



# Co-OP (MAKE) 120

'BHS MAKERSPACE'  
WINTER 2020



TEACHER: A. Hallihan

WORKSTATIONS/TECHNOLOGIES:

## WORKSTATIONS...

3D PRINTING  
MICROCONTROLLERS  
ROBOTICS

SILK SCREENING  
RETRO ARCADE  
RASPBERRY PI

UNDERWATER ROBOTICS  
VINYL CUTTING  
VIRTUAL REALITY

DIRECT TO GARMENT  
HEAT PRESS  
BUTTON MAKING

## TECHNOLOGIES...

DTG PRINTER  
RETROPIE ARCADE  
MINTI PI  
RASPBERRY PI  
PI SENSEHAT  
ARDUINO  
B.BOARDS

OPENROV  
MATE ROV  
PHANTOM 3 DRONE  
HUBSAN DRONE  
IPADS  
OCULUS RIFT TOUCH  
GREEN SCREEN

GoPro HERO 3  
GoPro SESSION  
360FLY  
SPHERO  
MBOTS  
LEGO ROBOTICS  
REDBOTS

MAKEY MAKEY  
MICRO:BIT  
ADAFRUIT WEARABLES  
YETI PODCAST  
SILOUETTE CAMEO  
HEAT PRESS  
SILK SCREENING

### COURSE DESCRIPTION:

BHS 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. Innovation will be a focus where students focus on a project idea and create their own products.

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 course will also emphasize all the global competencies: Innovation/Creativity/Entrepreneurship; Critical Thinking/Problem Solving; Self-Awareness/Self-Management; Sustainability/Global Citizenship; Collaboration and Communication. 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...Google Drive, MS Teams, photo documentation & video editing
- Safety Modules [<http://nbcsa.ca/english/elearning.htm>]
  - Orientation
  - WHMIS
- Workstation Basics
- Final Projects

<b>EVALUATION:</b>	Weekly Project Documentation/TechPoints/Class Activities	50 %
	Project #1 [due April 1 <sup>st</sup> ]	25 %
	Project #2 [due June 1 <sup>st</sup> ]	25 %

## EVALUATION COMPONENTS:

### *Documentation*

- Completion of 2 online safety modules.
- Submit a project proposal that outlines your project ideas, objectives, designs, materials and goals.
- Weekly reflections with pictures, notes and troubleshooting.

### *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.

### *Techpoint Ideas:*

<b>Promotion</b>	<b>Exploration</b>	<b>Application</b>
Signup & shoutout on Twitter/Instagram (5)	MakerSpace Lunch/Afterschool (5/half hour)	Mentor students not in our class (5/half hour)
Create & contribute to YouTube Channel (5)	Complete a TinkerCad tutorial (5) – max of 4	Work in MakerSpace after hours (5/half hour)
Showcase previous tech skills (5 + more)	Complete Hour of Code (5) – max of 4	Mentor students in Maker Clubs (5/half hour)
Volunteer at a community event (5/half hour)	Submit an entry for Brilliant Labs (5 + more)	MakerSpace Tech in another course (10 + more)
Volunteer at a school event (5/half hour)	Create a PowerPoint explaining tech topic (10)	Deliver Maker session to teachers (25)
Create a promo video (10)	Organize a guest speaker (20)	Teach lesson with elementary/middle school (25)
Support a community event with tech (10)	Brilliant Labs Challenge (25)	Submit a STEM Fair / Discover project (50)
<b>NOTE...</b> <b>Be sure to discuss any other ideas with Mr. Hallihan and I am sure we can come up with an agreement for TechPoints!</b>		

*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 with explanation of key skill sets.

## WEBSITES:

- **COURSE HOMEPAGE:** <http://blackville.nbed.nb.ca/other/bhsmakerspace>
- **ICE CENTRE:** <https://www.bhsice.com/>
- **YOUTUBE CHANNEL:** [https://www.youtube.com/channel/UCadmQIZlcXTmxg9JWjE-lxw?view\\_as=subscriber](https://www.youtube.com/channel/UCadmQIZlcXTmxg9JWjE-lxw?view_as=subscriber)
- **TWITTER ACCOUNT:** @BHSMaker #BHSMake