Introduction to Engineering Robotics Course Expectations

BCD Days; Period 4; Room: Media Center
Mrs. Edwards
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Extra Help: "D" days during Community Lunch in Media Center (after school by appointment)

Course Description

This hands-on course is designed to introduce students to the basics of engineering through the use of robotics. Robotics provides a rich platform for integrating electronics, mechanics, and programming. In this course, students will learn and apply science, technology, engineering, and mathematics (STEM) principles to creatively solve authentic problems using Lego Mindstorms EV3 robots and the graphical EV3 programming language. Time will be spent working as a class, in groups, and individually on various challenges involving researching, building, programming, testing, and presenting robotic creations.

Course Goals

By the end of this course, students will be able to:

1. Program basic robot movements using robot math and appropriate sequences of commands;
2. Utilize touch, sonar, gyro, and color sensors appropriately;
3. Apply intermediate concepts of programming such as Program Flow Models, Wait Until Commands, and Decision-Making Structures;
4. Apply troubleshooting and problem-solving strategies to solve authentic robotic challenges within an Engineering Design Process framework;

Class Expectations

We will be doing challenges, both large and small, throughout the semester. Sometimes your attempt will be a success. Other times, it will be a miserable failure. Either result is okay—***failure is an integral part of the engineering design process***. What is **not** okay: laughing at someone else's failure & frustration!

1. You may **not** criticize or make fun of another student's work.
    a. This includes laughing, teasing, or comparisons, however, you may provide **CONSTRUCTIVE** comments.
    b. To be constructive, the comment must be specific and offer a possible solution. For example, "*Hey your robot doesn't go straight*" is **not** acceptable, but "*I noticed that your robot veers to the left. It looks like the back wheel is rubbing against the frame*" is welcomed.
2. No designs are private property.
    a. Anyone may get ideas from any other design – just make sure you give the other person credit for it!
    b. If someone copies a piece of your design, the proper reaction is to be flattered—clearly, the other person has recognized your brilliance!
    c. If you get stuck, feel free to look at other people's designs to see how they have solved similar problems.
3. Listen when someone else is talking—you'll have a chance to share your ideas, too!
4. Behave in a safe and appropriate manner at all times.
5. Take responsibility for your behavior and learning – be prepared.
6. Work cooperatively—be the person everyone hopes is in their group!
7. And finally, relax! Things will go wrong—but you will have plenty of time and assistance to fix the problems.

Materials You Will Need to Bring to Class Every Day

- ✓ A charged, functioning tablet (with optional headphones)
- ✓ Pens/Pencils and a folder
- ✓ Any work or materials, as assigned

Grading

Your grade is based on a point system. The **approximate** point values are shown below.

Assignment	Approximate Point Value each
Capstone Project	150
Unit Tests	50
Homework	10
Challenges/Current Events (announced or unannounced)	20-40
Mini-Challenges/Classwork	10-20
Class Participation	50 points for each marking period
Final Exam	As Per MHS Policy

Use the Student & Parent Portals to keep track of your grades!

Assignments

1. Unless otherwise stated in Canvas, all assignments are due before the **START** of class.
2. All assignments are listed in the class Canvas course with a due date and submission method.
3. Anything submitted after class starts will be considered **late** and subject to the following point deductions:
    a. Within 1 rotation of due date: -20%
    b. Between 1-2 rotations of due date: -40%
    c. Between 2-3 rotations of due date: -60%
    d. After 3 rotations from the original due date: 0% (no credit given)

   Example: A **20 pt**. assignment was due before class started on a "B" day.
   - You submitted it after the original "B" due date/time but before the next "B" day class. Your starting grade automatically drops to a **16**.
   - You submitted it after 1 full rotation from the original "B" due date but before the 2nd rotation of "B" day classes. Your starting grade automatically drops to a **12**.
   - You submitted it after 2 full rotations from the original "B" due date but before the 3rd rotation of "B" day classes. Your starting grade automatically drops to an **8**.
   - You submitted it after 3 full rotations from the original "B" due date. **No credit will be given.**

   The only exception to these deductions are absences from class per the MHS Student Handbook. In general, you have as many days as you were absent to make up your work for full credit. Below is an excerpt of its "Make Up Work" section of the handbook:

   > *Students who are absent for any reason will be required to make up work missed in each class. This work should take approximately the same time as the time missed from class...It is the student's responsibility to obtain all make up work from his/her teachers immediately upon return to school. Failure to obtain make up work is no excuse for not doing work missed.*
   > *[https://www.manasquanschools.org//site/Default.aspx?PageID=2619]*

Final Exam

At the end of the semester, all students will take the final exam, unless exempted by Guidance.

