

# Robotic Engineering Syllabus

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## **COURSE DESCRIPTION:**

Robotics is a lab-based course that uses a hands-on approach to introduce the basic concepts of robotics, focusing on the construction and programming of autonomous mobile robots. Course information will be tied to lab experiments; students will work in groups to build and test increasingly more complex mobile robots, culminating in an end-of-semester robot contest.

We will be using LEGO Mindstorm as our platform. Students will be divided into groups and complete a variety of robot construction and programming activities within the confines of these groups.

## **COURSE MATERIALS:**

- LEGO Mindstorm kits and expansion pieces (Provided)
- LEGO Mindstorm Software (Provided)
- Chromebook

## **COURSE OBJECTIVES:**

In this course will

1. Explore the broad scope of robotic applications
2. Learn the basic components and building blocks of robots
3. Develop robot construction skills
4. Learn to program the robots
5. Program autonomous mobile robots to achieve challenging tasks

## **EVALUATION/GRADING CRITERIA:**

All classes taught at Central Linn High School will be assessed according to a 100% scale and weighted at **90%** for assessments/labs/projects and **10%** for practice. Practice may include but is not limited to: classroom assignments, homework, spot checks, and warm-ups. Assessments may include, but are not limited to: summative assessments (tests and quizzes), projects, presentations, and lab/builds.

## **GRADING SCALE:**

*Below is the Grading rubric used by all classes taught at Central Linn High School:*

R= Assignment received but not yet entered

Z= Assignment was not submitted

0= Incomplete, not enough evidence to assess

1= Does not yet meet standard/learning target

2= Nearly meets standard/learning target

3= meets standard/learning target

4= Exceeds standard/learning target

In this system there is no "extra credit." In order to display proficiency on a standard or learning target, a student must attain a score of 70% or 3 on the assigned assessment, which is equivalent to a traditional 'C' grade. The traditional 'D' grades will no longer be awarded to student work. If an assessment is below a score of 3, the student will have the opportunity to retake the assessment and get additional support from the classroom teacher or building support services. If all, or most, of the standards are not met with passing scores within a

grading period, a student may earn an 'F'. However, if a student is making adequate progress toward proficiency and utilizing available resources, students may be assigned an 'incomplete' as decided by the teacher.

### **LAB GROUPS:**

Students may pick lab partners unless otherwise directed by the teacher. If lab groups do not complete tasks as directed, then students may expect to be placed in lab groups as selected by the teacher. If there is a significant issue with a member in the lab group, the student should speak with the teacher directly before lab groups are established. Choosing lab partners is a privilege and therefore may be discontinued at any time. Students who do not make wise decisions during group work or in the lab may lose the privilege of partnering with other students or may be given an alternate assessment.

### **PINNACLE INTERNET VIEWER (PIV)**

The Pinnacle parent portal allows parents/guardians to monitor student grades, attendance, and any assignment information. PIV offers an email notification option which gives you the flexibility to choose which reports or notifications you would like to receive concerning your student's grades. You can also specify how often you would like to receive the notifications. Or you can choose the option to receive an email notification when any grade goes above or below a set value that you determine. To sign up for PIV, contact Lauri Archer:

(email: [lauri.archer@centrallinn.k12.or.us](mailto:lauri.archer@centrallinn.k12.or.us) )

### **CELL PHONES AND OTHER PERSONAL ELECTRONIC DEVICES:**

Students are not permitted to use any personal type of electronic device (including cell phones) during class time. Devices will remain in students' bags or locker from the bell signifying the start of class until the bell marking the end of class. The only exceptions to this policy will be for **teacher-directed**, educational purposes. Students will not be able to respond to texts or calls during class. Any violation of a teacher's classroom or school expectations regarding the use of electronic devices will result in a warning and then possibly an office referral and may result in the loss of the privilege of having the device on school grounds.

***Students are to make arrangements with their parent(s) or guardian(s) to contact the school office when attempting to reach them during school hours, except during lunch and passing periods.***

If a school staff member finds it necessary to confiscate a device, parents will be notified promptly and the device will be returned in accordance with school rules after the administrator or designee has consulted with the student's parent/guardian. **The school is not responsible for lost or stolen electronic devices.**

- ***Please help your student be successful with these expectations by refraining from calling or texting them during class times. If there is an emergency where you must reach your student, please call the front office and a message will be relayed.***

- In an effort to increase communication between Central Linn High School and families, please be sure to provide valid, functional email address to the office as that is the preferred method of communication

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(Please sign and return to Mr. Coatney)

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Parent/Guardian Signature

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Date

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Student Signature

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Date

*By signing above, I acknowledge and understand the expectations set forth and agree to comply to the best of my ability. I also acknowledge that I have read the above information including the portion on cell phones and electronic devices. If I have any specific concerns, I agree to contact the instructor.*