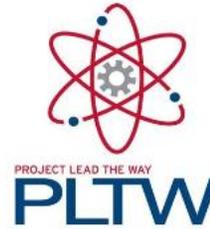


# Dorchester District Two

## Ashley Ridge High School

### Introduction to Engineering Design Syllabus



**Teacher:** Jess Fritz

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**Teacher Web Address:** <http://www.ddtwo.org/Domain/2876>

**Tutoring:** SLT, before and after school by appointment

**Join Remind:** text @IEDfritz to 81010 (both students and parents are welcome to join)

#### **Project Lead the Way**

Project Lead the Way (PLTW) is the leading provider of rigorous and innovative STEM (science, technology, engineering, and math) education curricular programs used in schools. As a 501(c)(3) charitable organization, PLTW exists to prepare students for the global economy through its world-class curriculum, high quality professional development, and an engaged network of educators, students, universities, and professionals. PLTW's comprehensive curriculum has been collaboratively designed by PLTW teachers, university educators, engineering and biomedical professionals, and school administrators to promote critical thinking, creativity, innovation, and real-world problem solving skills in students. The hands-on, project-based program engages students on multiple levels, exposes them to areas of study that they typically do not pursue, and provides them with a foundation and proven path to college and career success. For more information, visit [www.pltw.org](http://www.pltw.org)

#### **Course Description**

Grades: 9-12 Students dig deep into the engineering design process, applying math, science and engineering standards to hands-on projects. They work both individually and in teams to design solutions to a variety of problems using 3D modeling software and document their work in an engineering notebook.

#### **Course Units**

Unit 1: Design and Problem Solving

Unit 2: Assembly Design

Unit 3: Thoughtful Product Design

Unit 4: Making Things Move

#### **Text/Supplementary Student Materials**

*Students will have access to all course materials online at [www.mypltw.org](http://www.mypltw.org)*

The following supplies are needed for this course.

- Composition notebook with graph paper ¼" grid size
- USB flash drive (4 GB or larger)
- Writing implements
  - Blue or black pens
  - Pencils
- Scientific Calculator (does not have to be graphing)
- Ruler to use at home
- Stylus for writing on the student computers are suggested, but not required
- Classroom supplies like tissues, hand sanitizer, and Clorox wipes are always appreciated!

### Assessment Plan

Grades are calculated on a weighted point scale as shown below for EACH quarter (9 weeks).

Category	Type of Task	Percentage of Grade
Oral Participation	Formative	0%
Daily Questions	Formative	0%
Major Assignments and Assessments	Summative	50%
Minor Assignments and Assessments	Summative	25%
Practice, Classwork, and Homework	Summative	15%

**Summative assessment** is the process of evaluating (and grading) the learning of students at a point in time.

**Formative assessment** is evaluation of student learning that aids understanding and development of knowledge, skills and abilities without passing any final judgment (via recorded grade) on the level of learning.

### Assessment Days

Assessments dates will be announced **AT LEAST 3 DAYS** in advance. If you know you will be absent on the scheduled assessment date, you will need to make other arrangements. See the late work/absences portion of the syllabus.

### Engineering Notebooks

Every student will be required to keep an engineering notebook for all completed projects. Engineering notebooks must be neat and chronologically organized. Engineering notebooks will be turned in with each finished activity. Engineering notebooks must be reproduced if a student loses their notebook. This year, we are allowing students to use a composition notebook with graph paper, grid size ¼ inch. If students would like to use the PLTW Engineering Notebooks, they may purchase them from Fritz for \$4 each or go online to get them, where they start at about \$7.

### Grading Percentage and Quality of Work

Grade	Scale	Description of Work
A	90-100%	Consistently demonstrates an exceptional level of quality and effort. Mastery in evaluating, synthesizing, and applying the principles of engineering.
B	80-89%	Consistently demonstrates proficient knowledge with a good effort and quality of work. Demonstrates the ability to evaluate, analyze, synthesize and apply the principles of engineering.
C	70-79%	Demonstrates proficient knowledge and the ability to apply and analyze engineering principles.
D	60-69%	Demonstrates a basic understanding of recalling or comprehending engineering principles.
F	Below 60%	Understanding is below basic in relation to engineering principles. Work does not meet standards or expectations.

### Grading Procedures

Parents can access grades through Power School at <https://ps.ddtwo.org/public/>. Formal progress reports can be requested of the teacher at any time. Interim reports will be issued at the midpoint of each quarter. Report cards will be issued at the end of each quarter.

Quarter	Dates
1	9/8/2020 – 11/9/2020
2	11/10/2020 – 1/29/2021
3	2/2/2021 – 4/13/2021
4	4/14/2021 – 6/16/2021

### Absences and Late Work

- Participation in class lectures, activities, projects, demonstrations, and other assigned work are essential to success in any CTE class.
- Work missed due to an absence must be made up within 3 school days of return to school unless other arrangements are made with the teacher.
- PRACTICE/CLASS WORK WILL NOT BE ACCEPTED LATE UNLESS STUDENT IS ABSENT.
- NO LATE WORK FOR A UNIT WILL BE ACCEPTED AFTER THE UNIT TEST HAS BEEN ISSUED.
- There will be a 10% penalty of the original point value for each day other assignments (activities, projects) are late.
- Students who are absent on activity days may make up the activity with no penalty, but an alternate assignment may be given.
- Students who do not have proper attire or a signed lab safety contract on file will not participate in activities, but will be allowed to obtain data from other students and turn it in for a 10% penalty of the original point value.

