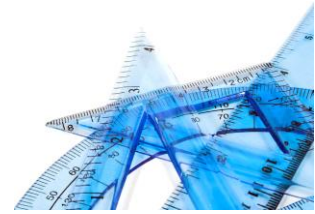


Engineering & Design



Is Engineering & Design for you?

Yes, if...

- ☑ You like to solve problems
- ☑ You like to invent new things
- ☑ You have thought about a career in engineering and want to learn more
- ☑ You want to earn college credit in high school
- ☑ You want to do projects that apply course concepts to real-world challenges



The Engineering & Design Program's lessons and design projects aim to strike a balance between engineering theory and engineering application. The design projects range in scale from one day single-class projects to the semester long capstone project in the second year. At the core of all projects is a systematic process that helps students learn how to design new things. Students finish the program ready to enter an Engineering or Engineering Technology college program. Emphasis is placed on problem-solving, teamwork, and workplace skills.

Introductory Course

3D Computer Aided Design (3D CAD)

This course will introduce students to three dimensional (3D) computer aided design (CAD) software that will be used to virtually model and assemble a wide variety of items. Major units of study in this course are:

- Sketching Commands and Techniques
- Solid Model Creation Commands and Techniques
- Measurement Techniques
- Assembly Modeling Commands and Techniques

For students in grades: 9-12

Scheduling: One semester, 50 minutes

Credits: 0.5 MAUHS Tech

Graduation Requirements:

MAUHS Technology: Completing 3D Computer Aided Design will fulfill the MAUHS 0.5 Technology credit requirement.

Prerequisite: Algebra 1 or Geometry or instructor approval

Engineering & Design Program Courses

Engineering & Design 1

In Engineering & Design 1, students learn about different fields of engineering, as well as education and career options within these fields. Engineering & Design 1 students learn about and practice a process for problem solving in order to design products that meet the needs of customers. Students also learn about how engineers communicate with others about their designs through engineering drawings. Students work on a portion of the Project Lead The Way Pathway to Engineering curriculum in Engineering & Design 1.

For Students in Grades: 10-12

Scheduling: Please contact the SVCDC Guidance Counselor for scheduling

Co-Requisite: Grade level college preparatory math or higher

Graduation Requirements:

Engineering & Design 1:

- 1 Art credit
- 0.5 MAUHS Tech credit
- 1.5 Elective credits

Post Program Employment: Computer Networking Academy graduates have been employed by

NSK	Plasan USA
Catamount Glass	Mack Molding
Abacus Automation	Vermont Composites
Messina Construction	

Post Program Education: Computer Networking Academy graduates have enrolled in

Academy of Art	Penn State College
Clarkson University	Rennselear Polytechnic
Hudson Valley	Institute
Community College	Rochester Institute of
Idaho, University of	Technology
Lehigh University	SUNY, Albany
Massachusetts,	Vermont Technical
University of	College
(Amherst)	Vermont, Univ. of
Norwich University	Wentworth Institute of
	Technology

Engineering & Design 2

In Engineering & Design 2, students expand their knowledge of engineering careers and learn how to solve problems of increasing complexity using their problem solving and analytical skills. Students end the Engineering & Design 2 course with a semester-long design project where they learn and practice skills in design, analysis, testing, communication, and project management. Students work on a portion of the Project Lead The Way Pathway to Engineering Curriculum in Engineering & Design 2.

For Students in Grades: 11-12

Scheduling: Please contact the SVCDC Guidance Counselor for scheduling

Co-Requisite: Grade level college preparatory math or higher

Graduation Requirements:

Engineering & Design 2:

- For those who complete both Engineering & Design 1 & 2: 1 Math, 1 Science, & 1 Elective credit
- For those who complete only Engineering & Design 2: 3 Elective credits

Earn College Credit



Engineering & Design is associated with the national **Project Lead The Way®**, providing students the opportunity to earn college credits through RIT. Please see page 10 for details.

Additional Opportunities

Program students have the opportunity to gain additional experience through co-ops and internships and have been nominated for the **National Technical Honor Society**, the CDC's **Technical Excellence** and **Special Recognition** awards.

Southwest Vermont Career Development Center Schedule FY 2012

SEMESTER ONE					
Block 1 (90 min)	Block 2a	Lunch	Prep	Block 3b	Block 4 (90 min)
7:50-9:20	9:25-10:20	Prep	Lunch	11:35-12:30	12:35-2:05
Accounting & Finance 1 & 2	Marketing 2			Business Basics	Marketing 1
Business Mgt 1 & 2				Culinary Arts Intro	Culinary Arts 1
Culinary Arts 1				Computer Aided Design	Engineering & Design 1
Engineering & Design 2				Creative Computing	Design & Fabrication 1
Design & Fabrication 2				Architecture & Construction Auto Maintenance	Artificial Intelligence 1 & 2
Computer / Networking Academy 1 & 2					Building Trades 1
Building Trades 2					Auto Technology 1
Auto Technology 2					Forestry & Heavy Equipment 1
Forestry & Heavy Equipment 2					AgroEcology 1 & 2
Water & Your Environment				Plants & Flowers	
Video Productions 1	Video Productions 2				
				Stagecraft	Theater Arts 1 & 2
	Intro to Print Publishing: Yr Bk				Communications Tech 1 & 2
Law Enforcement 1				Law Enforcement 2	
Pre-Law 1 & 2				Forensic Investigations	Business & Personal Law
Cosmetology 1				Cosmet. Intro.	
				Cosmetology 2	
Human Services 2					Human Services 1
Medical Professions 2				Emergency Medicine Intro.	Medical Professions 1

