours per week.

(GOL) Geology

GOL 105 Physical Geology (4 cr.)
Introduces the composition and structure of the earth and modifying agents and processes. Investigates the formation of minerals and rocks, weathering, erosion, earthquakes, and crustal deformation. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

GOL 106 Historical Geology (4 cr.)
Traces the evolution of the earth and life through time. Presents scientific theories of the origin of the earth and life and interprets rock and fossil record. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

(HIM) Health Information Management

HIM 105 Current Procedural Terminology (2 cr.)
Develops skills in coding a diagnosis and/or procedure according to the principles of CPT Coding. Not intended for HIM majors. Prerequisite: HLT 143. Lecture 2 hours per week.

HIM 106 International Classification of Diseases I (2 cr.)
Introduces International Classification of Diseases Clinical Modification Coding I (ICD-9-CM) coding classification system and provides actual coding exercises. Not intended for HIM majors. Prerequisite: HLT 143. Lecture 2 hours per week.

HIM 107 International Classification of Diseases II (3 cr.)
Stresses advanced International Classification of Diseases Clinical Modification Coding II (ICD-9-CM) coding skills through practical exercises. Not intended for HIM majors. Prerequisite: HIT 106 or HIM 106. Lecture 2-3 hours per week.

HIM 130 Healthcare Information Systems (3 cr.)
Teaches basic concepts of microcomputer software (to include operating systems, word processing, spreadsheets, and database applications. Focuses on microcomputer applications and information systems in the Healthcare environment. Provides a working introduction to electronic health information systems for allied health, teaching students how the adoption of electronic health records affects them as future healthcare professionals. Lecture 3 hours per week.

HIM 143 Managing Electronic Billing in a Medical Practice (2-3 cr.)
Presents practical knowledge on use of computer technology in medical practice management. Develops basic skills in preparation of universal billing claim. Explores insurance claim processing issues. Lecture 2-3 hours per week.

HIM 226 Legal Aspects of Health Record Documentation (2 cr.)
Presents the legal requirements associated with health record documentation. Emphasizes the policies and procedures concerning the protection of the confidentiality of patient's health records. Lecture 2 hours per week.

HIM 253 Health Records Coding (3-5 cr.)
Examines the development of coding classification systems. Introduces ICD-9-CM coding classification system, its format and conventions. Stresses basic coding steps and guidelines according to body systems. Provides actual coding exercises in relation to each system covered. Lecture 3-4 hours per week.

(HIS) History

HIS 101, HIS 102 History of Western Civilization I-II (3 cr. each)
Examines the development of western civilization from ancient times to the present. The first semester ends with the seventeenth century; the second semester continues through modern times. Lecture 3 hours per week.

HIS 111, HIS 112 History of World Civilizations (3 cr. each)
Surveys Asian, African, Latin American, and European Civilizations from the ancient period to the present.

HIS 121, HIS 122 United States History I-II (3 cr. each)
Surveys United States history from its beginning to the present. Lecture 3 hours per week.

HIS 266 Military History of the Civil War (3 cr.)
Analyzes military campaigns of the Civil War, including factors contributing to the defeat of the Confederacy and problems created by the war. May include field trips to Civil War sites in the region. Lecture 3 hours per week.

HIS 268 The American Constitution (3 cr.)
Analyzes the origin and development of the United States Constitution. Includes the evolution of civil liberties, property rights, contracts, due process, judicial review, federal, state relationships, and corporate-government relations. Lecture 3 hours per week.

(HLT) Health

HLT 100 First Aid and Cardiopulmonary Resuscitation (2 - 3 cr.)
Focuses on the principles and techniques of safety, first aid and cardiopulmonary resuscitation. Lecture 2-3 hours per week.

HLT 105 Cardiopulmonary Resuscitation (1 cr.)
Provides training in coordinated mouth-to-mouth artificial ventilation and chest compression, choking, life-threatening emergencies, and sudden illness. Lecture 1 hour per week.

HLT 106 First Aid and Safety (2 cr.)
Focuses on the principles and techniques of safety and first aid. Lecture 2 hours per week.

HLT 110 Concepts of Personal and Community Health (2-3 cr.)
Studies the concepts related to the maintenance of health, safety, and the prevention of illness at the personal and community level. Lecture 2-3 hours per week.

HLT 116 Personal Wellness (2-3 cr.)
Explores the relationship between personal health and physical fitness as they apply to individuals in today's society. Includes nutrition, weight control, stress, conditioning, and drugs. Lecture 3 hours per week.

HLT 121 Introduction to Drug Use and Abuse (3 cr.)
Explores the use and abuse of drugs in contemporary society with emphasis upon sociological, physiological, and psychological effects of drugs. Lecture 3 hours per week.

HLT 123 Understanding Cancer (2-3 cr.)
Explores the prevention, development, progression, and treatment of cancer. Discusses lifestyle risk factors and screening recommendations for specific cancers. Emphasizes healthy behaviors and coping strategies for cancer patients and their caregivers. Lecture 2-3 hours.

HLT 130 Nutrition and Diet Therapy (1 cr.)
Studies nutrients, sources, functions, and requirements with an introduction to diet therapy. Lecture 1 hour per week.

HLT 135 Child Health and Nutrition (3 cr.)
Focuses on the physical needs of the preschool child and the methods by which these are met. Emphasizes health routines, hygiene, nutrition, feeding and clothing habits, childhood diseases, and safety as related to health growth and development. Lecture 3 hours per week.

HLT 141 Intro to Medical Terminology (1-2 crs.)
Focuses on medical terminology for students preparing for careers in the health professions. Lecture 1-2 hours per week.

HLT 143-144 Medical Terminology I-II (3 cr. each)
Provides an understanding of medical abbreviations and terms. Includes the study of prefixes, suffixes, word stems, and technical terms with emphasis on proper spelling, pronunciation, and usage. Emphasizes more complex skills and techniques in understanding medical terminology. Lecture 3 hours per week.

HLT 160 Personal Health and Fitness (3 cr.)
Studies the relationships between health and fitness. Topics include nutrition, disease prevention, weight control, smoking and health, medical care, aerobic and anaerobic conditioning, and the relationship between physical and mental health. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

HLT 195 Topics in: (1-5 cr.)
Provides an opportunity to explore topical areas of interest to or needed by students. May be repeated for credit. Variable hours.

HLT 200 Human Sexuality (3 cr.)
Provides a basic understanding of human sexuality. Includes anatomy, physiology, pregnancy, family planning, venereal diseases, and sexual variations. Lecture 3 hours per week.

HLT 204 Women's Health (3 cr.)
Explores current issues related to women's health and wellness with an emphasis upon prevention of disease and optimum well being. Takes a multi-ethnic approach to exploring the most up-to-date findings, diagnostic tools, and treatments for breast cancer, reproductive tract illness, heart, and other common diseases faced by women from puberty through menopause. Lecture 3 hours per week

HLT 215 Personal Stress and Stress Management (3 cr.)
Provides a basic understanding of stress and its physical, psychological, and social effects. Includes the relationships between stress and change, self-evaluation, sources of stress, and current coping skills for handling stress. Lecture 3 hours per week.

HLT 230 Principles of Nutrition and Human Development (3 cr.)
Teaches the relationship between nutrition and human development. Emphasizes nutrients, balanced diet, weight control, and the nutritional needs of an individual. Lecture 3 hours per week.

HLT 250 General Pharmacology (2-3 cr.)
Emphasizes general pharmacology for the health related professions covering general principles of drug actions/reactions, major drug classes, specific agent within each class, and routine mathematical calculations needed to determine desired dosages. Lecture 2-3 hours per week.

HLT 261 Basic Pharmacy I (3 cr.)
Explores the basics of general pharmacy, reading prescriptions, symbols, packages, pharmacy calculations. Teaches measuring compounds of drugs, dosage forms, drug laws, and drug classifications. Part I of II. Lecture 3 hours per week.

HLT 263 Basic Pharmacy I Lab (1 cr.)
Provides practical experience to supplement instruction in HLT 261-262. Should be taken concurrently with HLT 261-262, in appropriate curricula, as identified by the college. Part I of II. Laboratory 3 hours per week.

HLT 290 Coordinated Internship (1-5 cr.)
Supervises on-the-job training in selected business, industrial or service firms coordinated by the college. Credit/practice ratio not to exceed 1:5 hours. May be repeated for credit. Variable hours.

(HMS) Human Services

HMS 141 Group Dynamics I (3 cr.)
Examines the stages of group development, group dynamics, the role of the leader in a group, and recognition of the various types of group processes. Discusses models of group dynamics that occur as a result of group membership dynamics. Lecture 3 hours per week.

HMS 142 Group Dynamics II (3 cr.)
Examines group dynamics, group leadership, group cohesion, transference and group helping through experiential involvement in group facilitating and leadership. Increases group skills through active classroom participation in group experiences. Lecture 3 hours per week.

(HRI) Hotel-Restaurant-Institutional Management

HRI 134 Food & Beverage Service Management (3 cr.)
This class prepares a conceptual and technical framework for managing the service of meals in a variety of commercial settings. Studied will be the integration of production and service delivery, guest contact dynamics, reservation management, and point of sale systems.

HRI 265 Hotel Front Office Operations (3 cr.)
This class analyzes hotel front office positions and the procedures involved in reservation registration, accounting for and checking out guests and principles and practices of night auditing. The class also covers the complete guest operation in both traditional and computerized operations.

(HUM) Humanities

HUM 165 Controversial Issues in Contemporary American Culture (3 cr.)
Introduces students to selected issues in contemporary American culture. Includes topic areas ranging from welfare reform, economic development, privacy, environmental protection and conservation, evolution vs. creation, to family values, and special interest lobbying in our state and national governments. Focuses on the development of the student's critical thinking skills by analyzing, evaluating, and reflecting on opposing sides of the same issue as expressed by public leaders, special interest groups and academicians. Lecture 3 hours per week.

HUM 195 Topics in: (1-5 cr.)
Provides an opportunity to explore topical areas of interest to or needed by students, including honors program seminars. May be repeated for credit. Variable hours.

HUM 220 Introduction to African-American Studies (3 cr.)
Presents an interdisciplinary approach to the study of African-American life, history, and culture. Examines specific events, ideologies, and individuals that have shaped the contours of African-American life. Studies the history, sociology, economics, religion, politics, psychology, creative productions, and culture of African Americans. Lecture 3 hours per week.

HUM 246 Creative Thinking (3 cr.)
Examines and analyzes creative and effective thinking processes with applications in individual and group projects to solve business, scientific, environmental, and other practical problems. Lecture 3 hours per week.

HUM 256 Mythology in Literature and the Arts (3 cr.)
Studies cultural expressions of mythology in literature and the arts. Considers several of the following mythologies, with emphasis on parallels and divergences: Egyptian, Near-Eastern, Greek, Roman, Celtic, Norse, Asian, and African. Lecture 3 hours per week.

HUM 260 Survey of Twentieth-Century Culture (3 cr.)
Explores literature, visual arts, philosophy, music, and history of our time from an interdisciplinary perspective. Lecture 3 hours per week.

(IND) Industrial Engineering Technology

IND 103 Industrial Methods (2 cr.)
Covers theoretical knowledge necessary for familiarization with common hand tools, common power tools, measuring tools and techniques, fastening components and procedures, grinding operations, metal cutting operations, and other miscellaneous tasks.

IND 116 Applied Technology (3 cr.)
Introduces basic information and problem solving techniques in liquids, gases, solids, metrics, mechanics, forces, simple machines, heat, light, sound and nuclear energy as applied in industrial engineering technologies. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

IND 125 Installation and Preventive Maintenance (3 cr.)
Studies practices in the installation of machinery, including mounting, grouting, leveling, and alignment. Examines methods of preventive maintenance, including inspection, scheduled maintenance, controls, record keeping, repair parts stocking, and safety considerations. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

IND 137 Teamwork and Problem Solving (3 cr.)
Studies team concepts and problem solving techniques to assist project teams in improving quality and productivity. Provides knowledge of how to work as a team, plan and conduct good meetings, manage logistics and details, gather useful data, communicate the results and implement changes. Lecture 3 hours per week.

IND 145 Introduction to Metrology (3 cr.)
Studies principles of measurement and calibration control, application of statistics to measurement processes, and standards of measurements in calibration. May include the use of gauges and instruments in modern production and dimensional control concepts. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

IND 161 Product Design and Development I (5 cr.)
Introduces the student to foundational concepts and tools in the design and development of products utilizing wood or an alternative design material.

IND 162 Product Design and Development II (5 cr.)
Advancement of the foundational concepts and tools in the design and development of products utilizing wood or an alternative design material.

IND 163 Manufacturing Applications and Design I (3 cr.)
Introduces the basic concepts of operating, programming and autonomous maintenance techniques of a vacuum pod or nested-based CNC router used in the wood products industry. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

IND 164 Manufacturing Applications and Design II (3 cr.)
Introduces intermediate programming of the vacuum pod or nested-based CNC router used in the wood products industry and the basic concepts of operating, programming and autonomous maintenance techniques of panel saws and edge banding equipment used in a work cell configuration. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

IND 181 World Class Manufacturing (3 cr.)
Studies the principles and applications of the globalization of industry. Emphasizes the fundamentals of interpersonal/ team process, organization skills, total quality tools for continuous improvement, statistical process control, manufacturing resource planning and just- in-time. Lecture 3 hours per week.

IND 190 - 290 Coordinated Internship (3 cr. each)
Supervised on-the-job training in selected business, industrial or service firms coordinated by the College.

IND 195 Introduction to Automation and Robotics (2-4 cr.)
Introduces the student to the world of factory automation through study of networking, mechanical systems, sensors, pneumatics and Programmable Logic Controllers, and robotics. Provides an overview of topics needed to function as a factory automation technician. Lecture 2 - 4 hours per week.

IND 195 Interpreting Engineering Drawings/Math/Metrology (GDT) (2 cr.)
Teaches how to interpret engineering drawings, reads machine schematics and prints. This course will also cover the use of measurements, technical math and the metric system in a manufacturing environment.

IND 195 Systematic Problem Solving (1 cr.)
Provides experience in applying a systematic approach to solving problems for individuals or small groups working in problem solving teams. Teaches either 6 or 8 step methods, 5-Whys or other techniques.

IND 195 KeyTrain Remediation (1 cr.)
Provides online remediation for the Reading for Understanding, Locating Information, Applied Math, & Applied Technology. These are the components of the CRC + Manufacturing certification.

IND 199 Supervised Study (1-5 cr.)
Assigns problems for independent study incorporating previous instruction and supervised by the instructor. Lecture 1-2 hours. Laboratory 2 hours. Total 3-4 hours per week.

