

# STEM STUDIES (A.S.) +

CCV's associate of science degree in STEM (Science, Technology, Engineering, and Math) Studies will prepare you with the knowledge and skills needed to succeed in key scientific and technical economic sectors in Vermont. In addition to the general education program requirements, the STEM Studies degree includes 23 credits of core program requirements within the fields of science, technology, and math. The program allows the flexibility to pursue your individual goals in fields such as physical science, life science, and pre-engineering. You may fulfill the program requirements through a combination of courses in allied health science, architecture, biology, chemistry, computer information systems, environmental science, mathematics, mechanical engineering technology, and physics.

All associate degrees include completion of general education requirements which, together with program requirements, constitute a minimum of 60 credits. In some cases program requirements also fulfill general education requirements. You may not use a single course to meet two general education requirements.

## General Education Requirements

### Core Competencies

Complete at least one course in each of the following:

- First semester seminar \_\_\_\_\_  
INT 1050 - Dimensions of Self & Society
- Technological Literacy \_\_\_\_\_
- Communication \_\_\_\_\_  
*Meets graduation standard in oral communication*
- English Composition \_\_\_\_\_  
ENG 1061 - English Composition
- Mathematics \_\_\_\_\_
- Research & Writing Intensive \_\_\_\_\_  
ENG 2135 - Technical Writing & Research

### Areas of Inquiry

Complete at least one course in each of the following:

- Scientific Method \_\_\_\_\_  
Choose one lab science course (4 cr.)
- Human Expression \_\_\_\_\_
- Human Behavior \_\_\_\_\_

### Integrative Approaches

Complete the following:

- Global Perspectives & Sustainability \_\_\_\_\_
- Seminar in Educational Inquiry \_\_\_\_\_  
HUM 2010 - Seminar in Educational Inquiry  
*Meets graduation standard in writing and information literacy*
- Quantitative Reasoning Assessment \_\_\_\_\_  
*Meets graduation standard in quantitative reasoning*

## Program Requirements

Courses are listed in the order in which we recommend you take them.

Choose a minimum of 23 college-level credits from any combination of allied health, architecture, biology, chemistry, computer information systems (above CIS 1020), environmental science, mathematics, mechanical engineering technology, and physics courses.

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- One lab science course (4 cr.) \* \_\_\_\_\_
- ENG 2135 - Technical Writing & Research \*
- INT 2860 - Professional Field Experience

Note(s):

\* You may use a course to meet both a program requirement and a general education requirement; however, you may not use a single course to meet two general education requirements.

**Minimum Total Credits in Degree: 60**

+ This program can be completed fully online.

## **Program Outcomes**

### **Graduates of the STEM Studies program will be able to:**

- apply the vocabulary, foundational theories, and problem-solving methodologies that define scientific literacy and scientific method in the natural world;
- demonstrate critical and creative thinking and the ability to adapt learning to new and novel situations through collaborative real-world problem solving;
- apply interdisciplinary strategies of inquiry, logical reasoning, technology, and an appreciation of cultural differences needed to address the challenges of an interconnected and global 21st century;
- demonstrate academic skills required of all CCV graduates, including competency in writing, information literacy, oral communication, quantitative reasoning; and
- explore pathways and demonstrate preparedness for educational and career development in the student's field of study.

### **The STEM Studies program is great for you if:**

- you are comfortable using mathematics to solve problems;
- you are interested in identifying underlying principles, reasons, or facts of information by breaking down information or data into separate parts;
- you enjoy identifying complex problems and reviewing related information to develop and evaluate options and implement solutions;
- you want to use computers and computer systems (including hardware and software) to program, write software, set up functions, enter data, or process information; and
- you enjoy using scientific rules and methods to solve problems.

### **Key information and advice for students in the STEM Studies program:**

- Students will be prepared to meet the demand throughout Vermont for employees with strong science, math, and technology skills.
- Students in STEM Studies can choose from a broad range of courses to fulfill their program requirements according to their particular schedules, interests, and ambitions.
- Students may fulfill the program requirements through a combination of courses in allied health science, biology, chemistry, computer information systems, environmental science, mathematics, and physics.
- The required field experience (Professional Field Experience) gives students practical experience in the workplace and can be a stepping-stone to employment and/or provide students with a valuable employment reference.
- The STEM Studies program can be completed entirely online.
- The Vermont State Colleges System's (VSCS) Direct Admissions program gives CCV students guaranteed transfer admission to all VSCS schools, saving them time and money. Visit [ccv.edu/transfer](http://ccv.edu/transfer) for more information.

### **The STEM Studies program prepares you for careers such as:**

- Statistician (bachelor's degree)
- Manufacturing engineer (bachelor's degree)
- Bioinformatics technician (bachelor's degree)
- Biochemical engineer (bachelor's degree)

For up-to-date Vermont labor market information, including salary information and growth projections, view the Economic and Labor Market Information on the Vermont Department of Labor Website <http://www.vtlimi.info/>.