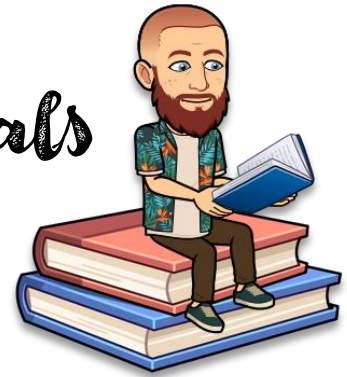


Engineering Essentials

Course Syllabus
Mr. Marcos Velazquez



Description

Students will explore the breadth of engineering career opportunities and experiences as they solve engaging and challenging real-world problems like creating a natural relief center system or creating a solution to improve the safety and well-being of local citizens. Explore how engineers make a difference and improve lives, while using modern engineering tools, such as geographic information systems, 3-D solid modeling software, and prototyping equipment. Work on your own and as part of a team to develop solutions to community and global challenges that the next generation of engineers will face.

Contact Information

Room: P205

Email: mvelazquez@coheaedu.com

Phone: (305) 362-4006

Planning: 7th Period

Required Materials

- Engineering Notebook or Quad Ruled Composition Book
- Computer with Internet Access
- Pencils
- Calculator (Scientific or Graphing)
- Ruler, Protractor & Compass (recommended)

Classroom Rules & Expectations

1. Always be on time to class.
2. Always show respect for your teacher and classmates.
3. Always use classroom-appropriate language.
4. Always bring your required materials.
5. Always use electronic devices for school-related material only.
6. Always raise your hand to be recognized.
7. Always ask questions and participate in class discussions.
8. Always communicate with your teacher about expected or continued absences.
9. Always wait at your seat for the bell to ring for dismissal.
10. Always try your best.

Consequences

Failure to adhere to the proper rules and procedures for this class or COHEA in general will result in the following:

1. Verbal warning/Seat change
2. Student-teacher conference
3. Contact parent/guardian
4. Written referral
5. Disciplinary meeting with parents and administration

Grade Breakdown

- 30% Major Assessments / Tests
- 25% Mini-Assessments / Quizzes
- 20% Class Learning
- 20% Projects / Co-op Work
- 5% Home Learning

Late & Make-Up Work

- Late work is prohibited without an excused absence.
- Make-up work may be given at teacher's discretion.

Course Topics

1. Unit 1: Inclined to Design

- a. 1.1: Engineers & Engineering
- b. 1.2: Systems & the Engineering Design Process
- c. 1.3: Product Design
- d. 1.4: Natural Disaster Relief Center

2. Unit 2: Make it Move

- a. 2.1: Machines
- b. 2.2 Mechanical Advantage
- c. 2.3: Mechanical Systems

3. Unit 3: Power it Up

- a. 3.1: Energy Conservation
- b. 3.2: Logic
- c. 3.3: Electromechanical Systems

4. Unit 4: Make a Plan

- a. 4.1: Urban Design
- b. 4.2: Maps as Models
- c. 4.3: The Sustainable Urban Environment
- d. 4.4: A Better Place

Technology Policy

The classroom is a no cell phone zone. If your parents/ guardians need to reach you in an emergency, they must call the office. You will have access to your school-issued iPad for instructional use.

In signing below, I indicate that I have read and understand all rules, requirements and expectations outlined above.

Print Student Name

Student Signature

Print Parent/Guardian Name

Parent/Guardian Signature



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