IND 216 Plant Layout and Materials Handling (3 cr.)
Examines arrangement and layout of physical facilities. Explains material handling and modern techniques for efficient utilization of space. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

IND 230 Applied Quality Control (3 cr.)
Studies principles of inspection and quality assurance with emphasis on statistical process control. May include the setting up, maintaining, and interpreting of control charts, and review of basic metrology. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

IND 235 Statistical Quality Control (3 cr.)
Gives overview of the quality control function within industry. May include the organization, cost, and techniques of quality control. Emphasizes essentials and applications of statistics in the quality control function. Lecture 3 hours per week.

IND 243 Principles and Applications of Mechatronics (3 cr.)
Introduces terminology and principles related to Mechatronic system design and application. Integrates concepts of electrical/electronic, mechanical and computer technologies in the development, setup, operation and troubleshooting of automated products and systems. Covers breakdown of various automated manufacturing operations with emphasis on system planning, development and troubleshooting processes.

IND 264 Manufacturing Applications and Design III (3 cr.)
Introduces advanced operations and programming of the vacuum pod and nested-based CNC router, panel saw and edge banding equipment used in a work cell configuration found in the wood products industry. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

IND 298 Capstone Project (1-3 cr.)
A hands-on application of Lean Manufacturing, Quality and Problem Solving methods in the workplace. Laboratory 2-6 hours per week.

(INS) Instrumentation

INS 121 Introduction to Measurement and Control (3-4 cr.)
Introduces applications of modern sensors, measurement equipment, and control systems, including operation and functions of components. Includes computer data acquisition and control with programming languages. Prerequisite: Divisional approval. Lecture 2-3 hours. Laboratory 2 hours. Total 4-5 hours per week.

INS 210 Principles of Instrumentation (3 cr.)
Introduces the basic concepts and terminology of process control systems. Presents types of control systems, applicable component elements, basic control analysis, and documentation requirements for measuring instruments and signal conditioning. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

INS 230 Instrumentation I (3 cr.)
Presents the fundamental scientific principles of process control including temperature, pressure, level, and flow measurements. Topics include transducers, thermometers, and gauges are introduced along with calibration. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

(ITD) Information Technology Database

ITD 110 Web Page Design I (3 cr.)
Stresses a working knowledge of web site designs, construction, and management using HTML or XHTML. Course content includes headings, lists, links, images, image maps, tables, forms, and frames. Recommended prerequisite is ITE 115. Lecture 3 hours. Total 3 hours per week.

ITD 112 Designing Web Page Graphics (3 cr.)
Explores the creation of digital graphics for web design. Basic design elements such as color and layout will be explored utilizing a computer graphics program(s). Recommended prerequisite is ITD 110.Lecture 3 hours. Total 3 hours per week.

ITD 115 Web Page Design and Site Management (3 cr.)
Explores fundamentals of creating web pages and site management with web editing software. Students will learn techniques of web page design as well as managing the resources required to author and maintain a web site. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

ITD 120 Design Concepts for Mobile Applications (3-4 cr.)
Provides skills for designing both Web-based and stand-alone applications for wireless devices. Details discussions of the needs for applications including mobile phones and a range of rich hand-held devices such as PDA's. Emphasizes the importance of usability, accessibility, optimization and performance to create fast-loading business enterprise applications and games. Lecture 3-4 hours per week.

ITD 134 PL/SQL Programming (4 cr.)
Incorporates a working introduction to commands, functions and operators used in SQL for extracting data from standard databases. Provides students with a hands on experience for developing code, functions, triggers, and stored procedures for SQL Server. Prerequisite ITE 115 or equivalent. Class requires internet access and Oracle account. Class format online tutorials. Lecture 4 hours. Total 4 hours per week.

ITD 195 Topics In PHP Programming for Web Development (1-5 cr.)
Provides an opportunity to explore topical areas of interest to or needed by students. May be used also for special honors courses. May be repeated for credit. Variable hours.

ITD 210 Web Page Design II (3-4 cr.)
Incorporates advanced techniques in web site planning, design, usability, accessibility, advanced site management, and maintenance utilizing web editor software(s). Recommended prerequisite is ITD 110. Lecture 3 hours. Total 3 hours per week.

ITD 212 Interactive Web Design (3-4 cr.)
Provides techniques in interactive design concepts to create cross-platform, low-bandwidth animations utilizing a vector-based application. This course emphasizes the importance of usability, accessibility, optimization and performance. Recommended prerequisite is ITD 110. Lecture 3 hours. Total 3 hours per week.

(ITE) Information Technology Essentials

ITE 100 Introduction to Information Systems (3-4 cr.)
Covers the fundamentals of computers and computing and topics which include impact of computers on society, ethical issues, and terminology. Provides discussion about available hardware and software as well as their application. Lecture 3-4 hours. Laboratory 0-2 hours. Total 2-5 hours per week.

ITE 101 Introduction to Microcomputers (1-2 cr.)
Examines concepts and terminology related to microcomputers and introduces specific uses of microcomputers.

ITE 102 Computers and Information Systems (1-2 cr.)
Introduces terminology, concepts, and methods of using computers in information systems. This course teaches computer literacy, not intended for Information Technology Systems majors.

ITE 115 Introduction to Computer Applications and Concepts (3 cr.)
Covers computer concepts and Internet skills and uses a software suite which includes word processing, spreadsheet, database, and presentation software to demonstrate skills required for computer literacy. Recommended prerequisite keyboarding skills. Lecture 3 hours. Laboratory 0 hours. Total 3 hours per week.

ITE 116 Survey of Computer Software Applications (1-2 cr.)
Reviews current business software applications for microcomputers emphasizing comparison of a variety of software packages. This course provides experience with multiple operating system commands, database, spreadsheet, and word processing programs. Lecture: 2 hours per week.

ITE 130 Introduction to Internet Services (3 cr.)
Provides instruction to provide students with a working knowledge of Internet terminology and services including e-mail, WWW browsing, search engines, ftp, file compression, and other services using a variety of software packages. This course provides instruction for basic web page construction. Lecture 3 hours. Total 3 hours per week.

ITE 131 Survey of Internet Services (1-2 cr.)
Introduces students to basic Internet terminology and services including e-mail, WWW browsing, search engines, ftp telnet, and other services. Lecture 1-2 hours per week.

ITE 140 Spreadsheet Software (3 cr.)
Covers the use spreadsheet software to create spreadsheets with formatted cells and cell ranges, control pages, multiple sheets, charts, and macros. Topics will include type and edit text in a cell, enter data on multiple worksheets, work with formulas and functions, create charts, pivot tables, and styles, insert headers and footers, and filter data. This course covers MOS Excel objectives. Prerequisite: ITE 115. Lecture 3 hours. Total 3 hours per week.

ITE 150 Desktop Database Software (4 cr.)
Incorporates instruction in planning, defining, and using a database; performing queries; producing reports; working with multiple files; and concepts of database programming. Course topics include database concepts, principles of table design and table relationships, entering data, creating and using forms, using data from different sources, filtering, creating mailing labels. This course covers MOS Access certification objectives. Prerequisite: ITE 115. Lecture 3 hours. Laboratory 2 hours. Total 5 hours per week.

ITE 151 Microcomputer Software: Database Management (1-2 cr.)
Presents first-time users with sufficient information to make practical use of database management software using the basics of building databases. Covers specific business applications. Lecture 1-2 hours per week.

ITE 182 User Support/Help Desk Principles (3 cr.)
Introduces a variety of tools and techniques that are used to provide user support in help desk operations. This course includes help desk concepts, customer service skills, troubleshooting problems, writing for end users, help desk operations, and software, needs analysis, facilities management, and other topics related to end user support. Prerequisite: ITE 115. Lecture 3 hours. Total 3 hours per week.

ITE 215 Advanced Computer Applications and Integration (4 cr.)
Incorporates advanced computer concepts including the integration of a software suite. Prerequisite: ITE 115 Introduction to Computer Applications and Concepts. Lecture 3 hours. Laboratory 2 hours. Total 5 hours per week.

ITE 221 PC Hardware and OS Architecture (3 cr.)
Covers instruction about processors, internal functions, peripheral devices, computer organization, memory management, architecture, instruction format, and basic OS architecture. Prerequisite: ITE 115 Introduction to Computer Applications and Concepts. Lecture 3 hours. Total 3 hours per week.

(ITN) Information Technology Networking

ITN 102 Introduction to Networked Client Operating Systems (LANs) (4 cr.)
Provides instruction on the installation, configuration, administration, and troubleshooting of client operating systems. These systems currently include Windows/Vista/XP and Linux Platforms in a networked data communication environment. Prerequisite: ITE-115. Lecture 3 hours. Laboratory 2 hours. Total 5 hours per week.

ITN 103 Administration of Networked Servers (4 cr.)
Provides instruction on how to install server operating systems, including virtual environments, and how to configure its services. The server platforms that will be utilized include windows 2008 Server and Linux operating systems. Prerequisite: ITN-102. Lecture 3 hours. Laboratory 2 hours. Total 5 hours per week.

ITN 104 Maintaining Servers in the Networked Infrastructure (4 cr.)
Provides instruction on how to implement, manage, and maintain a server environment. Also included in this instruction will be the installation and configuration of email servers, virtual server systems and server farms, along with secured communications across local and wide area networks. Server platforms currently supported include Windows 2008 Server and Linux platforms. Prerequisite: ITN-103. Lecture 3 hours. Laboratory 2 hours. Total 5 hours per week.

ITN 154 Networking Fundamentals-Cisco (4 cr.)
Provides introduction to networking using the OSI reference model. Course content includes data encapsulation, TCP/IP suite, routing, IP addressing, and structured cabling design and implementation. Lecture 3 hours. Laboratory 2 hours. Total 5 hours per week.

ITN 155 Introductory Routing-Cisco (4 cr.)
Features an introduction to basic router configuration using Cisco IOS software. Course content includes system components, interface configuration, IP network design, troubleshooting techniques, configuration and verification of IP addresses, and router protocols. Lecture 3 hours. Laboratory 2 hours. Total 5 hours per week.

ITN 156 Basic Switching and Routing - Cisco (4 cr.)
Centers instruction in LAN segmentation using bridges, routers, and switches. Course content includes fast Ethernet, access lists, routing protocols, spanning tree protocol, virtual LANs, and network management. Prerequisite: ITN 155 or instructor approval. Lecture 4 hours per week.

ITN 157 WAN Technologies-Cisco (4 cr.)
Concentrates on an introduction to Wide Area Networking (WANs). Course content includes WAN design, LAPB, Frame Relay, ISDN, HDLC, and PPP. Prerequisite: ITN 156 or instructor approval. Lecture 4 hours per week.

ITN 209 Introduction to Voice Over IP/Digital Communications (4 cr.)
Provides hands-on exercises in the utilization of voice over IP equipment including digital phones, Cisco Call Manager Express, Cisco Unity Express, and Plain Old Telephone Systems (POTS). This course also examines VOIP Quality of Service (QOS) and various other telephony services. Prerequisite: ITN 156. Lecture 4 hours. Total 4 hours per week.

ITN 250 Advanced Routing-Cisco (4 cr.)
Includes instruction focusing on the characteristics of various Routing Protocols used in the TCP/IP networking environment, static routing, OSPF, IGRP, EIGRP, BGP, advanced IP addressing, and security. Course content also examines various strategies for optimizing network routing performance. Lecture 3 hours. Laboratory 2 hours. Total 5 hours per week.

ITN 251 Remote Access Networking-Cisco (4 cr.)
Focuses on in-depth instruction to a variety of wide area networking technologies and their implementation. Course content includes POTS and analog network connectivity, ISDN (both BRI and PRI), PPP, Cisco, AAA Security System, and Frame Relay. Prerequisite: ITN 250. Lecture 3 hours. Laboratory 2 hours. Total 5 hours per week.

ITN 252 Advanced Switching-Cisco (4 cr.)
Provides in-depth instruction in switching as a core technology in today's networking environment. Course content includes VLANs, trunking protocols, spanning-tree protocol, HSRP, and multi-layer switching. Prerequisite: ITN 251. Lecture 3 hours. Laboratory 2 hours. Total 5 hours per week.

ITN 253 Network Troubleshooting-Cisco (4 cr.)
Centers on instruction in troubleshooting tools and techniques appropriate to the network communications environment. Course content includes workstation troubleshooting software, communication equipment troubleshooting options, and typical problems related to Switching, WAN, and routing technologies. Prerequisite: ITN 252. Lecture 3 hours. Laboratory2 hours. Total 5 hours per week.

ITN 254 Virtual Infrastructure: Installation and Configuration (4 cr.)
Explores concepts and capabilities of virtual architecture with a focus on the installation, configuration, and management of a virtual infrastructure, ESX Server, and Virtual Center. Covers fundamentals of virtual network design and implementation, fundamentals of storage area networks, virtual switching, virtual system management, and engineering for high availability. Lecture 3 hours. Laboratory 2 hours. Total 5 hours per week.

ITN 260 Network Security Basics (3-4 cr.)
Provides instruction in the basics of network security in depth. Includes security objectives, security architecture, security models and security layers; risk management, network security policy, and security training. Includes the give security keys, confidentiality integrity, availability, accountability and auditability. Lecture 3-4 hours per week.

ITN 262 Network Communication, Security and Authentication (4 cr.)
Covers an in-depth exploration of various communication protocols with a concentration on TCP/IP. Explores communication protocols from the point of view of the hacker in order to highlight protocol weaknesses. Includes Internet architecture, routing, addressing, topology, fragmentation and protocol analysis, and the use of various utilities to explore TCP/IP. Prerequisite: Cisco CCNA Certification or completion of ITN 157. Lecture 4 hours per week. Total 4 hours per week.

ITN 276 Computer Forensics I (3-4 cr.)
Teaches computer forensic investigation techniques for collecting computer-related evidence at the physical layer from a variety of digital media (hard drives, compact flash and PDAs) and performing analysis at the file system layer. Prerequisite: ITN 106, ITN 107. Co-requisite: ITN 260. Credit will be given to ITN 275 or ITN 276 and ITN 277, but not all three courses. Lecture 3-4 hours per week.

ITN 277 Computer Forensics II (3-4 cr.)
Develops skills in the forensic extraction of computer evidence at a logical level using a variety of operating systems and applications (i.e., e-mail) and learn techniques for recovering data from virtual memory, temporary Internet files, and intentionally hidden files. Prerequisite: ITN 276, Computer Forensics I. Credit will be given to ITN 275 or ITN 276 and ITN 277, but not all three courses. Lecture 3-4 hours per week.

