



# Bow High School - Course Overview

<b>Course Title: Robotics Lab</b>
<b>Department: Engineering</b>
<b>Credits: 1</b>
<b>Grades: 10-12</b>

## **Course Description:**

- This hands-on course will build on the learning in Robotics, with students working in a team environment to solve progressively more complex tasks. Students will design, build, and program robots using the VEX Robotics platform. Robotics Lab challenges will be tailored to the students in the class, and may include work on competitive robots as appropriate (VEX VRC level). Participation on a competitive robotics team outside of class is encouraged but not required.

## **School Competencies:**

- Cognitive Flexibility (Problem Solving & Analysis - Advanced)
- Design Modification (Problem Solving & Analysis - Advanced)
- Technical Design (Problem Solving & Analysis - Advanced)
- Professional Environment Skills (Communication - Advanced)
- Analytical Application (Problem Solving & Analysis - Advanced)

## **Course Competencies:**

- 1. Student demonstrates use of the Engineering Design Process to solve technical problems.
- 2. Student can design and assemble robots to complete specific tasks using components such as gears, motors, and sensors.
- 3. Student can use programming to control the motors, sensors, and systems of a robot, both driven and autonomous.
- 4. Student works constructively with others, sharing ideas and workload.
- 5. Student documents their work effectively using an Engineering Notebook.