



Co-OP 120

'MVHS MAKERSPACE'
WINTER 2018



TEACHER: A. Hallihan

WORKSTATIONS/TECHNOLOGIES:

WORKSTATIONS...

3D PRINTING	3D SCANNING	UNDERWATER ROBOTICS	MAKE ELECTRONICS
MICROCONTROLLERS	EMBROIDERY	VINYL CUTTING	HEAT PRESS
ROBOTICS	RASPBERRY PI	VIRTUAL REALITY	BUTTON MAKING

TECHNOLOGIES...

MAKERBOT REPLICATOR	HAB	360FLY	iPAD
STRUCTURE SENSOR	OPENROV	MATE	MAKE KITS
SOLDERING	SPARKFUN	MAKEY MAKEY	ARDUINO
RASPBERRY PI	ADAFRUIT WEARABLES	REDBOTS	MBOTS
SINGER FUTURA	PHANTOM 3 DRONE	PARROT DRONE	HUBSAN DRONE
GoPro HERO 3	OCULUS RIFT	RETRO ARCADES	SILOUETTE CAMEO

COURSE DESCRIPTION:

MVHS MakerSpace explores STEAM projects that involve Science, Technology, Engineering, Arts and Mathematics. This course will enable students to undertake creative, innovative and entrepreneurial projects in the classroom. Students will explore a variety of technologies while designing and engineering their own project. Mentors will be established to help develop these projects as well as instruction on the basics.

The course is designed to apply the 4 C's...Creativity, Critical Thinking & Problem Solving, Collaboration, and Communication. These skills are beneficial in any workplace and are essential for life-long learning. The goal of the course is to improve these skills so they can be used in any of your future endeavours.

SCOPE AND SEQUENCE:

- Engineering Design Process
 - Intro. to design and engineering (PBS Design Squad Challenges)
 - History of engineering
 - Documenting your work...keeping online journal & video editing
- Safety Modules [<http://nbcsa.ca/english/elearning.htm>]
 - Orientation
 - WHMIS
- Workstation Basics
- Final Projects

EVALUATION:	Daily Journals/Online Journals/TechPoints/Activities	50 %
	Project #1 [due March 27 th]	25 %
	Project #2 [due June 4 th]	25 %

EVALUATION COMPONENTS:

Journal: Documentation (including a webpage devoted to your project)

- Submit an engineering proposal that outlines your project ideas.
- Daily written journal entries with sketches, notes and troubleshooting.
- Bi-weekly online journal entries that document your progress with any notes, pictures or video clips.

Techpoints:

Complete a choice of optional activities that demonstrate the following three components:

- Promotion of technology
- Exploration of technology
- Application of technology
- A maximum of 100 TechPoints may be accumulated.
- Accumulation of these points will be done on an inventory sheet.

Completion of a student project is a requirement for this course. The components of the project are...

Part I: Presentation

- Develop an engaging presentation for the class that reflects and summarizes your project.
 - Visuals should be included (graphs, pictures, videos, etc.).
 - Duration will be 5 minutes.

Part II: Summary Video

- Explanation of setup and equipment needed.
- Demonstration of the project.

WEBSITES:

- **COURSE HOMEPAGE:** <http://mvhs.nbed.nb.ca/other/mvhs-make>
- **STEM NORTH:** <http://stemnorth.nbed.nb.ca/>
- **YOUTUBE CHANNEL:** <https://www.youtube.com/channel/UC-hZtA0UUEzndBMm1wlme4Q>
- **TWITTER ACCOUNT:** @MVHS_ROV #MVHSMMAKE