(ITP) Information Technology Programming

ITP 100 Software Design (3 cr.)
Introduces principles and practices of software development. Course content includes instruction in critical thinking, problem solving skills, and essential programming logic in structured and object-oriented design using contemporary tools. Recommended prerequisites or co requisites: high school algebra or ITE 115. Lecture 3 hours. Total 3 hours per week.

ITP 112 Visual Basic.NET I (4 cr.)
Concentrates instruction in fundamentals of object-oriented programming using Visual Basic.NET and the .NET framework. Course content emphasizes program construction, algorithm development, coding, debugging, and documentation of graphical user interface applications. Recommended prerequisite: ITP 100. Lecture 3 hours. Laboratory 2 hours. Total 5 hours per week.

ITP 120 Java Programming I (4 cr.)
Entails instruction in fundamentals of object-oriented programming using Java. This course emphasizes program construction, algorithm development, coding, debugging, and documentation of console and graphical user interface applications. Recommended prerequisite: ITP 100.Lecture 3 hours. Laboratory 2 hours. Total 5 hours per week.

ITP 136 C# Programming I (4 cr.)
Presents instruction in fundamentals of object-oriented programming and design using C#. Course content emphasizes program construction, algorithm development, coding, debugging, and documentation of applications within the .NET Framework. Recommended prerequisite: ITP 100. Lecture 3 hours. Laboratory 2 hours. Total 5 hours per week.

ITP 140 Client Side Scripting (3 cr.)
Provides instruction in fundamentals of Internet application design, development, and deployment using client side scripting language(s). Recommended prerequisites: ITP 100, and a programming language or equivalent experience. Lecture 3 hours. Total 3 hours per week.

ITP 160 Introduction to Game Design and Development (3-4 cr.)
Introduces object-oriented game design and development. Provides overview of the electronic game design and development process and underlines the historical contest, content creation strategies, game careers, and future trends in the industry. Utilizes a game language environment to introduce game design, object-oriented paradigms, software design, software development and product testing. Teaches skills of writing a game design document and creating a game with several levels and objects. Integrate 2D animations, 3D models, sound effects, and background music as well as graphic backgrounds. Lecture 3-4 hours per week.

ITP 165 Gaming and Simulation (3-4 cr.)
Introduces students to the concepts and applications of gaming and simulation through the use of gaming and simulation tools, as well as through basic programming skills. Lecture 3-4 hours per week

ITP 212 Visual Basic.NET II (4 cr.)
Includes instruction in application of advanced object-oriented techniques to application development. Course content emphasizes database connectivity, advanced controls, web forms, and web services using Visual Basic.NET. Prerequisite: ITP 112. Lecture 3 hours. Laboratory 2 hours. Total 5 hours per week.

ITP 214 Windows Mobile Development (3-4 cr.)
Provides skills for creating mobile enterprise solutions by using the Smart Device Extensions for Microsoft Visual Studio .NET and the Microsoft .NET Compact Framework for wireless devices. Develops systems including mobile phones and a range of rich hand-held devices such as PDAs using applications utilizing the .NET Compact Framework. Covers Enterprise business applications and game applications. Lecture 3-4 hours per week.

ITP 220 Java Programming II (3-4 cr.)
Imparts instruction in application of advanced object-oriented techniques to application development using Java. Emphasizes database connectivity, inner classes, collection classes, networking, and threads. Lecture 3-4 hours per week.

ITP 224 Mobile Java ME (3-4 cr.)
Provides skills for creating Java ME applications for wireless devices. Systems will be developed for mobile phones and a range of rich hnd-held devices such as PDAs with applications utilizing the Java ME architecture and Java Specification Requests (JSRs). Lecture 3-4 hours per week.

ITP 236 C# Programming II (3-4 cr.)
Focuses instruction in advanced object-oriented techniques using C# for application development. Emphasizes database connectivity and networking using the .NET Framework. . Prerequisite: ITP 136. Lecture 3-4 hours per week.

ITP 265 Applications of Modeling and Simulation (3-4 cr.)
Expands understanding of Modeling and Simulation via the implementation of a capstone project. Continues to develop object oriented programming skills. Expands three dimensional visualization skills. Examines all aspects of the project lifecycle. Develops workplace readiness for the Modeling and Simulation industry. Lecture 3-4 hours per week.

(MAC) Machine Technology

MAC 101 Machine Shop I (7-8 cr.)
Introduces the machinist to identification, care, and use of precision tools and instruments. Emphasizes the operation of the drill press, lathe, power saw, grinder, and milling machine. covers the sharpening of lathe curring tools, safety, and good housekeeping. Provides for operation and setup on the various types of precision grinders, milling machines, and drill presses. Part I of II. Lecture 4-5 hours. Laboratory 9 hours. Total 13-14 hours per week.

MAC 102 Machine Shop II (7-8 cr.)
Introduces the machinist to identification, care, and use of precision tools and instruments. Emphasizes the operation of the drill press, lathe, power saw, grinder, and milling machine. covers the sharpening of lathe curring tools, safety, and good housekeeping. Provides for operation and setup on the various types of precision grinders, milling machines, and drill presses. Part II of II. Lecture 4-5 hours. Laboratory 9 hours. Total 13-14 hours per week.

MAC 121 Numerical Control I (2-3 cr.)
Focuses on numerical control techniques in metal forming and machine processes. Includes theory and practice in lathe and milling machine computer numerical control program writing, setup and operation. Part I of II. Prerequisite: MAC 101. Lecture 1-2 hours. Laboratory 2-3 hours. Total 3-5 hours per week.

MAC 122 Numerical Control II (2-3 cr.)
Focuses on numerical control techniques in metal forming and machine processes. Includes theory and practice in lathe and milling machine computer numerical control program writing, setup and operation. Part II of II. Prerequisites: MAC 121 and MAC 127. Lecture 1-2 hours. Laboratory 2-3 hours. Total 3-5 hours per week.

MAC 123 Computer Numerical Control III (2 -3 cr.)
Focuses on numerical control techniques in metal forming and machine processes. Includes theory and practice in lathe and milling machine computer numerical control program writing, setup and operation. Prerequisite: MAC 122. Lecture 1-2 hours. Laboratory 2-3 hours. Total 3-5 hours per week.

MAC 126 Introductory CNC Programming (3 cr.)
Introduces programming of computerized numerical control machines with hands-on programming and operation of CNC machines. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

MAC 127 Advanced CNC Programming (3 cr.)
Provides in-depth study of programming computerized numerical control machines. Prerequisite: MAC 121. Lecture 3 hours per week.

MAC 128 CNC Programming (1-2 cr.)
Teaches programming of computerized numerical control machines. Focuses on CNC machining processes. Prerequisites: MAC 122 and MAC 127. Lecture 1-2 hours per week.

MAC 131 Machine Lab I (2 cr.)
Teaches fundamental machine shop operations, bench work, layout, measuring tools, and safety. Lecture 1 hour. Laboratory 3 hours. Total 4 hours per week.

MAC 134 CMM Operation and Programming (2 cr.)
Focuses on inspection using a Coordinate Measuring Machine. Includes hands-on demonstration of CMM setup, initialization and operation. Covers the essential aspects of the software and CMM operation, using a sample part for hands-on practice. Lecture 1 hour. Lab 2 hours. Total 3 hours per week. Prerequisites: Determined by College.

MAC 150 Introduction to Computer-Aided Manufacturing (3 cr.)
Introduces computer aided manufacturing (CAM) with emphasis on programming of numerical control machinery. Teaches program writing procedures using proper language and logic and Smart Cam programming software to produce numerical control code for machines. Teaches basic computer usage, 2-D and 3-D CAD-CAM integration, and code-to machine transfer. Prerequisites: MAC 122 and MAC 222. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

MAC 161-162 Machine Shop Practices I-II (3 cr. each)
Introduces safety procedures, bench work, hand tools, precision measuring instruments, drill presses, cut-off saws, engine lathes, manual surface grinders, and milling machines. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

MAC 163-164 Machine Shop Practices III-IV (3 cr. each)
Offers practice in the operation of the drill press, engine lathe, vertical milling machine, horizontal milling machine, and the surface grinder. Introduces practical heat treatment of directly hardenable steels commonly used in machine shops. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

MAC 209 Standards, Measurements and Calculations (2-3 cr.)
Presents typical mathematical and mechanical problems requiring the use of reference standards such as the Machinery's Handbook for solution. Presents use of the Coordinate Measuring Machine for solution. Prerequisite: MAC 221. Lecture 2-3 hours per week.

MAC 221-222-223 Advanced Machine Tool Operations I-II-III (7 cr. each)
Focuses on advanced lathe and millwork with concentration on fits, finishes, inspection, quality control, and basic heat-treating. Includes design and construction of specific projects to determine the student's operational knowledge of all equipment. Lecture 4 hours. Laboratory 9 hours. Total 13 hours per week.

(MDL) Medical Laboratory

MDL 105 Phlebotomy (3- 4 cr.)
Introduces basic medical terminology, anatomy, physiology, components of health care delivery and clinical laboratory structure. Teaches techniques of specimen collection, specimen handling, and patient interactions. Lecture 2 hours. Laboratory 3-6 hours. Total 5-8 hours per week.

MDL 106 Clinical Phlebotomy (4 cr.)
Focuses on obtaining blood specimens, processing specimens, managing assignments, assisting with and/or performing specified tests, performing clerical duties and maintaining professional communication. Provides supervised learning in college laboratory/and or cooperating agencies. Lecture 2 hours. Laboratory 6 hours. Total 8 hours per week.

MDL 195 Topics in Clinical Training (1-5 cr.)
Provides an opportunity to explore topical areas of interest to or needed by students. May be repeated for credit. Variable hours.

(MEC) Mechanical Engineering Technology

MEC 100 Introduction to Engineering Technology (2 cr.)
Introduces professional fields of engineering technology. Covers the work of the engineering technologist, professional ethics, division of industrial practice, and engineering problem solving with hand calculator and computer applications. Lecture 1 hour. Laboratory 2 hours. Total 3 hours per week.

MEC 111 Materials for Industry (3 cr.)
Studies the nature, structure, properties, and typical applications of metallic, polymeric, ceramic, and composite materials. Promotes job entry understanding of basic material concepts. Focuses on applications of materials as well as the behavior of materials subjected to external stresses. Addresses as required the earth's limited material resources, energy efficient materials, dependence on foreign sources of materials, material systems, thermal processing, and electronic-related materials. Lecture 3 hours per week.

MEC 126 Computer Programming for Technologists (2 cr.)
Introduces computer software and programming. Covers programming for the microcomputer using high level languages. Teaches computer solutions of mathematical problems in applications such as circuit analysis and static equilibrium. Lecture 1 hour. Laboratory 2 hours. Total 3 hours per week.

MEC 131 Mechanics I-Statics for Engineering Technology (3 cr.)
Teaches Newton's laws, resultants and equilibrium of force systems, trusses and frames, determination of centroids, and distributed loads and moments of inertia. Introduces dry friction and force systems in space. Prerequisite: MTH 114. Lecture 3 hours per week.

MEC 132 Mechanics II (2-3 cr.)
Teaches the concepts of stress and strain. Provides an analysis of stresses and deformations in loaded members, connectors, shafts, beams, columns, and combined stress. Lecture 2-3 hours per week.

MEC 154 Mechanical Maintenance I. (3 cr.)
Provides an overview of basic maintenance techniques and processes for industrial mechanics and technicians who are installing and maintaining industrial mechanical and power transmission components. Lecture 2-3 hours. Laboratory 0-2 hours. Total 3-4 hours per week.

MEC 161 Basic Fluid Mechanics: Hydraulics/Pneumatics (3-4 cr.)
Introduces theory, operation and maintenance of hydraulic/ pneumatics devices and systems. Emphasizes the properties of fluids, fluid flow, fluid statics, and the application of Bernoulli's equation. Lecture 2-3 hours. Laboratory 2-3 hours. Total 4-6 hours per week.

MEC 162 Applied Hydraulics and Pneumatics (2-3 cr.)
Introduces hydraulic and pneumatic systems found in construction equipment, road vehicles, and farm equipment. Includes the basic theory, construction, maintenance and repair of hydraulic and pneumatic power systems. Lecture 1-3 hours. Laboratory 0-3 hours. Total 2-5 hours per week

MEC 195 Topics In (1-5 cr.)
Provides an opportunity to explore topical areas of interest to or needed by students. May be used also for special honors courses. May be repeated for credit. Variable hours.

MEC 210 Machine Design (3 cr.)
Studies the design of machine elements for producing and transmitting power. Includes additional material in statics, strength of materials, dynamics, engineering materials and industrial processes, including lubrication and friction. Emphasizes graphical kinematics of mechanisms, and discusses analytical design of machine components. Requires preparation of weekly laboratory reports. Lecture 3 hours. Total 3 hours per week.

MEC 211-212 Machine Design I-II (4 cr. each)
Introduces analytical design of bearings, clutches, coupling, brakes, springs, gearing systems, and power shafting. Emphasizes methods of construction, machine parts and specifications of materials, and manufacturing processes. Prerequisite: MEC 133 or department approval. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

MEC 226 Practical Metallurgy (3 cr.)
Studies metals and their structure. Focuses on effects of hardening, tempering, and annealing upon the structure and physical properties of ferrous and non-ferrous metals. Covers the equipment and processes in heat-treating. Lecture 3 hours. Total 3 hours per week.

MEC 254 Mechanical Maintenance II (3 cr.)
Covers advanced maintenance techniques and processes for industrial mechanics and technicians who are installing and maintaining industrial mechanical and power transmission components. Lecture 2-3 hours. Laboratory 0-2 hours. Total 3-4 hours per week.

MEC 265 Fluid Mechanics (3 cr.)
Studies properties of fluids and fluid flow, Bernoulli's theorem, measuring devices, viscosity and dimensional analysis. Emphasizes fluid statics, flow in pipes and channels, and pumps. Lecture 3 hours per week.

MEC 266 Applications of Fluid Mechanics (3-4 cr.)
Teaches theory of hydraulic and pneumatic circuits including motors, controls, actuators, valves, plumbing, accumulators, reservoirs, pumps, compressors, and filters. Lecture 3-4 hours per week.

MEC 295 Topics In (1-5 cr.)
Provides an opportunity to explore topical areas of interest to or needed by students. May be used also for special honors courses. May be repeated for credit. Variable hours.

(MKT) Marketing

MKT 100 Principles of Marketing (3 cr.)
Presents principles, methods and problems involved in the distribution and marketing of goods, services, and ideas to consumers and organizational buyers. Discusses present-day problems and policies connected with distribution and sale of products, pricing, promotion, and buyer motivation. Examines variations of the marketing mix and market research, plus legal, social and ethical considerations in marketing. Lecture 3 hours per week.

