Lebanon Community Schools
High School Course Syllabus

Lebanon High School | Mr. Tim Helland | 2025-2026

Course Number and Title:
Robotics 2

Subject Area:
Computer Technology

Credits:
Semester 2 0.5 *CT* or *Elective* Credit

Graduation Requirements:
The following Oregon Essential Skills will be addressed throughout this course:

x	Read and comprehend a variety of text	x	Use technology to learn, live, and work
	Write clearly and accurately	x	Demonstrate civic and community engagement
x	Apply mathematics in a variety of settings		Demonstrate global literacy
x	Listen actively and speak clearly and coherently	x	Demonstrate personal management and teamwork skills
x	Think critically and analytically		

Prerequisites:
Robotics 1 -*or*- Teacher Approval

Course Overview:
In this course you will:

- Apply the Engineering Process to develop effective solutions
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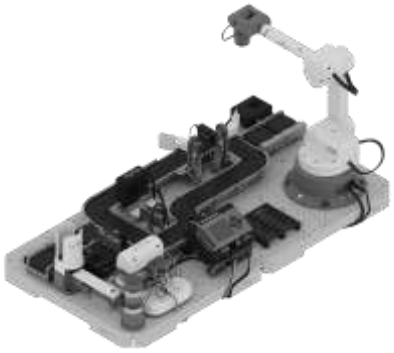
- Maintain a safe and organized work environment
- Build and design robots and robotic systems
- Write robot programs that automate the actions of robots and other machines
- Use sensors and pneumatics to control the movement of robots and conveyors
- Productively collaborate in teams to design, build, and program robots

Topics of Study:

Unit 1: Programming Robots
About 4 weeks
- Examples and common uses
- Safety and teamwork
- Intro to the VEX System

Unit 2: The Robotic Arm
About 3 weeks
- Assembly
- Coordinate Systems
- Tech Pendant
- End Effectors

Unit 3: Controlling the Arm
About 3 weeks
- Positioning and Movement
- Drawing
- Moving Objects
- Palletizing



Unit 4: The Conveyor
About 4 weeks
- Assembly
- Programming Movement
- Object Detection

Unit 5: Pneumatics
As time permits
- Assembly
- Sorting
- Automation

TAG/ELL/Special Education Considerations:

Students will receive appropriate accommodations consistent with their IEP and/or TAG plan. Students are encouraged to self-advocate and communicate with their teacher if they have questions or concerns about their accommodations. You may be pre-assessed on the knowledge and skills that you bring with you to this course. The purpose of the pre-assessment is to determine what you already know, guide instruction, and give you access to advanced and/or accelerated content when appropriate.

Formal or informal pre-assessments may include quizzes, student input and self-evaluation, placement tests, teacher observation, work samples, fist of five, thumbs up/thumbs down, and other forms of assessment. The following differentiation strategies will be used during instruction when appropriate: Enrichment, Multiple Intelligences, Acceleration, Compacting, Independent Projects, Critical Thinking, Assignment Modification, Flexible Grouping, and Student Contracts.

Supplemental Resources:

A variety of resources will be available on the following websites:

http://moodle.mrhelland.com
http://vr.vex.com
https://codeexp.vex.com/
http://codev5.vex.com

If you don't have access to a reliable internet connection, please see the teacher for an alternate method of access.

Academic Honesty Policy:

Plagiarism and cheating are unacceptable in any classroom. Students who submit work that is not their own may receive a score of zero and/or be referred to the administration for disciplinary action.

You are encouraged to help your peers understand and make progress. Help them learn, but don't just give them your work. If multiple students submit work that is not sufficiently unique, the points for that work will be divided equally amongst them.

Homework and Late Policy:

Most learning activities in this course can be completed by an average student during the class period. If you do not complete a task during class, it will be necessary to complete work at home or by scheduling time to use the lab before or after school. The lab is also open at lunch one day per week.

Late assignments lose 10% of their possible value. For each week an assignment is late, it will lose an additional 10% in possible value. The maximum late penalty is 50%.

Behavioral Expectations:

To maintain a positive and productive learning environment each member of our classroom agrees to:

- Respect others with words and actions.
- Be seated and ready to begin when the bell rings.
- Use spill-proof containers for beverages and leave food at the door.
- Turn off and put away cell phones and entertainment devices unless otherwise directed by the teacher.
- Clean up before leaving the classroom.
- Follow the LHS Student Handbook and Network & Internet Use policies.

