

Engineering Technology -1st semester 23/24

INSTRUCTOR

Mr. Wusk

Engineering Technology Description

Engineering Technology - This class is a semester and is designed to cover the four areas of technology (communication, construction, manufacturing and transportation). Students will learn basic concepts through lectures, notes, videos, field trips, and hands on experience.. In Communication we will cover the principle of design. In construction we will cover different structures and then design a bridge. In manufacturing we will take field trips of various industries around the area. The principles of hydraulics, pneumatics, robotics, plastics, and quality control will also be covered. In Transportation we will the cover four transportation types. They will also build a CO2 car, learning about aerodynamics. Students will construct a model rocket and learn the basic of flight. Solar will be introduced and a solar car will be built.

Expectations:

Students are expected to:

1. Be on time and in class everyday
2. Be in your assigned seat
3. Participate in the designated daily activity displaying a productive effort.
4. Remain in the assigned area until the bell sounds and the teacher dismisses the class.
5. Be responsible for any of their equipment used in the lab area.
6. Make up all work missed due to an excused absence.
7. Have respect for others working in the lab.
8. Be polite to others working in the lab.
9. Have self-control when working in the lab.
10. Be reliable in their work.
11. Notify teacher immediately in case of an accident, no matter how trivial it may appear.
12. Know the locations of the fire extinguisher and first aid kit.
13. Notify the instructor immediately if a machine is not working properly.
14. Most of all have FUN!

Grading policy:

Summative: 80%

10-Unit Test

Essential terms test

Final test
Projects- CO2 car, vinyl sticker, plastic tools, Rocket, Bridge designs
Formative: 20%
Unit reviews
Worksheets
Multimedia x1
Technical writing- how to steps- 100 steps= 100%

For a student to be granted a retake, teacher approved remediation must have taken place. We may do the remediation during class study time, before school (7:45-8:10), after school (3:35 – 3:45). It is the student's responsibility to make arrangements for the retake.

Classroom rules:

1. Wear proper eye protection at all times during laboratory activity.
2. Tuck in any loose clothing.. Take off rings, watches and any jewelry that might get caught in the equipment.
3. Do not, eat, or drink, in the lab.
4. No horseplay in the lab.
5. Do not talk when the teacher is talking.
6. Footwear that completely covers the foot is highly recommended.
7. Do not talk to anyone while using the machines in the lab.
8. Put all used rags in the waste container with lid.
9. Do not use any equipment if the instructor is out of the room.
10. Use the equipment that the machine was intended to be used for.
11. Use only the equipment that has been covered by the safety rules. Do not use any machines that have not been covered by safety rules.
12. Do not leave running power equipment unattended.
13. Do not throw or drop tools or materials.
14. Use appropriate language put your filter in.
15. Always use your head this is the best way to avoid accidents.
16. Always clean up the lab before you leave.
17. Always follow the safety rules that have been discussed in class.
18. Failure to follow the rules in class could result in being dismissed from class.

Objectives:

The Learner will

TLW explain and demonstrate the ability to work safely in the lab.
TLW assist in shop maintenance and clean up.
TLW identify materials by texture, strength, appearances, and cost.

TLW identify exhaustible and inexhaustible resources and explain how each in its own way will help or hinder the world.

TLW analyze the interaction of humans and machines.

TLW explain the history of the four areas of technology (communication, construction, manufacturing and transportation).

TLW send, receive, and understand verbal and nonverbal messages.

TLW apply a problem-solving process to arrive to a workable solution.

TLW safely operate tools and equipment.

TLW discuss employment in the four areas of technology.

TLW solve problems effectively as an individual and member of a group.

TLW summarize and report current information on a given topic.

TLW design and analyze a bridge design.

TLW explain the principles of aerodynamics.

TLW design and build a CO2 car.

TLW explain the principle of rockets.

TLW design and build a rocket.

TLW explain and apply various forms of energy.

TLW identify uses for robotics in the industry.

TLW construct and program a robot.

TLW explain the principles of hydraulics and pneumatics.

TLW explain and apply various forms of plastic (plastic injection molder, vinyl sticker, screwdriver, tees)

TLW examine differences and similarities of various cultures as related to content area.