MKT 110 Principles of Selling (3 cr.)
Presents fundamental aspects of personal selling, sales, and selling methods. Emphasizes professional sales techniques and ethics. Examines organization necessary for a well-coordinated sales effort, including the training of sales personnel for maximum efficiency in selling and organization of the sales division within the business enterprise. Introduces sales management in planning, organizing, directing, and controlling the total sales effort. Lecture 3 hours per week.

MKT 170 Customer Service (1 cr.)
Introduces students to the concepts of marketing as they related to customer service. Teaches development of customer service training and implementation of strategies to improve customer relations and service. Includes lecture, role-playing and case studies. Lecture 1-2 hours per week.

MKT 216 Retail Organization and Management (3 cr.)
Examines the organization of the retail establishment to accomplish its goals in an effective and efficient manner. Includes study of site location, internal layout, store operations, and security. Examines the retailing mix, the buying or procurement process, pricing, and selling. Studies retail advertising, promotion and publicity as a coordinated effort to increase store traffic. Lecture 3 hours per week.

MKT 227 Merchandise Buying and Control (3 cr.)
Studies the merchandising cycle. Explores techniques used in the development of buying resources, merchandising plans, model stock, unit control, and inventory systems. Highlights merchandise selection, pricing strategies, and inventory control methods. Prerequisite: BUS 121, and MKT 100 or 216 or departmental approval. Lecture 3 hours per week.

MKT 228 Promotion (3 cr.)
Presents an overview of integrated marketing communications through advertising, public relations, personal selling and sales promotion. Focuses on coordinating these activities into an effective campaign to promote a particular product, business, institution or industry. Lecture 3 hours per week.

MKT 281 Principles of Internet Marketing (3 cr.)
Introduces students to Internet marketing. Discusses how to implement marketing programs strategically and tactically using online communications tools. Teaches e-marketing strategies. Lecture 3 hours per week.

MKT 297 Cooperative Education in Marketing (1-5 cr.)
Provides on-the-job training in approved business, industrial and service firms. Credit/work ratio not to exceed 1:5 hours. Variable hours per week.

MKT 298 Seminar & Project in Marketing (3 cr.)
Requires completion of a project or research report related to the student's occupational objectives and a study of approaches to the selection and pursuit of career opportunities in the field. May be repeated for credit. Prerequisite: Sophomore standing in the marketing curriculum, plus ACC 111 (or departmental approval). Lecture 3 hours per week.

(MTE) Mathematics Essentials

MTE 1 Operations with Positive Fractions (1 cr.)
Includes operations and problem solving with proper fractions, improper fractions, and mixed numbers without use of a calculator. Emphasizes applications and includes U.S. customary units of measure. Credit is not applicable toward graduation. Prerequisite: Qualifying placement score. Lecture 1 hour per week.

MTE 2 Operations With Positive Decimals and Percents (1 cr.)
Includes operations and problem solving with positive decimals and percents. Emphasizes applications and includes U.S. customary and metric units of measure. Credit is not applicable toward graduation. Prerequisite: MTE 1 or qualifying placement score. Lecture 1 hour per week.

MTE 3 Algebra Basics (1 cr.)
Includes basic operations with algebraic expressions and solving simple algebraic equations using signed numbers with emphasis on applications. Credit is not applicable toward graduation. Prerequisite: MTE 2 or qualifying placement score. Lecture 1 hour per week.

MTE 4 First Degree Equations and Inequalities in One Variable (1 cr.)
Includes solving first degree equations and inequalities containing one variable, and using them to solve application problems. Emphasizes applications and problem solving. Credit is not applicable toward graduation. Prerequisite: MTE 3 or qualifying placement score. Lecture 1 hour per week.

MTE 5 Linear Equations, Inequalities and Systems of Linear Equations in Two Variables (1 cr.)
Includes finding the equation of a line, graphing linear equations and inequalities in two variables and solving systems of two linear equations. Emphasizes writing and graphing equations using the slope of the line and points on the line, and applications. Credit is not applicable toward graduation. Prerequisite: MTE 4 or qualifying placement score. Lecture 1 hour per week.

MTE 6 Exponents, Factoring and Polynomial Equations (1 cr.)
Teaches operations on exponential expressions and polynomials. Focuses on techniques to factor polynomials and solve polynomial equations. Emphasis is on learning different factoring methods and solving application problems using polynomial equations. Credit is not applicable toward graduation. Prerequisite: MTE 5 or qualifying placement score. Lecture 1 hour per week.

MTE 7 Rational Expressions and Equations (1 cr.)
Includes simplifying rational algebraic expressions, solving rational algebraic equations and solving applications that use rational algebraic equations. Credit is not applicable toward graduation. Prerequisite: MTE 6 or qualifying placement score. Lecture 1 hour per week.

MTE 8 Rational Exponents and Radicals (1 cr.)
Includes simplifying radical expressions, using rational exponents, solving radical equations and solving applications using radical equations. Credit is not applicable toward graduation. Prerequisite: MTE 7 or qualifying placement score. Lecture 1 hour per week.

MTE 9 Functions, Quadratic Equations and Parabolas (1 cr.)
Includes an introduction to functions in ordered pair, graph, and equation form. Introduces quadratic functions, their properties and their graphs. Credit is not applicable toward graduation. Prerequisite: MTE 8 or qualifying placement score. Lecture 1 hour per week.

(MTH) Mathematics

MTH 103-104 Applied Technical Mathematics I-II (3 cr. each)
Presents a review of arithmetic, elements of algebra, geometry, and trigonometry. Directs applications to specialty areas. Prerequisites: a placement recommendation for MTH 103 and one unit of high school mathematics or equivalent. Lecture 3 hours per week.

MTH 115 Technical Mathematics I (3 cr.)
Presents algebra through exponential and logarithmic functions, trigonometry, vectors, analytic geometry, and complex numbers. Lecture 3 hours per week.

MTH 116 Technical Mathematics II (3 cr.)
Presents algebra through exponential and logarithmic functions, trigonometry, vectors, analytic geometry, and complex numbers. Lecture 3 hours per week.

MTH 120 Introduction to Mathematics (3 cr.)
Introduces number systems, logic, basic algebra, and descriptive statistics. Prerequisites: a placement recommendation for MTH 120 and one unit of high school mathematics or equivalent. (Intended for occupational/technical programs.) Lecture 3 hours per week.

MTH 121-122 Fundamentals of Mathematics I-II (3 cr. each)
Covers concepts of numbers, fundamental operations with numbers, formulas and equations, graphical analysis, binary numbers, Boolean and matrix algebra, linear programming, and elementary concepts of statistics. Prerequisites: placement recommendation for MTH 121 and one unit of high school mathematics or equivalent. (Intended for occupational/technical programs.) Lecture 3 hours per week.

MTH 126 Mathematics for Allied Health (2-3 cr.)
Presents scientific notation, precision and accuracy, decimals and percents, ratio and proportion, variation, simple equations, techniques of graphing, use of charts and tables, logarithms, and the metric system. Prerequisites: a placement recommendation for MTH 126 and one unit of high school mathematics or equivalent. Lecture 2-3 hours per week.

MTH 151 Mathematics for the Liberal Arts I (3 cr.)
Presents topics in sets, logic, numeration systems, geometric systems, and elementary computer concepts. Lecture 3 hours per week.

MTH 157 Elementary Statistics (3 cr.)
Presents elementary statistical methods and concepts including descriptive statistics, estimation, hypothesis testing, linear regression, and categorical data analysis. (Credit will not be awarded for both MTH 157 and MTH 240 or MTH 157). Lecture 3 hours per week.

MTH 158 College Algebra (3 cr.)
Covers the structure of complex number systems, polynomials, rational expressions, graphing, systems of equations and inequalities and functions, quadratic and rational equations and inequalities. Lecture 3 hours per week.

MTH 163 Precalculus I (3 cr.)
Presents college algebra, matrices, and algebraic, exponential, and logarithmic functions. Prerequisites: a placement recommendation for MTH 163. (Credit will not be awarded for both MTH 163 and MTH 166.) Lecture 3 hours per week.

MTH 164 Precalculus II (3 cr.)
Presents trigonometry, analytic geometry, and sequences and series. Prerequisite: MTH 163 or equivalent. (Credit will not be awarded for both MTH 164 and MTH 168.) Lecture 3 hours per week.

MTH 166 Precalculus with Trigonometry (4-5 cr.)
Presents college algebra, analytic geometry, trigonometry, and algebraic exponential and logarithmic functions. Prerequisite: a placement recommendation for MTH 166. (Credit will not be awarded for both MTH 163 and MTH 166). Lecture 4-5 hours per week.

MTH 173 Calculus with Analytic Geometry I (5 cr.)
Presents analytic geometry and the calculus of algebraic transcendental functions including the study of limits, derivatives, differentials, and introduction to integration along with their applications. Designed for mathematical, physical, and engineering science programs. Prerequisites: a placement recommendation for MTH 173 and four units of high school mathematics including Algebra I, Algebra II, Geometry and Trigonometry or equivalent. Completion of MTH 163 or MTH 166 is highly recommended. (Credit will not be awarded for more than one of MTH 173, MTH 175, or MTH 273.) Lecture 5 hours per week.

MTH 174 Calculus with Analytic Geometry II (5 cr.)
Continues the study of analytic geometry and the calculus of algebraic and transcendental functions including rectangular, polar, and parametric graphing, indefinite and definite integrals, methods of integration, and power series along with applications. Designed for mathematical, physical, and engineering science programs. Prerequisite: MTH 173 or equivalent. (Credit will not be awarded for more than one of MTH 174, MTH 176, or MTH 274.) Lecture 5 hours per week.

MTH 175 Calculus of One Variable I (3 cr.)
Presents differential calculus of one variable including the theory of limits, derivatives, differentials, anti-derivatives and applications to algebraic and transcended functions. Designed for mathematical, physical, and engineering science programs. Prerequisites: a placement recommendation for MTH 175 and four units of high school mathematics including Algebra I, Algebra II, Geometry and Trigonometry or equivalent. Completion of MTH 163 or MTH 166 is highly recommended. (Credit will not be awarded for more than one of MTH 173, MTH 175 or MTH 273.) Lecture 3 hours per week.

MTH 176 Calculus of One Variable II (3 cr.)
Continues the study of integral calculus of one variable including indefinite integral, definite integral and methods of integration with applications to algebraic and transcended functions. Designed for mathematical, physical, and engineering science programs. Prerequisite: MTH 175 or equivalent. (Credit will not be awarded for more than one of MTH 174, MTH 176 or MTH 274.) Lecture 3 hours per week.

MTH 177 Introductory Linear Algebra (2 cr.)
Covers matrices, vector spaces, determinants, solutions of systems of linear equations, and eigen values. Designed for mathematical, physical, and engineering science programs. Co-requisite: MTH 175. Completion of MTH 163 or MTH 166 is required. Lecture 2 hours per week.

MTH 240 Statistics (3 cr.)
Presents an overview of statistics, including descriptive statistics, elementary probability, probability distributions, estimation, hypothesis testing, and correlation and regression. Prerequisite: Completion of MTH 163 or equivalent. Lecture 3 hours per week.

MTH 241 Statistics I (3 cr.)
Covers descriptive statistics, elementary probability, probability distributions, estimation, and hypothesis testing. Prerequisites: Completion of MTH 163 or equivalent. Lecture 3 hours per week.

MTH 242 Statistics II (3 cr.)
Continues the study of estimation and hypothesis testing with emphasis on correlation and regression, analysis of variance, chi-square tests, and non-parametric methods. Prerequisite: MTH 241 or equivalent. Lecture 3 hours per week.

MTH 271 Applied Calculus I (3 cr.)
Presents limits, continuity, differentiation of algebraic and transcendental functions with applications, and an introduction to integration. Prerequisite: MTH 163 or MTH 166 or equivalent. (Credit will not be awarded for both MTH 270 and MTH 271.) Lecture 3 hours per week.

MTH 272 Applied Calculus II (3 cr.)
Covers techniques of integration, multivariable calculus, and an introduction to differential equations. Prerequisite: MTH 271 or equivalent. Lecture 3 hours per week.

MTH 273 Calculus I (4 cr.)
Presents topics in differential calculus of one variable including the theory of limits, derivatives, differentials, definite and indefinite integrals and applications to algebraic and transcendental functions. Designed for mathematical, physical, and engineering science programs. Prerequisites: a placement recommendation for MTH 273. Completion of MTH 163 or MTH 166 is highly recommended. (Credit will not be awarded for more than one of the MTH 173, MTH 175 or MTH 273.) Lecture 4 hours per week.

MTH 274 Calculus II (4 cr.)
Covers vectors in three dimensions, definite integrals, methods of integration, indeterminate forms, partial differentiation, and multiple integrals. Designed for mathematical, physical, and engineering science programs. Prerequisite: MTH 273 or equivalent. (Credit will not be awarded for more than one of MTH 174, MTH 176 or MTH 274.) Lecture 4 hours per week.

MTH 277 Vector Calculus (4 cr.)
Presents vector valued functions, partial derivatives, multiple integrals, and topics from the calculus of vectors. Designed for mathematical, physical, and engineering science programs. Prerequisite: MTH 174 or equivalent. Lecture 4 hours per week.

MTH 279 Ordinary Differential Equations (4 cr.)
Introduces ordinary differential equations. Includes first order differential equations, second and higher order ordinary differential equations with application. Designed for mathematical, physical, and engineering science programs. Prerequisite: MTH 174 or equivalent. Lecture 4 hours per week.

MTH 285 Linear Algebra (3 cr.)
Covers matrices, vector spaces, determinants, solutions of systems of linear equations, basis and dimension, eigen values, and eigen vectors. Designed for mathematical, physical and engineering science programs. Prerequisite: MTH 174 or equivalent. Lecture 3 hours per week.

MTH 295 Topics in: (1-5 cr.)
Provides an opportunity to explore topical areas of interest to or needed by students. May be also used for special honors courses. May be repeated for credit. Variable hours.

(MTS) Motorsports Management and Technology

MTS 105 Fundamentals of Motorsports Technology (3 cr.)
Introduces manual transmissions and differentials used in Stock car racing. Demonstrates and performs installation, repair, and maintenance of stock care repair, and maintenance of stock car manual gearboxes and final drive units. Prerequisites: ENG 03, ENG 05. Lecture 1 hour. Laboratory 4 hours. Total 5 hours per week.

