First Tech Challenge

Course Syllabus

Instructor Information
Name: David Moon
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Course Description

This is a semester-long class that serves as an introduction to robotics. Students will design and build a robot to perform tasks assigned by FIRST Robotics. With the help of community support, students will compete against other students in the FIRST Tech Challenge. Students will also learn skills in computer aided design (CAD), marketing and finance, and documenting the design process by keeping an engineering notebook. Competition performance at the end of the semester will amount to 15% of semester grade.

Curricular Information
Required Reading: NA **Additional Resources:** https://www.firstinspires.org/robotics/ftc **Supplies Required for this Course:** NA

Daily Time and Effort Expectations: Much of the semester will be working as part of a group. Students are expected to manage their time well and be responsible for their individual portion of the group's goals.

Google Classroom: All written assignments will be accessed and submitted through Google Classroom. The criteria for the robotics portion will be accessed through Google Classroom and submitted in class on the due date.

Course Schedule

Topics	Major Assignments	Timeframe
Robot Design	*Design and build a robot for the FTC competition.*	*3-4 weeks*
	Design and build attachments suitable for completing the competition tasks.	
Robot Programming	*Programming the driving of the robot with controllers.*	*Throughout the semester*
	Program the autonomous portion of the competition.	

	Program the attachments.	
SolidWorks Model	*Create a SolidWorks model of the team's competition robot.*	*2-3 weeks*

Course Evaluation:

The percentage breakdown for semester grade calculation will be as follows:

Skills Practice……..35%

Skills Practice will consist of individual assignments for robot design, robot programming, and SolidWorks model.

Assessments……50%

Assessments will be based on the average score from FTC competition rounds.

Final Exam or Project……15%

The Final will consist of a personal reflection paper about their design and solution creation process.

Grading Scale

Grade	***Percentage***	***Proficiency descriptors***
A+	**97-100**	*Assignments are fully completed in a timely manner and of excellent quality; the student shows superior level of initiative and seeks to go beyond the minimum requirements. Errors are rare or nonexistent.*
A	**93-96**	
A-	**90-92**	
B+	**87-89**	*Assignments are fully completed in a timely manner and typically of above average quality; the student is conscientious and meets all requirements with few errors.*
B	**83-86**	
B-	**80-82**	
C+	**77-79**	*Assignments are generally complete (met minimum requirements) and of good quality; assigned tasks have occasional errors.*
C	**73-76**	
C-	**70-72**	
D+	**67-69**	*Assignments are generally incomplete or of poor quality; the student makes frequent errors in work.*
D	**63-66**	
D-	**60-62**	
F	**0-59**	*Work is poorly done, if at all. Overall performance is inadequate to pass the course.* *Note: No name = No credit* *Illegible = No credit* *Late = No credit (*will STILL complete and submit the*

		assignment)

Classroom Policies and Expectations: Students are expected to adhere to the classroom rules set by the teacher in their assigned classroom, and in accordance with expectations found in the North Idaho STEM Charter Academy Student Handbook and Technology Policy.

Academic Honesty Code of Conduct:
"On my honor, I will maintain the highest possible standards of honesty, integrity, and personal responsibility. This means I will not lie, cheat, or steal, and as a member of this academic community, I am committed to creating an environment of respect and mutual trust."

Violations of this code include, but are not limited to:

- Copying another person's work or allowing your work to be copied (plagiarism)
- Allowing someone other than yourself to complete work in your name
- Using unauthorized assistance on an assessment or assignment
- Falsifying or manipulating data
- Submitting the same work for multiple courses without instructor's permission
- Giving answers to other students
- Lying to an instructor
- Tampering with or destroying the work of another student
- Using responses found on the internet, or created with the use of technological means (ex artificial intelligence, etc)

*****Any outside sources used on an assignment should be referenced and cited appropriately.*****

Consequences for Academic Dishonesty: At the instructor's discretion, the student **will** lose partial or full credit for the assignment. The student will be on notice that the incident will be recorded in the gradebook and his/her parent(s) will be informed. Future academic dishonesty incidents will result in a grade of zero for the assignment, a meeting with the principal, and possible loss of credit, suspension, or expulsion. Direct copying is plagiarism. Only original work may be submitted for this (and any other) academic course. If you have any questions about avoiding plagiarism, please visit the **OWL at Purdue's "Avoiding Plagiarism" web page.**