SEMESTER TWO					
Block 1 (90 min)	Block 2a	Lunch	Prep	Block 3b	Block 4 (90 min)
7:50-9:20	9:25-10:20	Prep	Lunch	11:35-12:30	12:35-2:05
Accounting & Finance 1 & 2	Business Basics				
Marketing 2					Marketing 1
Business Mgt. 1&2					
Culinary Arts 1	Culinary Arts Intro				Culinary Arts 1
Engineering & Design 2	Computer Aided Design				Engineering & Design 1
Design & Fabrication 2					Design & Fabrication 1
Computer/Networking Academy 1&2	Creative Computing				
					Artificial Intelligence 1 & 2
Building Trades 2					Building Trades 1
Auto Technology 2					Auto Technology 1
Forestry & Heavy Equipment 2					Forestry & Heavy Equipment 1
Agri Science	Plants & Flowers				AgroEcology 1 & 2
Video Productions 1 & 2					
					Theater Arts 1 & 2
					Communications Tech 1 & 2
Law Enforcement 1	Forensic Investigations				Law Enforcement 2
Pre-Law 1 & 2					Forensic Investigations Adv.
Cosmetology 1				Cosmet. Intro.	
				Cosmetology 2	
Human Services 2					Human Services 1
Medical Professions 2	Mental Illness Intro.				Medical Professions 1



Application 2011/2012

LAST NAME: _____ FIRST NAME: _____
 Mailing Address: _____
 Town: _____ State: VT/NY/MA Zip: _____
 Home Phone: _____ Cell Phone: _____
 E-mail: _____

Today's Date: _____
 Date of Birth: _____
 Gender: Male Female
 Current Year in School:
 8th 9th 10th 11th 12th
 Current CDC students put your
 Tech Program's initials here: _____

School Counselor(s) / Contact Person(s)

Arlington Memorial High School Joanna Lederer-Barnes

 Other Advocate: _____
Burr & Burton Academy Phil Anton Maria Bittinger
 Stephanie Fowler Andrea Hogan Melissa Michaud Cristin Rose

 Other Advocate: _____
Mt. Anthony Union High School
 Tonia Bucciero Eric Caron Lisa Harrington-Redding
 Meg Honsinger Dan Lucy Coleen Macksey Nancy Vanderbilt

 Other Advocate: _____
Twin Valley High School Denise Piffard

 Other Advocate: _____
 Other School: _____
 Contact Person: _____ Phone: _____

Tech Programs [Full Year]

(The embedded graduation requirements are listed in parentheses- see Program of Studies for complete information)

- ➔ Mark **2nd & 3rd choices** also in case your **1st** is full.
- Accounting & Finance(cc) (Math, MAU-Tech)
 - Agroecology (Science)
 - Artificial Intelligence(cc) (Math, Sci. & MAU-Tech.)
 - Auto Technology(cc) (Science)
 - Business Management (Math, MAU-Tech)
 - Building Trades (Math)
 - Computer Networking Academy(cc) (Science.)
 - Cosmetology (Science)
 - Culinary Arts (Science)
 - Design & Fabrication (Math, MAU-Tech)
 - Engineering & Design(cc) (Art, MAU-Tech Math,Sci)
 - Forestry & Heavy Equipment(cc) (Science)
 - Human Services(cc) (Social Studies)
 - Law Enforcement(cc) (1 Yr only) (Social Studies)
 - Marketing Education (Math)
 - Medical Professions(cc) (Science)
 - Networking Academy(cc) (Math, Sci. MAU-Tech)
 - Pre-Law(cc) (Social Studies)
 - Theater Arts (Art, English)
 - Video Production(cc) (MAU-Tech)
- Co-op (2nd year students only)

(cc) = College Credit option available. See page 11 of Course Catalogue or www.svcdc.org

Foundation Courses

Short Block (*50 or #60 minutes, 1 Sem.)

- SB Architecture & Construction*
- SB Automotive Maintenance#
- SB Business Basics*
- SB CAD Design & Fabrication#
- SB 3D/CAD*
- SB Creative Computing*
- SB Forensic Investigation#
- SB Plants & Flowers*
- SB Emergency Medical Intro.*
- SB Mental Illness Intro.to*

Long Block (90 Minutes, 1 Semester)

- AgriScience (AgriBio)
- Business & Personal Law
- Business Ownership
- Forensic Investigations Advanced
- Water & Your Environment

Partial Technical Programs

(90 or 150 minutes, 1 Semester)

- Accounting & Finance 1a (90 minutes)
- Accounting & Finance 1b (90 minutes)
- Pre-Law 1a (Semester 1) by teacher permission only.
- Pre-Law 1b (Semester 2) by teacher permission only.
- Theater Arts 1a (Semester 1 only, 90 minutes)
- Theater Arts 1b (Semester 2 only, 150 minutes)

Academic Courses

(One Credit, 90 Minutes, One Semester)

- Tech English I (11-12th grade- Must be in a Tech program)
- Tech English II (12th grade- Must be in a Tech program)

NON DISCRIMINATION STATEMENT:
 The Southwest Vermont Career Development Center is committed to maintaining a learning environment free from discrimination on the basis of race, color, national origin, religion, sex, disability, or sexual orientation. Rev. 12/8/2006 & 2010