MTS 120 Introduction to Motorsports Technology (3 cr.)
Introduces the student to a survey of the Motorsports Industry. Exploses the student to a broad overview of the industry, terminology and technology associated with developing a competition racecar. Lecture 3 hours per week.

MTS 125 Motorsports Technology I (3 cr.)
Introduces the student to the various systems of the racecar. Focuses on the inter-related functions and the theoretical concepts of the high performance race engine. Emphasizes hands-on skills with identification and installation of component parts of a race engine. Prerequisite: MTS 120. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

MTS 126 Motorsports Technology II (3 cr.)
Introduces the student to charging, ignition systems and fuel systems of Stock car racing. Provides hands-on experience with specialized ignition systems, charging systems, fuel cells, fuel delivery, carburetion, and backup systems. Prerequisite: MTS 125. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

MTS 130 Motorsports Structural Technology I (3 cr.)
Introduces the student to the basic design and fabrication of a racecar. Develops skills for use of the tools, equipment, and materials in the production of a racecar. Emphasizes safety, accuracy, and aesthetics of the racecar and the work environment. Prerequisite(s): MTS 125 and WEL 130. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

MTS 135 Sheet Metal Fabrication (3 cr.)
Introduces sheet metal terminology, fabrication, and installation for covering structural framework of race cars. Provides project oriented, problem-based experiences with equipment and machinery used in the Motorsports industry. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

(MUS) Music

MUS 121-122 Music Appreciation I-II (3 cr. each)
Increases the variety and depth of the student's interest, knowledge, and involvement in music and related cultural activities. Acquaints the student with traditional and twentieth century music literature, emphasizing the relationship music has as an art form with man and society. Increases the student's awareness of the composers and performers of all eras through listening and concert experiences. Lecture 3 hours per week.

MUS 131-132 Class Voice I-II (2 cr. each)
Introduces the many aspects of singing from the physical act through the aesthetic experience. The course is designed for the beginning singer who desires vocal improvement, and for the voice major as an addition to and extension of skills and knowledge necessary for artistic development. Introduces appropriate repertoire. Lecture 1 hour per week. Laboratory 2 hours per week. Total 3 hours per week.

(NAN) Nanotechnology

NAN 100 Applied Physics and Chemistry for Technicians in Nanotechnology Industry (3 cr.)
Introduces the principles of the physics and the chemistry associated with the fabrication of nanomaterials. Prepares students to study nanomaterials at the level of technician in the nanotechnology industry. Lecture 3 hours per week.

NAN 101 - Introduction to Nanomaterials and Processes (3 cr.)
Introduces students to the scientific concepts associated with nanomaterials and fabrication. Provides an overview of the equipment, materials, and safety protocols of a standard nanomaterials laboratory. Lecture 3 hours per week.

NAN 200 Fundamentals of Nanotechnology (4 cr.)
Focuses on nanotechnology imaging and fabrication. Develops proficiency in using nanomaterials laboratory equipment to investigate nanotechnology. Prerequisite: NAN 101. Lecture 2 hours per week. Laboratory 2 hours. Total: 4 hours per week.

NAN 205 Measurement and Characterization of Nanotechnology (4 cr.)
Introduces students to the precision equipment of a nanomaterials laboratory. Develops proficiency in using precision equipment in a nanomaterials laboratory. Prerequisite: NAN 200. Lecture 2 hours. Laboratory 2 hours. Total: 4 hours per week.

NAN 208 Applications of Nanotechnology (3 cr.)
Examines the practical applications of nanotechnology in solving real-world problems in biomedicine, energy, polymer science, optics, environmental conservation, and engineering. Prepares students for professional communication with future employers and provides links to internship opportunities with companies in the nanotechnology industry. Prerequisite: NAN 205. Lecture 3 hours per week.

(NAS) Natural Sciences

NAS 105 Natural Science Topics for Modern Society (3 cr.)
Emphasizes method of the scientific disciplines as applied to selected topics pertinent to modern society. Lecture 3 hours per week.

NAS 110 Elementary Physical Science (3 cr.)
Introduces physical concepts such as measurements, mechanics, heat, light, and electricity and magnetism. Lecture 2 hours per week. Recitation and laboratory 2 hours per week. Total 4 hours per week.

NAS 185 Microbiology (4 cr.)
Surveys microorganisms, presenting their characteristics and activities as related to health and disease. Lecture 3 hours. Recitation and laboratory 2-3 hours. Total 5-6 hours per week. Prerequisites: a passing grade in either high school biology or BIO 101, or divisional approval.

(NUR) Nursing

NUR 25 Nursing Assistant (3 cr.)
Teaches fundamentals of patient care with laboratory experience in foods and fluids, elimination, moving patients, morning, afternoon and evening care, care of hospital equipment, means of providing special comforts and safety, and admission and discharge procedures. Lecture 2 hours. Laboratory 4 hours. Total 6 hours per week.

NUR 27 Nurse Aide I (3 cr.)
A course providing theory in basic nursing care of the resident in the long-term care facility or home setting. This course will follow the Virginia State Health Department and Virginia Board of Nursing Curriculum. It is offered in conjunction with NUR 25 and NUR 98.

NUR 98 Seminar & Project (3 cr.)
A course providing theory, demonstration and practical clinical experience in measuring vital signs. It is offered concurrently in conjunction with NUR 27 and NUR 25.

NUR 100 Introduction to Nursing and Health (1-2 cr.)
Introduces concepts of nursing and health. Includes historical and cultural aspects, legal, and ethical responsibilities and an overview of health and the health care delivery system. Lecture 1-2 hours per week.

NUR 111 Nursing I (7 cr.)
Introduces nursing principles including concepts of health and wellness and the nursing process. Develops nursing skills to meet the biopsychosocial needs of individuals across the lifespan. Includes math computational skills, basic computer instruction related to the delivery of nursing care, communication skills, introduction to nursing, health, the health care system, legal aspects of nursing care, diagnostic testing, assessment, teaching and learning, asepsis, body mechanics and safety, personal care, activity/rest, wound care, nutrition, elimination, oxygenation, fluid and electrolytes, pain control, medication administration, aging populations and pre/post-operative care. Provides supervised learning experiences. Lecture 1-7 hours. Laboratory 2-21 hours. Total 9-22 hours per week.

NUR 112 Nursing II (8 cr.)
Focuses on the nursing care of adults experiencing changes along the health/illness continuum that are common, well-defined, and have predictable outcomes. Includes math computational skills, basic computer instruction related to the delivery of nursing care; acid-base balance, gastrointestinal, genitourinary, musculoskeletal; immunology, oncology, sensorineural, infectious diseases, endocrine, respiratory and blood disorders and care of the dying client. Provides supervised learning experiences in college nursing laboratories and/or cooperating agencies. Lecture 1-7 hours. Laboratory 3-21 hours. Total: 9–22 hours per week.

NUR 114 Geriatric Nursing (3-4 cr.)
Presents theoretical and clinical nursing aspects of the aging population. Includes the aging process, psychological aspects, common age-related disorders, pharmacologic aspects, care facilities, and relationships between elders and caregivers. Lecture 1-4 hours. Laboratory 0-9 hours. Total 3-13 hours per week.

NUR 135 Drug Dosage Calculations (1 cr.)
Focuses on apothecary, metric, household conversion in medication dosage calculation for adult and pediatric clients. Provides a practical approach to learning to calculate and prepare medications and solutions. Includes calculating intravenous flow rates. Lecture 1-2 hours per week.

NUR 202 Medical/Surgical Nursing I (4 cr.)
Focuses on the care of individuals/families requiring complex or surgical treatment. Uses all components of the nursing process with increasing degrees of skill. Includes math computational skills and basic computer instruction related to the delivery of nursing care; cardiac, neurological, renal, burn disorders and clients experiencing shock. Provides supervised learning experiences in college nursing laboratories and/or cooperating agencies. Lecture 1-3 hours. Laboratory 2-9 hours. Total 5-10 hours per week.

NUR 208 Acute Medical-Surgical Nursing (5 cr.)
Focuses on the use of nursing process to provide care to individuals/families with acute medical or surgical problems or to prevent such problems. Includes math computational skills and basic computer instruction related to the delivery of nursing care. Provides supervised learning experiences in cooperating agencies. Lecture 1-5 hours. Laboratory 2-15 hours. Total 7-16 hours per week.

NUR 226 Health Assessment (3 cr.)
Introduces the systematic approach to obtaining a health history and performing a physical assessment. Lecture 0-2 hours. Laboratory 2-9 hours. Total 3-9 hours per week.

NUR 230 Pharmacology (3 cr.)
Introduces general principles of drug action, pharmacology of the major drug classes, and specific agents within each class. Includes math calculations necessary to adapt dosages to the multidimensional needs of individuals across the lifespan. Lecture 3 hours per week.

NUR 245 Maternal/Newborn Nursing (3 cr.)
Develops nursing skills in caring for families in the antepartum, intrapartum, and post-partum periods. Lecture 1-3 hours. Laboratory 0-9 hours. Total 3-9 hours per week.

NUR 246 Parent/Child Nursing (3 cr.)
Develops nursing skills in caring for both well and ill children in a variety of settings. Emphasizes theories of growth and development and the family as a unit. Lecture 1-3 hours. Laboratory 0-9 hours. Total 3-9 hours per week.

NUR 247 Psychiatric/Mental Health Nursing (3 cr.)
Develops nursing skills in caring for individuals, families, and/or groups with mental health needs. Explores various treatment models, diagnostic categories, and rehabilitative measures. Lecture 1-3 hours. Laboratory 0-9 hours. Total 3-9 hours per week.

NUR 254 Dimensions of Professional Nursing (2 cr.)
Explores the role of the professional nurse. Emphasizes nursing organizations, legal and ethical implications, and addresses trends in management and organizational skills. Explores group dynamics, relationships, conflicts, and leadership styles. Lecture 1-2 hours per week.

(PBS) Public Service

PBS 120 Introduction to Community and Social Service (3 cr.)
Examines the basic principles, scope and functions of community and social service work including practices and current trends. Examines institutions to determine why they change, or fail to change. Introduces students to careers in community and social service work at federal, state, and municipal levels. Lecture 3 hours per week.

PBS 265 Interviewing (3 cr.)
Analyzes the principles and techniques of interviewing in various organizational settings. Examines reliability and validity of information gained through information interviewing, employment and selection interviewing, performance appraisal and disciplinary interviewing, as well as counseling interviewing. Lecture 3 hours per week.

(PED) Physical Education and Recreation

PED 103-104 Aerobic Fitness I-II (1-2 cr. each)
Develops cardiovascular fitness through activities designed to elevate and sustain heart rates appropriate to age and physical conditions. Variable hours per week.

PED 107-108 Exercise and Nutrition I-II (1-2 cr.)
Provides for the study and application of fitness and wellness and their relationship to a healthy lifestyle. Defines fitness and wellness, evaluates the student's level of fitness and wellness. Students will incorporate physical fitness and wellness into the course and daily living. A personal fitness/wellness plan is required for the 2 credit course. Lecture 0-1 hours. Laboratory 2-4 hours. Total 2-4 hours per week.

PED 109 Yoga (1-2 cr.)
Focuses on the forms of yoga training emphasizing flexibility. Lecture 1-2 hours. Laboratory 0-2 hours. Total 1-3 hours per week.

PED 110 Zumba 1-2 cr.)
Focuses on Latin rhythms, dance moves and techniques in Zumba. Utilizes physical activity, cardiovascular endurance, balance, coordination and flexibility as related to dance. Lecture 0-1 hours. Laboratory 1-2 hours. 2-3 hours per week.

PED 111-112 Weight Training I-II (1-2 cr. each)
Focuses on muscular strength and endurance training through individualized workout programs. Teaches appropriate use of weight training equipment. Variable hours per week.

PED 117 Fitness Walking (1 cr.)
Teaches content and skills needed to design, implement, and evaluate an individualized program of walking, based upon fitness level. Laboratory 2 hours per week.

PED 118 Baseball Fundamentals I (1-2 cr.)
Enhances the mental and physical ability of students for playing the sport of baseball. Introduces skills of weight training, flexibility, fielding, throwing, hitting, pitching, and position play. Explains the history of the sport and provides students an understanding of and respect for the game and its role in society. Lecture 0-1 hours. Laboratory 2-4 hours. Total 2-4 hours per week.

PED 119 Baseball Fundamentals II (1-2 cr.)
Continues to enhance the mental and physical ability of students for playing the sport of baseball. Continues to teach the skills necessary to play the sport. Provides students with the opportunity to evaluate, train, and coach players in order to enhance others' playing abilities. Provides an understanding of the multiple processes involved in forming a baseball team. Lecture 0-1 hours. Laboratory 2-4 hours. Total 2-4 hours per week.

PED 123-124 Tennis I-II (1-2 cr. each)
Teaches tennis skills with emphasis on stroke development and strategies for individual and team play. Includes rules, scoring, terminology, and etiquette. Variable hours per week.

PED 133 Golf I (1-2 cr.)
Teaches basic skills of golf, rules, etiquette, scoring, terminology, equipment selection and use, and strategy. Part I of II.
Lecture 0-1 hours. Laboratory 2-4 hours. Total 2-4 hours per week.

PED 135-136 Bowling I-II (1-2 cr. each)
Teaches basic bowling skills and techniques, scoring, rules, etiquette, and terminology. Variable hours per week.

PED 141-142 Swimming I-II (1-2 cr. each)
Introduces skills and methods of swimming strokes. Focuses on safety and physical conditioning. Variable hours per week.

PED 149 Cardio Sculpt I (1-2 cr.)
Combines strength training and cardiovascular workouts that strengthen the major muscle groups as well as developing endurance. Utilizes the use of weights, balls and bands, fitness equipment or a combination thereof that promote cardiovascular endurance and develops muscle strength. Benefits all levels of participation. Lecture 0-2 hours. Laboratory 2-4 hours. Total 2-4 hours per week.

PED 160 Modern Dance (1-2 cr.)
Teaches the basic techniques of creative dance. Skills include self-expression, contemporary routines, dance forms, and basic choreography. Lecture 1-2 hours. Laboratory 0-2 hours. Total 1-3 hours per week.

PED 170 Tai Chi I (1-2 cr.)
Develops an understanding of the Theories and practices of Tai Chi. Explores the energy of exercise that will tone muscles, improve circulation and increase flexibility and balance. Discusses history and philosophy of exercise and relaxation techniques for stress reduction. Lecture 0-1 hours. Laboratory 2-4 hours. Total 2-4 hours per week.

PED 195 Topics in: (1-5 cr.)
Provides an opportunity to explore topical areas of interest to or needed by students. May be also used for special honors courses. May be repeated for credit. Variable hours.

