Engineering as a Profession

Engineers are in high demand in virtually every area of engineering expertise, including civil, mechanical, electrical, chemical, and medical technology. The engineer frequently works as a member of a team with scientists, skilled technicians and other engineers in industry settings. Unlike the scientist whose task is the understanding and explanation of phenomena, the engineer is called upon to use scientific knowledge to create new devices, systems and processes to solve problems relevant to production and meeting human needs.

It’s easy to get started …

1. Complete an application for admissions
2. Take the placement assessment (practice test online at http://www.act.org/compass/sample/index.html)
3. Meet with a DCC Counselor to discuss your assessment results and program placement
4. Meet with an Engineering advisor to select and register for classes
5. Apply for a National Science Foundation award for tuition support
6. Pay for your classes!

Learn more about …

ENGINEERING

For more information about this program, contact the faculty:

◆ Dr. Mukesh Chhajer, Associate Professor of Physics and Math, 434.797.8491, email: mchhajer@dcc.vccs.edu
◆ Dr. Yiheng Wang, Assistant Professor of Engineering, 434.797.8435, email: ywang@dcc.vccs.edu

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

Mission: 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.
**Purpose**
The Associate of Science Degree in Engineering (AS) is designed to prepare students for transfer to four-year engineering programs at universities in Virginia and elsewhere. This program is modeled on the first two years of study which one would find at a typical four-year engineering program. The A.S. in Engineering is supported by the University of Virginia’s School of Engineering and Technology as part of its “Produced in Virginia” initiative. Students completing this program, who also maintain appropriate academic standards, are guaranteed admission to UVA’s Engineering Science degree which can be completed locally at the Institute for Advanced Learning and Research.

**Program Requirements**
This curriculum requires a majority of the courses be completed in areas of engineering, mathematics and the physical sciences. It is recommended to students with a strong interest in mathematics and the sciences. However, the curriculum also includes electives in humanities and social sciences so that the student can select the appropriate courses for his or her pre-professional program as required in the first two years of a prospective four-year College or university degree. Students should become familiar with the requirements of the major department at their contemplated transfer institutions. When students have a choice of courses, they should base their choices on the requirements of transfer institutions.

**Admission Requirements**
In addition to the admission requirements established for the College, entry into the Engineering program requires satisfactory completion of the following high school units or equivalent as a minimum: 4 years of English, 3 years of mathematics (Algebra I, Algebra II, and Geometry), 1 year of laboratory science and 1 year of social science. A course in trigonometry would also be desirable. Students are encouraged to take MTH 166 prior to beginning calculus in the first fall semester, especially if they have not completed MTH 163/164 or have not taken any math courses during the past year. Students with deficiencies in English or math will require developmental studies at DCC and will not be able to complete the program within a two year window. The SAT, ACT or COMPASS test is required for admission to the program.

**National Science Foundation**
DCC is a partner with the University of Virginia and Central Virginia Community College (CVCC) in a National Science Foundation grant which provides tuition support to students in the Engineering programs at DCC or CVCC. Students are encouraged to apply for this support by completing the online application. The application and procedures are available at http://www.dcc.vccs.edu/Departments/a&s/Academics/Engineering.htm or from DCC’s Arts and Sciences Division Office, located in the Temple Building.

**Engineering Curriculum**

**Suggested Sequence of Study**

**First Semester**
- ENG 111 College Composition I 3
- MTH 273 Calculus I 4
- EGR 120 Introduction to Engineering 2
- CHM 111 College Chemistry I 4
- EGR 126 Computer Programming for Engineers 3
- SDV 101 Orientation for Engineering 1

**Second Semester**
- PHY 241 General University Physics I 4
- ENG 112 College Composition II 3
- MTH 274 Calculus II 4
- CHM 112 Chemistry II 4
- HCT/PED Approved Wellness Elective 1

**Third Semester**
- MTH 277 Vector Calculus 4
- PHY 242 General University Physics II 4
- EGR 140 Engineering Mechanics – Statics 3
- SS EEE Social Science Elective I 3
- HUM EEE Humanities Elective I 3

**Fourth Semester**
- MTH 177 Ordinary Differential Equations 4
- EGR 245 Engineering Mechanics – Dynamics 3
- EGR 246 Mechanics of Materials 3
- HUM EEE Humanities Elective II 3
- SS EEE Social Sciences Elective II 3

**Total Minimum Credits for Associate of Science Degree in Engineering** 66

1Students 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.

2Students 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.

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