Class Participation

You will start off with 50 class participation points for each marking period. Each day you are not participating, or you are not prepared, you will lose 5 points from this score.

To be considered prepared & participating in class you must:

1. Have a charged, functioning tablet, and any assigned peripherals

2. Stay on task during the entire class (no cell phones, other distractions)
3. Use tablet for authorized activities ONLY
4. Actively participate in group activities and challenges; have a positive "can-do" attitude!

****THIS IS AN EASY WAY TO EARN THE EQUIVILENT OF A TEST GRADE!**
BE SURE TO BE PREPARED & PARTICIPATE EVERY DAY!**

Policies & Classroom Procedures

All policies, as outlined in the both the ***MHS Student Handbook*** and ***Manasquan Board of Education - Bylaws, Policies, & Regulations*** will be adhered to.

Highlights:

1. Students are expected to do their own work.
    a. Copying, cheating and/or plagiarizing will result in a grade of **zero** for that assignment.
2. Coping and pasting directly from the internet is not allowed.
    a. Cite your sources! See Mrs. Edwards for assistance if you're not sure how to cite it.
    b. If no sources are submitted, it is cheating and/or plagiarism and will be treated as such!
3. Electronic Devices are to be used appropriately at all times.
    a. Do not use any unapproved website, app, program, etc.
    b. ***Remember, your tablets are constantly monitored while in class.***
    c. Do not take other people's pictures/videos without their permission.
4. Put away mobile devices and other non-class related materials before class begins.
5. Store/throw out any food & drink prior to entering the classroom; only water is allowed.*****
6. Be in your seat working quietly on the "DO NOW" activity when the second bell rings.
7. If you're **late**, please enter **quietly**, place the Late Pass on my desk, and get right to work.*****
8. If you're **absent** from class, it is your responsibility to check Canvas for all content that you missed, speak with me, and to make up all work. You have as many days as you were absent to make up your work for full credit.*
9. If you need the **bathroom**, obtain permission and a hall pass prior to leaving the classroom; access will be at my discretion.
10. Leave the Lego Mindstorms EV3 Robots and supplies in the classroom; they are **not** to be taken home.
11. Clean up/put away all materials when instructed to and wait to be dismissed at the end of the block.
12. During Fire Drills, etc., follow instructions *calmly & quietly*. You must stay with the class, as I **will** be taking attendance wherever we're sent. Failure to stay with the class will constitute "cutting".*
    ****see the MHS Student Handbook online for further details & consequences***

Consequences of *NOT* following the classroom procedures:

1st offence… Verbal Warning
2nd offence… Parental contact & 15 mins. after school detention with teacher [2:35-2:50 p.m.]
3rd offence… Disciplinary Referral → GREEN SLIP to office!

I look forward to getting to know each and every one of you during our time together. This will be an exciting class, and I look forward to sharing this journey of exploration with you! ☺ Mrs. Edwards

Introduction to Engineering Robotics Course Expectations Acknowledgement Page

Homework: Please detach this page, fill out the form, and return it to Mrs. Edwards before class starts on Monday, Sept. 9th (D Day).

*As the semester progresses, please be aware that certain policies/procedures may change. We will discuss any changes in class and the **Canvas version of this document will be updated**. The online version will be considered the "up-to-date" document.* – Mrs. Edwards

"We have read the Introduction to Engineering Robotics Course Expectations."

Print Student Name:_____

Student Signature: _____ Date:_____

Print Parent/Guardian Name:_____

Parent/Guardian Signature: _____ Date :_____

Parent Contact Information: Select Preferred Contact Method:

Parent email address: _____ [ ] I prefer email

Parent phone number: _____ [ ] I prefer phone

Best Time to Contact Me: [ ] Morning [ ] Afternoon [ ] Evening

Parent Comments: