

Course Syllabus For ROBOTICS

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Room E-1, 2006-2007

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This is a hands-on engineering type class that uses the Lego Mindstorm RCX robot kits to explore the construction and programming of Lego robots.

Structure of the course:

The 9-week class will be cooperative in nature. The majority of the class work will be done in cooperative groups of four (4) students. These groups will be required to work together, ask questions of each other, reach consensus, and develop design, construction and programming solutions so that their robot can perform specified tasks. The problem solving skills are critical to success. The scientific method: stating what you are trying to find out, gathering information about your question, creating a prediction or hypothesis, testing your hypothesis, analyze your results, drawing a conclusion and determining what to do next is the process that will be followed to create their robots. This approach requires each of you to behave, communicate and interact with others in a respectful, honest and courteous manner at all times. Learning the art of questioning the "ideas not the person" is key.

Expectations:

A great attitude and excellent cooperation can guarantee success in this class.

PROMPT: Be on time. Enter the room quietly. Take your assigned seat. Begin the daily warm-up.

PREPARED: Bring all necessary materials to class with you. This includes: your "thinking cap", pencil, and anything else that might be needed for the lesson. **ALL WORK MUST BE DONE IN PENCIL. ALL PENCILS MUST BE SHARPENED BEFORE CLASS STARTS.**

POLITE: Everyone in this class has the right to learn or teach free from fear of being harmed, intimidated or embarrassed. To create such a positive culture we all must:

- Respect the rights and properties of all members of the classroom – they include you, your classmates and myself or a guest teacher
- Listen and follow all directions for lesson and classroom procedures.
- Adhere to all Roosevelt rules and policies as stated in the Student Handbook

Discipline Policy:

If a student chooses not to behave in an appropriate manner, the following steps will be taken, not necessarily in this order:

- 1) A verbal warning will be clearly given.
- 2) An informal meeting between student and teacher will take place.
- 3) Parents will be contacted.
- 4) Student will be sent to their advisor, Walt's Place or an administrator and the appropriate consequences will be assigned.

Absences and Make-up Work:

If you are absent it is your responsibility to arrange and make-up class work and homework. Any assignments (classroom and homework) will be posted online at http://www.4j.lane.edu/~mckenzie_c Please make sure you check this site if you are absent. As this is a hands on class most of the work will be done in class therefore please try to be in all classes as the groups depend on each member's participation for success.

Grading Policy:

1. Notebook/In class work (50% of total math grade)

Each student will have an in class folder. These folders will be stored in the class and contain all class notes, daily journal entries and the answers to the following questions on a daily basis.

- 1) What are you investigating/doing today?
- 2) How did you test you questions? (Reprogrammed something or rebuilt something Why?)
- 3) What did you learn/discover today about robots?

2. Cooperation/ participation (25% of total grade)

Cooperation and excellent social skills are key ingredients in the working world that I want students to participate in fully. Manned space flight is a prime example of collaborative engineering teamwork that demands excellent cooperative skills to complete the mission successfully. Thus it is important for students to discuss, collaborate, cooperate and find consensus regarding solutions to design and programming problems as they use and develop their social interaction skills.

3. Project / newspaper / quizzes (25% of total math grade)

Students will be required to present a project about an aspect of robotic history or current uses. The instructor must approve the report topic before the end of the 4th week of class. All students will be required to bring in at least (1) one newspaper, web site or magazine article about robots that they will present briefly to the class.

Finally, I am not a fan of extra credit but from time to time extra credit assignments will be available.

C1= 100%-90%

C2= 89%-75%

C3=74%-65%

Supplies:

- Please come to class with a PENCIL!!!!
- Please come prepared to work with others

Parent involvement and Communication:

Please do not hesitate to call, email or drop by if you have any comments, questions or concerns during the school year. My hope is that each student is successful in this class and I look forward to working with you and your student to achieve that goal. You can reach me at Roosevelt 687-3227 or email me mckenzie_c@4j.lane.edu. As much as possible I am available for individual help after school and during posted office hours. Please see me if we need to set-up other times.

Please fill out, sign and have your student return the contact sheet on the next page. Thank you.

CONTACT SHEET

Student Name: _____
(Please print)

Address: _____



I have read the course syllabus and understand the responsibilities for this class. As a student, I agree to complete all assignments on time and make arrangements to come in before or after school if I need extra help. As a parent, I agree to support my student to complete all assignments on time and require my student to make arrangements to come in before or after school when additional help is needed.

Student signature _____

Parent/Guardian Signature _____

Date: _____



Contact Information

Please list the names I may contact if it is necessary to discuss your student's behavior or grade.

1) _____
Name Home phone Time

Name Work Phone Time

Email address: _____

2) _____
Name Home phone Time

Name Work Phone Time

Email address: _____

COMMENTS: Please write any helpful information. Thank you!!