PED 206 Sports Appreciation (2 cr.)
Focuses on the history, trends, rules, methods, strategy, and terminology of selected sports activities. Provides student awareness as a spectator and/or participant. Lecture 2 hours per week.

PED 245 Lifeguard Training (2 cr.)
Introduces basic swimming and non-swimming rescues, swimming approaches and carries, water survival, first aid and safety. Focuses on preparation for the American Red Cross Lifeguard Certificate. Prerequisite: Ability to swim continuously for 500 yards for a minimum of 100 yards each of crawl/freestyle, breaststroke, and sidestroke; submerge to a minimum of 7 feet, retrieve a 10 pound object and return it to the surface; tread water for 2 minutes using legs only; and be 15 years of age by the first class. Lecture 1 hour. Laboratory 2 hours. Total 3 hours per week.

PED 270 Tai Chi II (1 cr.)
Develops an understanding of the Theories and practices of Tai Chi. Explores the energy of exercise that will tone muscles, improve circulation and increase flexibility and balance. Discusses history and philosophy of exercise and relaxation techniques for stress reduction. Lecture 0-1 hours. Laboratory 2-4 hours. Total 2-4 hours per week.

(PHI) Philosophy

PHI 100 Introduction to Philosophy (3 cr.)
Presents an introduction to philosophical problems and perspectives with emphasis on the systematic questioning of basic assumptions about meaning, knowledge, reality, and values. Requires ENG 111 eligibility. Lecture 3 hours/week.

PHI 115 Practical Reasoning (3 cr.)
Studies informal logic and language techniques as they relate to reasoning and argument. Provides practice in analyzing arguments and constructing sound arguments. Requires ENG 111 eligibility. Lecture 3 hours per week.

PHI 220 Ethics (3 cr.)
Provides a systematic study of representative ethical systems. Requires ENG 111 as a co-requisite. Lecture 3 hours per week.

PHI 226 Social Ethics (3 cr.)
Provides a critical examination of moral problems and studies the application of ethical concepts and principles to decision-making. Topics may include abortion, capital punishment, euthanasia, man and the state, sexuality, war and peace, and selected issues of personal concern. Requires ENG 111 as a co-requisite. Lecture 3 hours per week.

(PHT) Photography

PHT 100 Introduction to Photography (3 cr.)
Introduces principles of photography with outside shooting assignments related to lecture topics. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

PHT 101 Photography I (3 cr.)
Teaches principles of photography and fundamental camera techniques. Requires outside shooting and lab work. Lecture 1 hour. Laboratory 4 hours. Total 5 hours per week.

PHT 195 Topics In (1-5 cr.)
Provides an opportunity to explore topical areas of interest to or needed by students. May be used also for special honors courses. May be repeated for credit. Variable hours.

PHT 295 Topics In (1-5 cr.)
Provides an opportunity to explore topical areas of interest to or needed by students. May be used also for special honors courses. May be repeated for credit. Variable hours.

PHT 298 Seminar and Project (1-5 cr.)
Requires completion of a project or research report related to the student's occupational objectives and a study of approaches to the selection and pursuit of career opportunities in the field. May be repeated for credit. Variable hours.

(PHY) Physics

PHY 130 Survey of Applied Physics (3 cr.)
Surveys topics such as heat, electricity, and light with emphasis on practical applications. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

PHY 201-202 General College Physics I-II (4 cr. each)
Teaches fundamental principles of physics. Covers mechanics, thermodynamics, wave phenomena, electricity and magnetism, and selected topics in modern physics. Prerequisites: MTH 163 or MTH166 equivalent. Lecture 3 hours. Laboratory 3 hours. Total 6 hours/week.

PHY 241-242 University Physics I-II (4 cr. each)
Teaches principles of classical and modern physics. Includes mechanics, wave phenomena, heat, electricity, magnetism, relativity, and nuclear physics. Prerequisite for PHY 241: MTH 173 or MTH 273 or divisional approval. Prerequisite for PHY 242: MTH 174 or MTH 274 or divisional approval. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

(PLS) Political Science

PLS 211, PLS 212 U.S. Government I-II (3 cr. each)
Teaches structure, operation, and process of national, state, and local governments. Includes in-depth study of the three branches of the government and of public policy. Lecture 3 hours per week.

PLS 241 International Relations I (3 cr.)
Teaches geographic, demographic, economic, ideological, and other factors conditioning the policies of countries and discusses conflicts and their adjustment. Lecture 3 hours per week.

PLS 242 International Relations II (3 cr.)
Teaches foreign policies of the major powers in the world community with an emphasis on the role of the United States in international politics. Lecture 3 hours per week.

(PNE) Practical Nursing

PNE 135 Maternal and Child Health Nursing (5 cr.)
Examines pregnancy, childbirth, and postpartum and newborn care from a family centered approach. Covers complications related to childbearing. Emphasizes growth and development and exploration of common childhood disorders at various stages. Lecture 4 hours. Laboratory 3 hours. Total 7 hours per week.

PNE 145 Trends in Practical Nursing (1 cr.)
Studies the role of the Licensed Practical Nurse. Covers legal aspects, organizations, and opportunities in practical nursing. Assists students in preparation for employment. Lecture 1 hour per week.

PNE 146 Fundamentals of Practical Nursing (6 cr.)
Introduces students to practical nursing history, legal and ethical aspects, and current trends. Teaches nursing knowledge and skills with emphasis on meeting basic patient needs. Utilizes nursing process. Provides learning experiences through classroom instruction, laboratory practices, and supervised clinical experience. Lecture 2 hours. Laboratory 12 hours. Total 14 hours per week.

PNE 151 Medical-Surgical Nursing II (4 cr.)
Studies etiology, symptoms, prescribed treatment, and experiences in the nursing care of patients with selected disorders. Selects learning experiences to correlate related patient care with classroom instruction whenever possible. Provides observational experiences when available. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

PNE 152 Medical-Surgical Nursing II (4-5 cr.)
Studies etiology, symptoms, prescribed treatment, and experiences in the nursing care of patients with selected disorders. Lecture 3-4 hours. Laboratory 3-6 hours. Total 6-9 hours per week.

PNE 155 Body Structure and Function (3-4 cr.)
Studies the structure and function of the body. Lecture 3-4 hours per week.

PNE 158 Mental Health and Psychiatric Nursing (1-2 cr.)
Recognizes emotional needs of patients. Provides knowledge of the role that emotions play. Enables students to understand their own behavior as well as patient behavior. Lecture 1-2 hours per week.

PNE 161 Nursing in Health Changes I (6-7 cr.)
Focuses on nursing situations and procedures necessary to assist individuals in meeting special needs related to human functions. Lecture 2-4 hours. Laboratory 6-15 hours. Total 10-17 hours per week.

PNE 162 Nursing in Health Changes II (10-11 cr.)
Continues the focus on nursing situations and procedures necessary to assist individuals in meeting special needs related to human functions. Lecture 4-6 hours. Laboratory 12-21 hours. Total 18-25 hours per week.

PNE 163 Nursing in Health Changes III (8-9 cr.)
Continues the focus on nursing situations and procedures necessary to assist individuals in meeting special needs related to human functions. Lecture 4-5 hours. Laboratory 9-15 hours. Total 14-19 hours per week.

PNE 173 Pharmacology for Practical Nurses (1-2 cr.)
Studies history, classification, sources, effects, uses and legalities of drugs. Teaches problem solving skills used in medication administrations. Emphasizes major drug classes and specific agents within each class. Lecture 1-2 hours per week.

PNE 174 Applied Pharmacology for Practical Nurses (1-2 cr.)
Applies problem-solving skills in preparing and administering medications. Lecture 0-1 hour. Laboratory 3-6 hours. Total 3-6 hours per week.

PNE 181-182 Clinical Experience I-II (5 cr. each)
Provides guided nursing experiences in the hospital setting. Practices skills and applies principles of nursing basic areas. Includes supervision in administration of medicines. Encourages students to develop basic skills in analyzing patient needs and making nursing decisions. Laboratory 15-18 hours per week.

PNE 195 Topics in: (1-5 cr.)
Provides an opportunity to explore topical areas of interest to or needed by students. Variable hours.

(PNT) Printing

PNT 110 Survey of Reproduction Processes (3 cr.)
Presents history of printing, job safety, and career opportunities. Evaluates various printing processes including letterpress, offset, gravure, heat transfer, flexographic and screen printing. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

PNT 130 Applied Math for the Graphics Industry (3 cr.)
Presents math skills as it relates to the graphics industry. Students will develop the computational skills necessary to prepare illustrations and photographs, computer page layouts, calculate paper stock and ink needs. Lecture 2 hours, Laboratory 2 hours. Total 4 hours per week.

PNT 131 Principles of Lithography I (4 cr.)
Presents principles of lithography printing, its safety practices and equipment operation. Covers job planning, copy preparation, stripping, pre-sensitized plates, small press operation, ink, paper handling, finishing operations. Co-requisite: PNT 135 or department approval. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

PNT 132 Principles of Lithography II (4 cr.)
Studies lithographic process including more complex types of production techniques and operations. Covers close register work, 2-color printing, types of imposition, ruled forms, scribing, stripping multiple page flats. Prerequisite: PNT 131 or department approval. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

PNT 135 Print Imaging (2 cr.)
This course is designed to introduce the student of graphic imaging as it relates to the printing industry. Specific topics will include capturing and reproduction of line art, line copy and continuous tone by conventional and electronic methods. Co-requisite: PNT 131 or departmental approval. Lecture 1 hour. Laboratory 3 hours. Total 4 hours per week.

PNT 141 Printing Applications I (3 cr.)
Provides instruction in the production of college-related publications and print shop management. Provides classroom and laboratory experiences in photography, layout and design, copy preparation, presswork, inventory control and production management. Lecture 1 hour. Laboratory 4 hours. Total 5 hours per week.

PNT 142 Printing Applications II (3 cr.)
Provides instruction in the production of college-related publications and print shop management. Provides classroom and laboratory experiences in photography, layout and design, copy preparation, presswork, inventory control and production management. Lecture 1-2 hours. Laboratory 2-4 hours. Total 3-6 hours per week.

PNT 211 Electronic Publishing I (3 cr.)
Teaches principles of typography and graphics, word processing and page layout. Survey of electronic publishing, hardware systems, peripherals, laser printers and image setters. Concentrated use of application software utilizing Macintosh microcomputers to achieve a high degree of proficiency in completing a variety of laboratory projects. Prerequisite: PNT 132; Co-requisite: PNT 221 or department approval. Lecture 2 hours, laboratory 2 hours. Total 4 hours per week.

PNT 212 Electronic Publishing II (3 cr.)
Teaches principles of typography and graphics, word processing and page layout. Survey of electronic publishing, hardware systems, peripherals, laser printers and image setters. Concentrated use of application software utilizing Macintosh microcomputers to achieve a high degree of proficiency in completing a variety of laboratory projects. Prerequisite: PNT 211; Co-requisite: PNT 222 or department approval. Lecture 2 hours, laboratory 2 hours. Total 4 hours per week.

PNT 213 Electronic Publishing III (3 cr.)
Teaches principles of typography and graphics, word processing and page layout. Survey of electronic publishing, hardware systems, peripherals, laser printers and image setters. Concentrated use of application software utilizing Macintosh microcomputers to achieve a high degree of proficiency in completing a variety of laboratory projects. Prerequisite: PNT 212; Co-requisite: PNT 223 or department approval. Lecture 2 hours, laboratory 2 hours. Total 4 hours per week.

PNT 221 Layout and Design I (3 cr.)
Analyzes production art necessary to prepare camera-ready copy for photomechanical printing. Teaches basic drawing concepts and techniques with emphasis on design principles, and care and use of instruments. Studies production methods to prepare ruled forms, overlays, bendays, bleeds, two and multicolor forms for advertising and publication work. Co-requisite: PNT 211. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

PNT 222 Layout and Design II (3 cr.)
Analyzes production art necessary to prepare camera-ready copy for photomechanical printing. Teaches basic drawing concepts and techniques with emphasis on design principles, and care and use of instruments. Studies production methods to prepare ruled forms, overlays, bendays, bleeds, two and multicolor forms for advertising and publication work. Prerequisite: PNT 221; Co-requisite: PNT 212. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

PNT 223 Layout and Design III (3 cr.)
Analyzes production art necessary to prepare camera-ready copy for photomechanical printing. Teaches basic drawing concepts and techniques with emphasis on design principles, and care and use of instruments. Studies production methods to prepare ruled forms, overlays, bendays, bleeds, two and multicolor forms for advertising and publication work. Prerequisite: PNT 222; Co-requisite: PNT 213. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

PNT 231 Lithographic Chemistry I (2 cr.)
Introduces chemistry and how it involves the printer. Covers the role of water in lithography, pH of solutions, plate coatings and film emulsions. Studies relationship of paper and ink, emulsification, water logging, effect of humidity, and causes and control of static electricity. Prerequisite: PNT 132 or department approval. Lecture 2 hours per week.

PNT 241 Advanced Printing Applications (3 cr. each)
Continues PNT 141 and 142 to provide additional experience in production and shop management. Lecture 1 hour per week. Laboratory 4 hours per week. Total 5 hours per week.

PNT 245 Production Planning and Estimating (4 cr.)
Teaches theory and gives experience in planning and quality control for printing production. Includes printing plant supervision and management techniques, organization, maintenance and inventory control systems. Discusses estimating for printing, including job layout, purchasing, pricing and trade customs. Prerequisite: PNT 260, 264 and BUS 121, or department approval. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

PNT 251 Offset Press Operations I-II (4 cr.)
Explains procedures for practical operation of offset equipment including adjustments, setup make-ready, and imposition for single-color and multi-color production jobs. Studies feeder registration, printing and delivery systems, roller and blanket problems, ink and dampening problems, and quality control. Prerequisite: PNT 132. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

PNT 260 Color Separation (3 cr.)
Introduces study of color theories and principles as they apply to process color printing. Provides classroom and laboratory experiences in dot gain, densitometry, creation and manipulation of color images and electronic color separation. Lecture: 2 hours. Laboratory: 3 hours. Total: 5 hours per week.

PNT 264 Color Image Assembly (4 cr.)
Teaches principles of color image assembly. Includes types of mechanical art; stripping materials, register systems; process color stripping; spot color stripping; complementary flats; use of color charts and butting screen tints. Prerequisite: PNT 260 or department approval. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

PNT 295 Topics In (1-5 cr.)
Provides an opportunity to explore topical areas of interest to or needed by students. May be used also for special honors courses. May be repeated for credit. Variable hours.

PNT 298 Seminar and Project (1-5 cr.)
Requires completion of a project or research report related to the student's occupational objectives and a study of approaches to the selection and pursuit of career opportunities in the field. May be repeated for credit. Variable hours.

PNT 299 Supervised Study (1-5 cr.)
Assigns problems for independent study incorporating previous instruction and supervised by the instructor. May be repeated for credit. Variable hours.

(PSY) Psychology

PSY 126 Psychology for Business and Industry (3 cr.)
Focuses on the application of psychology to interpersonal relations and the working environment. Includes topics such as group dynamics, motivation, employee-employer relationship, interpersonal communications, and techniques for selection and supervision of personnel. Lecture 3 hours per week.

PSY 200 Principles of Psychology (3 cr.)
Surveys the basic concepts of psychology. Covers the scientific study of behavior, behavioral research methods and analysis, and theoretical interpretations. Includes topics such as: physiological mechanisms, sensation/perception, motivation, learning, personality, psychopathology, therapy, and social psychology. Lecture 3 hours per week.

PSY 201-202 Introduction to Psychology I-II (3 cr. each)
Examines human and animal behavior, relating experimental studies to practical problems. Includes topics such as sensation/ perception, learning, memory, motivation, emotion, stress, development, intelligence, personality, psychopathology, therapy, and social psychology. Lecture 3 hours per week.

PSY 215 Abnormal Psychology (3 cr.)
Explores historical views and current perspectives of abnormal behavior. Emphasizes major diagnostic categories and criteria, individual and social factors of maladaptive behavior, and types of therapy. Includes methods of clinical assessment and research strategies. Prerequisite: PSY 200 or PSY 201. Lecture 3 hours per week.

PSY 230 Developmental Psychology (3 cr.)
Studies the development of the individual from conception to death. Follows a life-span perspective on the development of the person's physical, cognitive, and psychosocial growth. Lecture 3 hours per week.

PSY 231 Life Span Human Development I (3 cr.)
Investigates human behavior through the life cycle. Describes physical, cognitive, and psycho-social aspects of human development from conception to death. Lecture 3 hours per week.

PSY 235 Child Psychology (3 cr.)
Studies development of the child from conception to adolescence. Investigates physical, intellectual, social, and emotional factors involved in the child's growth. Lecture 3 hours per week.

PSY 236 Adolescent Psychology (3 cr.)
Studies development of the adolescent. Investigates physical, intellectual, social, and emotional factors of the individual from late childhood to early adulthood. Lecture 3 hours per week.

PSY 255 Psychological Aspects of Criminal Behavior (3 cr.)
Studies psychology of criminal behavior. Includes topics such as violent and non-violent crime, sexual offenses, insanity, addiction, white collar crime, and other deviant behaviors. Provides a background for law enforcement occupations. Prerequisites: PSY 125, 200, 201, 202 or divisional approval. Lecture 3 hours per week.

PSY 295 Topics in: (1-5 cr.)
Provides an opportunity to explore topical areas of interest to or needed by students. May be also used for special honors courses. May be repeated for credit. Variable hours.

(RAD) Radiography

RAD 105 Introduction to Radiology, Protection and Patient Care (2-3 cr.)
Presents brief history of radiologic profession, code of ethics, conduct for radiologic students, and basic fundamentals of radiation projection. Teaches the care and handling of the sick and injured patient in the Radiology Department. Introduces the use of contrast media necessary in the investigation of the internal organs. Lecture 2-3 hours per week.

RAD 111 Radiologic Science I (4 cr.)
Teaches concepts of radiation, radiography physics, fundamentals of electromagnetic radiation, electricity and magnetism, and application of these principles to radiography. Focuses on X-ray production, emission, and X- ray interaction with matter. Part I of II. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

RAD 112 Radiologic Science II (4 cr.)
Teaches concepts of radiation, radiography physics, fundamentals of electromagnetic radiation, electricity and magnetism, and application of these principles to radiography. Focuses on X-ray production, emission, and X- ray interaction with matter. Part II of II. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

RAD 121 Radiographic Procedures I (4 cr.)
Introduces procedures for positioning the patient's anatomical structures relative to X-ray beam and image receptor. Emphasizes procedures for routine examination of the chest, abdomen, extremities, and axial skeleton. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

RAD 131 Elementary Clinical Procedures I (3 cr.)
Develops advanced technical skills in fundamental radiographic procedures. Focuses on manipulation of equipment, patient care, osseous studies, skull procedures, and contrast studies. Provides clinical experience in cooperating health agencies. Part I of II. Clinical 15 hours per week.

RAD 132 Elementary Clinical Procedures II (3 cr.)
Develops advanced technical skills in fundamental radiographic procedures. Focuses on manipulation of equipment, patient care, osseous studies, skull procedures, and contrast studies. Provides clinical experience in cooperating health agencies. Part II of II. Clinical 15 hours per week.

RAD 141 Principles of Radiographic Quality I (4 cr.)
Presents factors that control and influence radiographic quality, as well as, various technical conversion factors useful in radiography. Discusses automatic film processing, sensitometry, and quality assurance testing. Prerequisite: Admission to Program. Part I of II. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

RAD 142 Principles of Radiographic Quality II (4 cr.)
Presents factors that control and influence radiographic quality, as well as, various technical conversion factors useful in radiography. Discusses automatic film processing, sensitometry, and quality assurance testing. Prerequisite: Admission to Program. Part II of II. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

RAD 190 Coordinated Internship (1-5 cr.)
Supervises on-the-job training in selected business, industrial or service firms coordinated by the college. Credit/practice ratio not to exceed 1:5 hours. May be repeated for credit. Variable hours.

RAD 205 Radiation Protection and Radiobiology (3 cr.)
Studies methods and devices used for protection from ionizing radiation. Teaches theories of biological effects, cell and organism sensitivity, and the somatic and genetic effects of ionizing radiation. Presents current radiation protection philosophy for protecting the patient and technologist. Lecture 3 hours per week.

RAD 215 Correlated Radiographic Theory (1-2)
Presents intensive correlation of all major radiologic technology subject areas. Studies interrelationships of biology, physics, principles of exposure, radiologic procedures, patient care, and radiation protection. Lecture 1-2 hours per week.

RAD 221 Radiographic Procedures II (4 cr.)
Continues procedures for positioning the patient's anatomical structures relative to X-ray beam and image receptor. Emphasizes procedures for routine examination of the skull, contrast studies of internal organs, and special procedures employed in the more complicated investigation of the human body. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

RAD 231 Advanced Clinical Procedures I (4-5 cr.)
Reinforces technical skills in fundamental radiographic procedures. Introduces more intricate contrast media procedures. Focuses on technical proficiency, application of radiation, protection, nursing skills, and exposure principles. Teaches advanced technical procedures and principles of imaging modalities, correlating previous radiographic theory, focusing on full responsibility for patients in technical areas, perfecting technical skills, and developing awareness of related areas utilizing ionizing radiation. Provides clinical experience in cooperating health agencies. Part I of II. Clinical 20-25 hours per week.

RAD 232 Advanced Clinical Procedures II (5 cr.)
Reinforces technical skills in fundamental radiographic procedures. Introduces more intricate contrast media procedures. Focuses on technical proficiency, application of radiation, protection, nursing skills, and exposure principles. Teaches advanced technical procedures and principles of imaging modalities, correlating previous radiographic theory, focusing on full responsibility for patients in technical areas, perfecting technical skills, and developing awareness of related areas utilizing ionizing radiation. Provides clinical experience in cooperating health agencies. Part II of II. Clinical 20-25 hours per week.

RAD 240 Radiographic Pathology (3 cr.)
Presents a survey of common medical and surgical disorders that affect radiographic image. Discusses conditions related to different systems of the human body. Studies the correlation of these conditions with radiographs. Lecture 3 hours per week.

RAD 246 Special Procedures (1-2 cr.)
Studies special radiographic and surgical procedures and equipment employed in the more complicated investigation of internal conditions of the human body. Lecture 1-2 hours per week.

RAD 290 Coordinated Internship (1-5 cr.)
Supervises on-the-job training in selected business, industrial or service firms coordinated by the college. Credit/practice ratio not to exceed 1:5 hours. May be repeated for credit. Variable hours.

(REA) Real Estate

REA 100 Principles of Real Estate (4 cr.)
Examines practical applications of real estate principles. Includes a study of titles, estates, land descriptions, contracts, legal instruments and concepts, real estate mathematics, financing, agency, appraisal, fair housing, and management of real estate. Lecture 4 hours per week.

(REL) Religion

REL 200 Survey of the Old Testament (3 cr.)
Surveys books of the Old Testament, with emphasis on prophetic historical books. Examines the historical and geographical setting and place of the Israelites in the ancient Middle East as background to the writings. Lecture 3 hours per week.

REL 210 Survey of the New Testament (3 cr.)
Surveys books of the New Testament, with special attention upon placing the writings within their historical and geographical setting. Lecture 3 hours per week.

REL 230 Religions of the World (3 cr.)
Introduces the religions of the world with attention to origin, history, and doctrine. Lecture 3 hours per week.

REL 235 Major Religious Thinkers (3 cr.)
Examines the works of one or more important people in religious thought. Lecture: 3 hours per week.

REL 240 Religions in America (3 cr.)
Surveys various manifestations of religion in the American experience. Emphasizes concepts, problems, and issues of religious pluralism and character of American religious life. Lecture 3 hours per week.

REL 255 Selected Problems and Issues in Religion (3 cr.)
Examines selected problems and issues of current interest in religion. May be repeated for credit. Lecture 3 hours per week.

(RVH) RV/Motorcycle Maintenance

RVH 130 Motorcycle Rider Safety – Beginner (1-2cr.)
Studies principles and basic skills of motorcycle riding with an emphasis on safety. Includes street strategies, protective gear, and selection and care/maintenance of motorcycles. Lecture 1-2 hours. Laboratory 0-2 hours. Total 2-3 hours per week.

(SAF) Safety

SAF 126 Principles of Industrial Safety (3 cr.)
Teaches 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. Lecture 3 hours per week.

SAF 130 Industrial Safety - OSHA 10 (1 cr.)
Presents an introduction to occupational health and safety and its application in the workplace. Emphasizes safety standards and the Occupational Safety and Health Act (OSHA), its rules and regulations (OSHA 10). Lecture 1 hour per week.

SAF 195 Shop Safety (1 cr.)
This course will teach general shop safety (correct clothing, eye protection, hair protection, foot protection, etc.,) and government guidelines (MSDA sheets, hazardous material, OSHA guidelines and confined spaces). Lecture 1 hour per week.

SAF 246 Hazardous Chemicals, Materials, and Waste in the Workplace (3 cr.)
Introduces the rules and regulations governing use, exposure to, and disposal of hazardous chemicals, materials and waste by-products. Discusses OSHA "Right to Know Laws," EPA and RCRA regulations. Provides the techniques to interpret and understand the code of Federal Regulations. Emphasis on management mandates, strategies, and options to comply with these regulations. Lecture 3 hours per week.

(SOC) Sociology

SOC 200 Principles of Sociology (3 cr.)
Introduces fundamentals of social life. Presents significant research ad theory in areas such as culture, social structure, socialization, deviance, social stratification, and social institutions. A student taking SOC 200 may not enroll in SOC 201 or 202. Lecture 3 hours per week

SOC 201-202 Introduction to Sociology I-II (3 cr. each)
Introduces basic concepts and methods of sociology. Presents significant research and theory in areas such as socialization, group dynamics, gender roles, minority group relations, stratification, deviance, culture, community studies. Includes population, social change, and social institutions (family, education, religion, political system, economic system). SOC 201 is a prerequisite for SOC 202. Lecture 3 hours per week.

SOC 215 Sociology of the Family (3 cr.)
Studies topics such as marriage and family in social and cultural context. Addresses the single scene, dating and marriage styles, child-rearing, husband and wife interaction, single parent families, alternative lifestyles. Prerequisites: SOC 200, SOC 201, or permission of instructor. Lecture 3 hours per week.

SOC 235 Juvenile Delinquency (3 cr.)
Studies demographic trends, casual theories, and control of juvenile delinquency. Presents juveniles' interaction with family, schools, police, courts, treatment programs, and facilities. Prerequisite: SOC 200, SOC 201, or permission of instructor. Lecture 3 hours per week.

SOC 236 Criminology (3 cr.)
Studies research and causal theories of criminal behavior. Examines crime statistics, crime victims, and types of criminal offenses. Introduces role of police, judicial and correctional system in treatment and punishment of offenders. Is also approved for ADJ Criminology. Prerequisites: SOC 200, SOC 201 or permission of instructor. Lecture 3 hours per week.

SOC 268 Social Problems (3 cr.)
Applies sociological concepts and methods to analysis of current social problems. Includes delinquency and crime, mental illness, drug addiction, alcoholism, sexual behavior, population crisis, race relations, family and community disorganization, poverty, automation, wars, and disarmament. Prerequisites: SOC 200, SOC 201 or permission of instructor. Lecture 3 hours per week.

(SPA) Spanish

SPA 101-102 Beginning Spanish I-II (4 cr. each)
Introduces understanding, speaking, reading, and writing skills and emphasizes basic Spanish sentence structure. May be also used for special honors classes. May include an additional hour of oral drill and practice per week. Lecture 4 hours per week.

SPA 103-104 Basic Spoken Spanish I-II (3 cr. each)
Teaches oral communications and introduces cultural mores and customs to students with no prior instruction in the language. Lecture: 3 hours per week.

SPA 150 Spanish for Law Enforcement (3 cr.)
Introduces Spanish to those in the criminal justice field. Emphasizes oral communication and practical first-hand police and justice vocabulary. May include oral drill and practice. Lecture 3 hours per week.

SPA 163 Spanish for Health Professionals I (3 cr.)
Introduces Spanish to those in the health sciences. Emphasizes oral communication and practical medical vocabulary. May include oral drill and practice. Part I of II. Lecture 3 hours per week.

SPA 195 Topics In (1-5 cr.)
Provides an opportunity to explore topical areas of interest to or needed by students. May be used also for special honors courses. May be repeated for credit. Variable hours.

SPA 203-204 Intermediate Spanish I-II (3 cr. each)
Continues to develop understanding, speaking, reading, and writing skills. Classes conducted in Spanish. Prerequisite: SPA 102 or equivalent. May include oral drill and practice. Lecture 3 hours per week.

SPA 211 Intermediate Spanish Conversation I-II (3 cr.)
Continues to develop fluency through emphasis on idioms and other complex sentence structures. Prerequisite SPA 202 or equivalent. Part I of II. Lecture 3-4 hours per week.