Personal Electronic Devices:

In accordance with Executive Order 25-09, personal electronic devices (phones, smartwatches, earbuds, etc.) are not allowed during instructional hours. Devices must be turned off and stored out of sight. Repeated violations will result in restorative intervention and parent contact.

Using personal electronic devices during an assessment without prior arrangement will result in a score of 0.

Grading Policy:

Your overall letter grade is weighted as follows:

Tests & Quizzes	40%
Assignments & Participation	50%
Final Exam	10%

Semester grades are rounded mathematically.

Your course letter grade will be determined as follows:

A..... 90% or above
B.....80% to 89%
C.....70% to 79%
D.....60% to 69%
F .....Below 60%

You are encouraged to attempt any/all of the extra credit opportunities provided. Per district policy, extra credit may only affect your overall grade by a moderate percentage.

Labs & Assignments:

Many assignments will be scored based on detailed rubrics or sets of grading criteria. All other labs and assignments will earn a percentage of the total points possible. For example:

• Fully completed • Exceptional effort	100%
• Mostly completed • Average effort	70%
• Partially completed • Marginal effort	40%
• Barely completed • Effort lacking	0%

Notebook:

A notebook is required for this course. It should include all of the following:

- Cornell or focused notes
- Unit vocabulary
- Weekly reflection

You can use your written notebook on tests, quizzes and the final exam. Take readable notes and keep them organized for greatest benefit.

Notebook checks are 20 points. Your notebook score will be based on content, organization and overall usefulness. Use the *Cornell / Focused Notes* system to receive the highest possible score on your notebook.

Assessments:

Unit Tests are usually worth 100 points each and are announced in advance. If you opt to delay a test without prior arrangement, the maximum earnable score is 80%. You may retake each test once after successfully completing a review activity.

The *final exam* is 10% of the final grade and may include both a written and performance component.

Projects:

Projects may be assigned depending on available time.

You will likely need to work on projects outside of class to earn a high score or if you get behind.

Excused Absences:

When you return to school, be prepared to make up any missing work within the number of days you were absent + 1 day. After this, the usual late penalty will apply. On the day you return, arrange to make up any tests, quizzes or projects that were due in your absence.

Special consideration will be made for extended absence or verified emergencies. Be sure to contact the teacher as soon as possible.

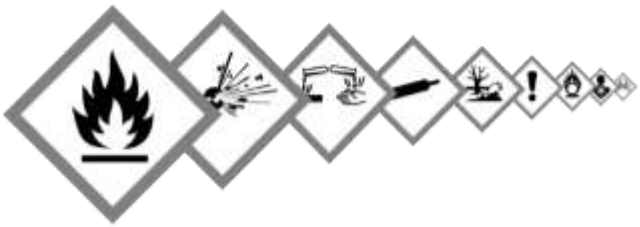
Unexcused Absences:

If you have an unexcused absence, you will not be able to makeup in-class activities. Projects or unit tests that reflect multiple days of learning can be made up, but will lose a portion of their value based on the number of unexcused absences affecting that unit or project.

Course Goals:

- Become familiar with common components used in industrial automation
- Develop logic, sequencing and problem-solving skills
- Automate robots and machines to reliably perform specific tasks
- Demonstrate proper safety procedures in a lab environment
- Work collaboratively on projects with a team of people

Safety and Equipment:



A variety of lab procedures will be posted, discussed, reviewed and assessed. These procedures are designed to maintain a safe work environment and keep equipment in working order. Violations of the procedures may result in removal from the lab for the class period. Repeated violations will necessitate removal from the course.

Materials:

In addition to basic school materials, the following materials are strongly suggested for this course:

3-ring or spiral notebook
It will be evaluated periodically for content, organization and usability.

Portable or Online Storage
A USB Storage device or Google Drive account may prove useful and convenient in this course.

Home Computer
A computer running a modern operating system such as Windows 10 or Mac OS X can be useful.

I Need Help!

There are many resources available to you if you get stuck or don't understand. Some of them are:

- ❖ Your teacher
- ❖ Peer study groups
- ❖ Your teacher's website
- ❖ Course website
- ❖ Online videos
- ❖ Online tutorials
- ❖ Tutoring

With advance notice, the teacher reserves the right to adjust these guidelines to provide a safe and productive learning environment for all students.