



# Deer Valley Unified School District

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**Mr. Miller**  
**Introduction to Engineering**

**Room: # C108**  
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## **Course Description:**

Introduction to Engineering Design (IED) is appropriate for all students who are interested in design and engineering. The major focus of the IED course is to expose students to the design process, research and analysis, teamwork, communication methods, global and human impacts, engineering standards, and technical documentation. Students will employ engineering and scientific concepts in the solution of engineering design problems. In addition, students use a state of the art 3D solid modeling design software package to help them design solutions to solve proposed problems. Several design projects will be constructed in our prototype lab.

The course of study includes:

- Design Process · Modeling
- Sketching · Measurement, Statistics, and Applied Geometry
- Engineering Drawing Standards · CAD Solid Modeling
- Reverse Engineering · Consumer Product Design Innovation
- Product Marketing · Presentation Design and Delivery
- Graphic Design · Engineering Ethics
- Design Teams

## **Course Objectives:**

By the time the student completes this course of study, the student will know or be able to:

- Demonstrate a high degree of problem-solving skills
- Apply their knowledge of research and design to create solutions to various challenges
- Be proficient in visualization, sketching and 3D CAD applications
- Document their work and communicate their solutions to their peers and members of the professional community
- Learn to work cooperatively as part of a design team
- Build scale and working prototypes of their projects

**STANDARD 1.0** Investigate the field of Engineering to address the needs of a global society.

**STANDARD 2.0** Create engineering solutions by applying a structured problem-solving/ decision-making process.

**STANDARD 3.0** Apply mathematical laws and principles relevant to engineering technology

**STANDARD 4.0** Apply scientific laws and principles relevant to engineering technology

**STANDARD 5.0** Apply technology and tools to engineering solutions.

**STANDARD 6.0** Apply communication skills to engineering projects.

**STANDARD 7.0** Apply project management and techniques to engineering solutions

### **Classroom Rules and Consequences:**

Students are expected to show respect, act responsibly, work to the best of their ability, and complete all assignments. Students shall follow all school and classroom rules, use appropriate language, listen to and follow instructions, be on task and on time to class every day. Students are expected to exhibit high levels of academic honesty, plagiarism and cheating will not be tolerated. Violations will be dealt with as outlined in the student handbook. Food and drinks are not allowed in the classroom at any time. Cell phones and other personal electronic devices are not allowed in class at any time. Students found using these devices during class will have them confiscated and turned in to the conduct office

### **Grade Book Weighting: (District Wide)**

80% Assessment (Projects, Presentations, Portfolios, Reports, and Quizzes)

20% Coursework (Activities and Notes)

### **Grading Scale**

100% - 90%

89% - 80%

79% - 70%

69% - 60%

59% - 0%

### **Students will be graded on the following:**

Engineering Notebooks, Design Projects, Presentations, Design Portfolio and Reports , Homework, Activities, Quizzes and Finals.

Design Project and Report grading is based on published rubrics for each assignment. The projects are intense, involved, and can require considerable time. Many projects will require the software found on the school computers. Thus, they can only be completed during class or during AcaPrep. Arrangements will need to be made if an assignment is missed or not finished in class within the time constraints. There will be no extra credit work in this class.

### **Report Cards**

In an effort to conserve resources and harness the capacity of our electronic grade reporting program (PowerSchool) district schools will no longer print hard copies of report cards unless requested by individual parents. To request a hard copy of your student's report card, please contact the front office at 623-376-3000. To receive your PowerSchool login, please stop into the office with a valid photo ID.

**Power School Online Access:**

Grades and attendance may be accessed 24 hours a day online with your Power School access code. Access codes are available in the Counseling Office or Front Desk Monday – Friday 7:00 AM– 3:30 PM. You may check student progress regularly on the PowerSchool site using the same login for one or more students. For Mountain Ridge parents/guardians without home computer access, a computer with guest log-in capability is available in the Counseling Conference Room.

**Academic Assistance/Office Hours:**

In addition to the Academic Prep times built into our schedule each week, additional assistance/tutoring is provided on a weekly basis both by MRHS and individually by instructors. These office hours will be posted in my classroom, website, and/or Canvas at the start of each week. I will demonstrate to the students how to find my availability each week.

**Make-up Policy:**

**Absences:** After an absence, a student has one school day for each day missed to make up work/tests, regardless of the number of days absent. If many days were missed, please schedule an appointment with me to formulate a plan for the completion of make-up work. Make-up work for extended absences (over 3 days) may be requested through the Counseling Office and picked up there.

**Late Assignments Policy:**

In order for **Late Work** to be accepted, students must meet the following parameters:

- Assignment is not due within the class period
- Assignment is not a timed activity (such as a Quick-Write Essay)
- Assignment is not a Long-Term assignment (over multiple weeks)
- Assignment is turned in by the end of the instructional unit

**Classwork Policy:** In-class assignments may be due by the end of the class period.

**Test Retakes – Assessment Category Only**

The student completes another assessment of the same learning targets. The assessment to be retaken may be in the same format or a different format and will be at the same difficulty level. The higher of the two scores will be entered in the gradebook.

To earn a retake opportunity, a student must complete all of the following:

- Consult with the teacher and request a retake.
- Submit a reassessment plan.
- Submit all missing assignments and reviews for the testing unit.

## **Reassessment Plan**

- The student must initiate contact with the teacher within 5 school days of the assessment score being posted.
- The student must communicate with the teacher to create a reassessment plan.

## **AI Statement**

In Deer Valley Unified School District, we are committed to providing our students with the best possible education while ensuring their safety, privacy, and well-being. As part of our ongoing efforts to enhance learning experiences, we may incorporate the use of Artificial Intelligence (AI) in the classroom for students. However, it is important to approach this technology with caution and adhere to responsible data privacy practices.

DVUSD has determined that the use of Large Language Models (LLMs), such as ChatGPT, is prohibited unless clearly specified by your teacher. Specific guidelines will be provided in the assignment details. If you are unsure if the tool or website you are using is an LLM or if it is permitted on a specific assignment, please contact your teacher before submitting your work.

## **Daily Device Use (iPads)**

Students should come to school with their iPads charged and ready to use in each class every day. Devices may not be used to record or take photos of other people without their consent. Consequences for classroom disruptions and misuse of devices will follow a progressive discipline model, beginning with a phone call home and progressing to office referrals for repeated or more serious offenses. See the Student Rights and Responsibilities consequence chart in the handbook for more specific descriptions of infractions and consequences.

## **Recommended Supplies for this Course:**

- A blue or black pen
- A pencil
- A calculator

**Math/Science Calculator Policy:** Ipads and Phones will not be permitted on tests and quizzes.