SPA 212 Intermediate Spanish Conversation I-II (3 cr.)
Continues to develop fluency through emphasis on idioms and other complex sentence structures. Prerequisite SPA 202 or equivalent. Part II of II. Lecture 3-4 hours per week.

(SDV) Student Development

SDV 100 College Success Skills (1 cr.)
Assists students in transition to colleges. Provides overviews of college policies, procedures, and curricular offerings. Encourages contacts with other students and staff. Assists students toward college success through information regarding effective study habits, career and academic planning, and other college resources available to students. May include English and math placement testing. It is strongly recommended that students take within their first 15 credits. Required for graduation. Lecture 1 hour per week.

SDV 101 Orientation to College (1-3 cr.)
Introduces students to the skills which are necessary to achieve their academic goals, to services offered at the college and to the discipline in which they are enrolled. Covers topics such as services at the college including the learning resources center; counseling, and advising; listening, test taking, and study skills; and topical areas which are applicable to their particular discipline. Lecture 1-3 hours per week.

SDV 104 Study Skills (1-3 cr.)
Assists students in planning strategies to overcome nonproductive study habits and in implementing positive study behaviors. Includes management, memory improvement, note taking, and test taking. Lecture 1-3 hours per week

SDV 106 Job Search Strategies (1 cr.)
Provides experience in resume writing, preparation of applications, letters of application, and successfully preparing for and completing the job interview. Assists students in identifying their marketable skills and aptitudes. Develops strategies for successful employment search. Assists students in understanding effective human relations techniques and communication skills in job search. Pre-requisite: ENG 134, ENG 135, and ITE 115 or departmental approval. Lecture 1 hour per week.

SDV 108 College Survival Skills (1-2 cr.)
Provides an orientation to the college. Introduces study skills, career and life planning. Offers an opportunity to engage in activities aimed at self-discovery. Emphasizes development of "coping skills" such as listening, interpersonal relations, competence, and improved self-concept. Recommended for students enrolled in developmental courses. Lecture 1-2 hours per week.

SDV 110 Orientation to Teaching As a Profession (3 cr.)
Introduces students to a career in teaching and education by allowing students to experience the components of the learner, the school environment and the classroom teaching environment. Utilizes the Virginia Teachers for Tomorrow/Teacher Cadet curriculum. Students participate in a 15-hour student teaching internship in a classroom at one of the levels between Kindergarten and grade 9. Lecture 3 hours per week.

SDV 195 Electronic Portfolios (1 cr.)
Teaches the techniques and skills needed to develop an electronic portfolio that can be used when applying for a job. Students will post resumes, cover letters, pictures of projects or activities, narration, short movies, hobbies, etc., on the Internet. Total 1 hour per week. Web based.

(WEL) Welding

WEL 116 Welding I (Oxyacetylene) (2 cr.)
Teaches oxygen/acetylene welding and cutting including safety of equipment, welding, brazing and soldering procedures and cutting procedures. Lecture 1 hour. Laboratory 3 hours. Total 4 hours per week.

WEL 120 Fundamentals of Welding (2 cr.)
Introduces history of welding processes. Covers types of equipment, and assembly of units. Stresses welding procedures such as fusion, non-fusion, and cutting oxyacetylene. Introduces arc welding. Emphasizes procedures in the use of tools and equipment. Lecture 1 hour. Laboratory 3 hours. Total 4 hours per week.

WEL 121 Arc Welding (2 cr.)
Studies the operation of AC and DC power sources, weld heat, polarities, and electrodes for use in joining various alloys by the SMAW process. Covers welds in different types of joints and different welding positions. Emphasizes safety procedures. Lecture 1 hour. Laboratory 3 hours. Total 4 hours per week.

WEL 122 Welding II (Electric Arc) (2 cr.)
Teaches electric arc welding, including types of equipment, selection of electrodes, safety equipment and procedures, and principles and practices of welding. Lecture 1 hour. Laboratory 3 hours. Total 4 hours per week.

WEL 126 Pipe Welding I (3 cr.)
Teaches metal arc welding processes including the welding of pressure piping in the horizontal, vertical, and horizontal-fixed positions in accordance with section IX of the ASME code. Prerequisites: WEL 120, WEL 121 and WEL 122. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

WEL 135 Inert Gas Welding (2 cr.)
Introduces practical operations in use of inert gas shielded arc welding. Studies equipment operation, setup, safety and practice of GMAW (MIG) and GTAW (TIG). Lecture 1 hour. Laboratory 3 hours. Total 4 hours per week.

WEL 136 Welding III (Inert Gas) (2 cr.)
Studies Tungsten and metallic inert gas procedures and practices including principles of operation, shielding gasses, filler rods, process variations and applications, manual and automatic welding, equipment and safety. Lecture 1 hour. Laboratory 3 hours. Total 4 hours per week.

WEL 145 Welding Metallurgy (3 cr.)
Studies steel classifications, heat treatment procedures, properties of ferrous and non-ferrous metals. Discusses techniques and practices of testing welded joints and destructive/nondestructive, visual magnetic and fluorescent testing. Lecture 3 hours. Total 3 hours per week.

WEL 150 Welding Drawing and Interpretation (2-3 cr.)
Teaches fundamentals required for successful drafting as applied to the welding industry. Includes blueprint reading, geometric principles of drafting and freehand sketching, basic principles of orthographic projection, preparation of drawings and interpretation of symbols. Lecture 2-3 hours per week.

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Mildred W. Barkhouser
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James Kent
Rebecca L. McGovern
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Virginia Roberts
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Eileen M. Stendig
James Sutherland
Melvin Vernon
Hazel York

College Management Team

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Jeffrey D. Arnold	Vice President of Workforce Services
Scott J. Barnes	Vice President of Financial and Administrative Services
Dr. Christopher C. Ezell	Vice President of Academic and Student Services
Dr. Vince Decker	Interim Dean, Business Division
Dr. Paul C. Fox	Dean, Arts and Sciences Division
Robert Huffman	Interim Dean, Engineering Technologies Division
Cheryl B. Terry	Dean, Student Success and Academic Advancement Division
Andrea J. Burney	Director of Public Relations & Minority Concerns
William L. Dey	Director of Learning Resources & Distance Learning
Shannon L. Hair	Director of Development
Dr. Sherri H. Huffman	Director of Planning, Effectiveness & Research

As of 3/1/14

Faculty and Administrators

as of 4/1/14

Adkins, James R., Jr.
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Diploma - Danville Community College, 1984
A.A.S. - Danville Community College, 1996 B.S. -
Old Dominion University, 1997 Chief Architect
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B.A. - Frostburg State University, 1973
M.A. - New York University, 1980
Ed.D. - Lamar University, 2000
National Interpreter's Certificate-Advanced Level (NIC-Adv.), 2009

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APR - Accredited in Public Relations, 2005

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Associate Professor of Information Systems Technology A.A.S. - Danville Community College, 1995
B.S. - Old Dominion University, 1999 A.A.S. - Danville Community College, 2000 M.S. - Old Dominion University, 2009 Microsoft Certified Professional (MCP), 2000
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Ed.S. - Liberty University, 2009
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B.S.B.A - Longwood College, 1985
M.B.A. - Lynchburg College, 1997
Ph.D. - Northcentral University, 2011

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Assistant Professor of English
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A.A. - Santa Fe Community College, 1973
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M.Ed. - East Tennessee State University, 1993
M.S. - Virginia Commonwealth University, 2000

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R.N. - Danville Regional Medical Center School of Nursing, 2005
B.S.N. - Virginia Commonwealth University, 2009
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Professor and Dean, Arts and Sciences Division B.S. - University of Bath, 1980 Ph.D. - University of Leeds, 1984

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M.L.S. - Indiana University, 1984

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M.Ed. - Georgia Southern University, 2009

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Virginia Industrial Development Authority Institute - Va. Tech, 2006
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M.ED - Averett University, 2003

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M.S.N. - Duke University, 2000

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M.S. - University of Virginia, 1987
Ed.D - NOVA University, 1999

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A.A.S. - Nash Community College, 1984
B.S. - University of North Carolina-Charlotte, 1992
M.S. - East Carolina University, 2004

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M.S. - Longwood University, 2000

Maier, Theodore J.
Professor of English
B.S. - SUNY College at Brockport, 1984
M.A. - SUNY College at Brockport, 1989
Ph.D. - Miami University of Ohio, 2001

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Director of Community College Programs, Southern Virginia Higher Education Center
B.A. - University of Richmond, 1973
M.S. Ed - Longwood University, 1975

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Professor of Practical Nursing R.N. - Danville Regional Medical School of Nursing, 1991 B.S.N. - Virginia Commonwealth University, 2000 M.S.N -University of Virginia, 2005 Certification - Family Nurse Practitioner, 2005

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Developmental Education Specialist - Appalachian State University, 2007
M.Ed. - Cambridge College. 2012

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B.A. - College of Charleston, 1989
M.A. - University of South Carolina, 1998
M.A. - University of South Carolina, 2002

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A.A. - University of Alaska, 1973
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B.A. - Kansas State University, 1968
M.A. - Kansas State University, 1970
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Library Specialist I
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A.A.S. - Danville Community College, 1998

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Certificate - Danville Community College, 1976
A.A.S. - Danville Community College, 1983
B. S. - Averett College, 1987
M.B.A. - Averett University, 2002

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Trades Technician IV
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B.S. - Averett University, 2005

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Administrative and Office Specialist III, Southern Virginia Higher Education Center Certificate - Danville Community College, 1978 A.A.S. - Danville Community College, 2009

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1997 B.B.A. - Averett University, 2001
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M.S. - Clarion University, 2008

George, Mary
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Diploma - Computer Learning Center, 1982

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PHR - Professional in Human Resources, 2006

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Microsoft Certified Professional (MCP), 2002

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Certified Purchasing Manager, 2001
Certified Virginia Contracting Officer, 2004

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VCCS Computer Ethics Guidelines

Thousands of users share VCCNet computing resources. Everyone must use these resources responsibly since misuse by even a few individuals has the potential to disrupt VCCS business or the works of others. Therefore you must exercise ethical behavior when using VCCNet resources. State Law (Article 7.1 of Title 18.2 of the Code of Virginia) classifies damage to computer hardware or software (18.2-152.4), unauthorized examination (18.2-152.5), or unauthorized use (18.2-152.6) of computer systems as (misdemeanor) crimes. Computer fraud (18.2-152.3) and use of a computer as an instrument of forgery (18.2-152.14) can be felonies. The VCCS's internal procedures for enforcement of its policy are independent of possible prosecution under the law.

Definition

VCCNet resources include mainframe computers, minicomputers, microcomputers, networks, software, data, facilities and related supplies.

Guidelines

The following guidelines shall govern the use of all VCCNet resources:

1. You must use only those computer resources that you have the authority to use. You must not provide false or misleading information to gain access to computing resources. The VCCS may regard these actions as criminal acts and may treat them accordingly. You must not use the VCCNet resources to gain unauthorized access to computing resources of other institutions, organizations or individuals.
2. You must not authorize anyone to use your computer accounts for any reason. You are responsible for all use of your accounts. You must take all reasonable precautions, including password maintenance and file protection measures, to prevent use of your account by unauthorized persons. You must not, for example, share your password with anyone.
3. You must use your computer resources only for authorized purposes. Students or staff, for example, may not use their accounts for private consulting. You must not use your computer resources for unlawful purposes, such as the installation of fraudulently or illegally obtained software. Use of external networks connected to the VCCNet must comply with the policies of acceptable use promulgated by the organizations responsible for those networks.
4. Other than material known to be in the public domain, you must not access, alter, copy, move or remove information, proprietary software or other files (including programs, members of sub-routine libraries, data and electronic mail) without prior authorization. The college or VCCNet data trustee, security officer, appropriate college official or other responsible party may grant authorization to use electronically stored materials in accordance with policies, copyright laws and procedures. You must not copy, distribute, or disclose third party proprietary software without prior authorization from the licenser. You must not install proprietary software on systems not properly licensed for its use.
5. You must not use any computing facility irresponsibly or needlessly affect the work of others. This includes transmitting or making accessible offensive, annoying or harassing material. This includes intentionally, recklessly, or negligently damaging systems, intentionally damaging or violating the privacy of information not belonging to you. This includes the intentional misuse of resources or allowing misuse of resources by others. This includes loading software or data from untrustworthy sources, such as free-ware, onto official systems without prior approval.
6. You should report any violation of these regulations by another individual and any information relating to a flaw or bypass of computing facility security to the Information Security Officer or the Internal Audit department.

Enforcement Procedure

1. Faculty, staff and students at the college or VCCNet facility should immediately report violations of information security policies to the local Chief Information Officer (CIO).
2. If the accused is an employee, the CIO will collect the facts of the case and identify the offender. If, in the opinion of the CIO, the alleged violation is of a serious nature, the CIO will notify the offender's supervisor. The supervisor, in conjunction with the College or System Office Human Resources Office and the CIO, will determine the appropriate disciplinary action. Disciplinary actions may include but are not limited to:
    A. Temporary restriction of the violator's computing resource access for a fixed period of time, generally not more than six months.
    B. Restitution for damages, materials consumed, machine time, etc. on an actual cost basis. Such restitution may include the costs associated with determining the case facts.
    C. Disciplinary action for faculty and classified staff in accordance with the guidelines established in the State Standards of Conduct Policy.
3. In the event that a student is the offender, the accuser should notify the Vice President of Academic and Student Services. The Vice President, in cooperation with the CIO, will determine the appropriate disciplinary actions which may include but are not limited to:
    A. Temporary restriction of the violator's computing resource assess for a fixed period of time, generally not more than six months.
    B. Restitution for damages, materials consumed, machine time, etc. on an actual cost basis. Restitution may include the costs associated with determining the case facts.
    C. Disciplinary action for student offenders shall be in accordance with the college student standards of conduct.
4. The College President will report any violation of state and federal law to the appropriate authorities.
5. All formal disciplinary actions taken under this policy are grievable and the accused may pursue findings through the appropriate grievance procedure.

Approval

This guideline shall remain in effect, until superseded or suspended.

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Every effort has been made to provide the most accurate, up-to-date information possible in this catalog. The statements and provisions in this catalog are not to be regarded as a contract between the student and the College that cannot be recalled. The College reserves the right to change, when warranted, any of the provisions, schedules, programs, courses, or fees, as might be required. Supplements may be issued to this catalog as considered necessary by the College.

Danville Community College promotes and maintains educational and employment opportunities without regard to race, color, sex, ethnicity, religion, gender, age (except when age is a bona fide occupational qualification), disability, national origin, or other non-merit factors. Danville Community College prohibits sexual harassment including sexual violence.

Member, Virginia's Community Colleges.

NOTES

DCC

Danville Community College

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