

Introduction to Engineering

Mountain Vista High School

Mr. Allison

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Overview:

The purpose of this course is to introduce the student to the engineering profession. The course seeks to answer the questions common to new engineering students: What is engineering? What do engineers do in their profession? What are the different types of engineering? What is the difference between science and engineering? In order to best answer these questions, the student will be immersed into engineering through a multitude of lectures, hands-on laboratories, homework and reading assignments. Furthermore, the important concept of engineering design will be introduced through a semester long, iterative project involving group brainstorming, hand calculations and computer analysis, and finally fabrication and laboratory testing.

Students will focus on incorporating skills in technical sketching and design, problem solving using **critical thinking**, manufacturing from design and teamwork.

General Outcomes:

- Simple mechanics to analyze truss structures and predict failure loads and locations,
- Simple fluid mechanics to determine drag coefficients and apply these to engineering problems such as drag on automobiles or submarines,

Grading:

A classroom cumulative point system will also be used:

A	90 – 100
B	80 – 89
C	70 – 79
D	60 – 69
F	< 60

***Points will be given for projects, participation, tests and quizzes.**

Policies:

- Students in the Tech Lab must pass all safety and tool tests to use the equipment.
- You are responsible for all assignments and tests, even when you are away from class.
- Late assignments and tests will be accepted until the week before finals. No assignments will be accepted after this time, no exceptions.. These are recorded as zeros until the work is turned in.
- Your work is your work; please do not share files of any kind unless given consent by the teacher. Both parties involved are responsible and will receive a grade of zero.
- You are responsible for computers, furniture, and room environment. Clean up after yourself and your team.

- All equipment will be returned to its designated area after use.
- Students will complete a safety test with a score of 100% for the opportunity to use the tools in the Technology Lab.
- *POSITIVELY NO FOOD or DRINKS ALLOWED IN THE ROOM AT ANYTIME except water. Please keep it away from the computers.
- CD players, iPods, MP3s or CD's in the disk drives also are not to be used in class unless working on a project. The listener must have their music at an acceptable hearing level. A class radio station will be provided for listening.
- Unsupervised students shall not have access to the lab at any time before, during, or after school.
- Sign-ups will be required to utilize all labs during SOAR. Only students enrolled in a Technology class will be allowed to attend SOAR in U214.
- Trespassing in the folders, work, or files of other users constitutes a violation of your Internet Usage Agreement and is subject to discipline.
- **We have new computers in the lab this year. There will be a ZERO TOLERANCE policy with regard to damage to ANY equipment in the Technology Lab. Students will be given a minimum 1 day detention and be required to pay for a REPLACEMENT for the damaged equipment.**

Late Work Policy:

Late assignments and tests will be accepted until the week before finals. No assignments will be accepted after this time, no exceptions. These are recorded as zeros until the work is turned in

Team Assignments and Seating Assignments:

You will be assigned to work in teams of 2 for design project, lab, and homework assignments. One assignment or project will be submitted per team. However, you should work individually on homework assignments first and then get together to collaborate on one final solution to be submitted. You will also sit together with your team in class to facilitate in-class learning exercises. Students will evaluate the performance of their team members at the end of the semester.

Work Guidelines:

Remember that the written work that you submit to your instructor is an important communication. You should take pride in submitting your best effort. We expect that your work will have the following qualities:

1. Neatness. Write clearly; minimize erasures and cross-outs. Do not submit paper torn from a spiral binder with ragged edges.
2. Organization. Present problems in order and write out the solution in an organized way. Do not try to squeeze it into as small a space as possible. Answers and derivations should be easy to find. Number each page and staple all sheets together in the correct order.
3. Completeness. Include your name, date, number of assignment, and your instructor's name. For each problem, include both the problem statement and the complete solution. Show all of your work.

I look forward to a great semester. Work hard and work as a team.

Think like an Engineer!

Mr. A

MVHS Technology Lab Syllabus Sign-off
Intro to Engineering

***I have read the 2010 Intro to Engineering syllabus and agree to the policies and procedures of the technology lab at MVHS.**

Student Signature

Date

Parent Signature

Date

Period