### Major Class Rules and Expectations

1. Come to class prepared with your engineering notebook, pens, pencils, and willingness to work
2. Respect others
3. Observe all rules in the AR Student Handbook
4. No profanity
5. No food during class
6. No personal grooming
7. No phones unless approved by teacher

### Class Procedures

1. **Make-up Work:** IT IS THE STUDENT'S RESPONSIBILITY TO COMPLETE MISSED ASSIGNMENTS WHEN ABSENT AND GET ASSIGNMENTS TURNED IN ON TIME. All assignments are posted daily within Teams in the Class Notebook. Chronic absences are detrimental to grades. Please avoid unnecessary absences.
2. **Hall Passes:** Students should minimize hall passes to emergencies ONLY. Hall passes may not be used in the first or last ten minutes of class or during notes/direct instruction. If there is a medical situation in which a student needs additional access to the restroom, a note from a doctor must be provided to the school nurse.
3. **Tardy Policy:** If a student is tardy to class, they must enter the classroom with a pass. If they do not have one in hand, they must go to Student Information to sign in, where they will be given a pass to class. Students must be in their assigned seat when the bell rings. **If a student is not in his/her assigned seat when the bell rings, the student will receive an unexcused tardy.** Tardies are subject to administrative consequences as outlined in the AR Student Handbook.
4. **Food and Drink:** Food is **NOT** permitted in class. Drinks with lids are permitted.
5. **Pencil Sharpening:** Students are to sharpen pencils before class begins. If a situation arises where a student needs to sharpen pencil during class, he/she may sharpen his/her pencil when the teacher is not talking.
6. **Hand-Raising:** If a student has a question during class, he/she should raise his/her hand and wait to ask the question until called upon by the teacher. If the situation is during a test or independent activity, he/she should raise his/her hand and wait for teacher patiently.
7. **Class Discussions:** During class discussions, it is important that everyone is able to state their own opinion. Each student should be treated with respect from each of the other students. Any disrespect or mockery will not be tolerated. If this occurs, that student will be asked to leave the class and receive a referral to administration.
8. **Throwing Away Trash:** Wait until the end of class. Clean up after yourself.
9. **Group Work and Activities:** The purpose of group work is for students to work together for a greater good – contribution from each student is required. Groups will be assigned. Use indoor voices.
10. **Hallways:** Students are expected to keep voices low and horse playing in hallways while traveling from classroom to activities will not be tolerated.
11. **School Announcements and Pledge of Allegiance:** Students are expected to be quiet during announcements and stand during the Pledge of Allegiance.

12. **Late Work:** Practice/class work will **NOT** be accepted late unless student is absent. We go over homework assignments during the next class. If you do not have an assignment complete when we go over it, the grade is a zero. No late work for any unit will be accepted after the unit assessment has been issued. All due dates will be posted on the wall in the classroom and sent out via Remind.
13. **Dismissal from class:** The bell does NOT dismiss you from the class. At my signal, all students need to pay attention to the teacher. The amount of time that it takes for the class to be on task is the amount of time you will remain in the classroom after the bell rings.  
 You should be sure of the following before exiting the classroom:
  1. Your desk and surrounding area is free of trash
  2. Computers and other materials are put back in appropriate location
  3. Fritz has dismissed the class
14. **Electronic devices:** Cell phone use during instruction is **NOT PERMITTED**. I will inform students if it is appropriate to use their cell phones during class time. In engineering, we will be using both the student devices and school laptops for specific programming.
15. **Personal Grooming:** This includes brushing/combing hair, applying cosmetics, spraying fragrance of any kind, and putting on lotion. Personal grooming is to be done outside of the classroom.

#### Consequences\*

1. Verbal warning
2. Student-teacher conference
3. Parent contact
4. Referral to administration

*\*Extreme clause: If a situation arises in which an action or behavior of a student is extremely detrimental to the positive classroom environment or disrupts other students' learning, the consequence will escalate as appropriate.*

#### Parent/Teacher Contact

Parents should feel free to ask about their student's progress. Please email or call me at any time. It is generally easier to make contact via email. Requests for teacher conferences must be scheduled through the Guidance Office.

#### Assessment Corrections

Students are able to complete assessment corrections on any assessment throughout the school year to improve their grade on that assessment. This must be done in the classroom, on the student's time, not class time. This pertains to all students, not just students that have failed a test. Correctly corrected items will be given half credit back to the student. Corrections on an assessment may only be done once.

#### Quarter Failures

If a student fails a quarter, quarter recovery will be offered within a week of the issuing of report cards. There is no quarter recovery for Q4.

#### Interventions and Opportunity for Extra Help

Tutoring is available and free for all students who need extra help or to make up assignments and assessments. Tutoring is available during SLT daily and by appointment before or after school.

#### Academic Integrity

Academic integrity is the pursuit of scholarly activity in an open, honest, and responsible manner. Academic integrity includes a commitment not to engage in or tolerate acts of falsification, misrepresentation, or deception. Such acts of dishonesty violate the fundamental ethical principles of the Ashley Ridge High School. Cheating results in an automatic zero and the student will not be permitted to resubmit the assignment. Cheating also results in a referral made to administration. Examples are cheating, copying on an assessment, plagiarism, handing in another student's work as your own, and paying another student to do your work. Please refer to the AR Student Handbook for a complete description.