8th Grade Industrial Arts - Mr. Herrera

This is an introductory level class designed to give the 8th grade student an in depth overview and basic skill development in Technical Drawing, Architectural Drafting, Woods, Transportation, creativity, problem solving and critical thinking. Students will progress through a series of small projects that teach each of the before mentioned concepts. The course gives the student an overall exposure to the woodworking and design aspects of the Industrial Technology department.

Class expectations:

- **Attendance** is an important part of learning, because of the class and project work; students must attend regularly and absent time may be made up before or after school.
- **Patience** is necessary for success. By learning patience, students can be more productive, helping each other and being individually helped by the teacher.
- **Performance is the result of hard consistent work.** All students should be able to be successful, but without putting forth effort on a daily basis, no one achieves.
- **A Positive Attitude** is an important part of success. Say that you can do it, not just try. Say that what is not done today WILL be done tomorrow.
- **Cooperation** helps everyone learn. When students cooperate, teaching can be successful. Students can work cooperatively with each other and the teacher. The teacher encourages students to work cooperatively with each other. When students help each other in class, there is one extra teacher for each group working together.
- **Respect yourself and others in the class** by treating each other appropriately and following instructions from Mr. Herrera.
- **Students will maintain a portfolio** of handouts and projects. Keeping track of daily and weekly work will help you practice organizational skills you will use throughout your academic career.
- **Personal integrity** is VERY important. Academic dishonesty is an obstacle to learning and to reaching your full potential. Make sure that you understand your responsibilities as stated in the handbook.
- **Communication** is another success skill, if you do not know, ask. It is very likely that if you do not understand others are in the same boat with you. Anytime that you have a question, politely ask it, either quietly to the teacher or by raising your hand and asking aloud. We are here together to become successful. Students and Parents can contact Mr. Herrera at anytime via email at jherrera@esu2.org or by phone at 402-443-4332 Extension 3214

Learning outcomes:

- Students will demonstrate an understanding of design principles and production techniques.
- Students will demonstrate an understanding of safety as it applies to their individual and group work.
- Students will demonstrate an understanding of how to solve problems and create solutions.
- Students will demonstrate an understanding of measurement and layout procedures.
- Students will demonstrate an understanding of how materials are selected and specified for various applications.
- Students will learn to work in a professional, cooperative environment, collaborating as individual projects are produced.
- Students will demonstrate an understanding of the technical vocabulary by using it in their work and definition lists that they create related to their project work.
- Students will become part of the learning process by participating in lectures and demonstrations. They will work interactively with the teacher as various procedures are demonstrated for the class.

Grading Procedures

Your grade is made up of three categories:

Participation: 20%
(Being Prepared, Participation in discussions, following safety rules)

Project Work: 60%

Tests/Quizzes: 20%

Coursework:

Unit 1: (1 week) Introduction to measurement
a. Define the parts of an inch.
2. Understand how measurement affects our daily lives.
3. Discuss measurements in metric and standard form.

Unit 2: (2 Weeks) Technical Drawing
a. Prepare a border/title block for a technical drawing
b. Create a single view drawing centered on the paper.
c. Show an understanding of mechanical drafting by creating orthographic and isometric drawings.

Unit 3: (1 Week) Shop Safety
a. Observe safety procedures and demonstrations.
b. Pass all safety tests with 100%.
c. Demonstrate safe use of the machines required for this class.
d. Demonstrate proper classroom behavior while working in the Wood Shop

Unit 4: (4 weeks) Co2 Cars
1. Sketch 10 thumbnail sketches for a CO2 car.
2. Create two rough designs from of a CO2 car.
3. Produce a final full sized metric drawing of your CO2 car applying the idea of lift and drag.
4. Produce a CO2 car from a 42 x 70 x 305mm block of balsa.
5. Sand and apply a finish to the Co2 Car.
6. Race the Co2 car in the class competition.

Unit 5: (1 Week) Acrylic Dice
a. Use shop tools to produce a sanded finish on a block of acrylic plastic.
b. Sand and polish the block to a transparent shine.
c. Measure and layout the sides of a dice.
d. Drill 1/8” holes at an appropriate depth to finish the dice.
e. Paint the holes to finish the appearance of the dice.

Assessment Strategies:
All assignments will receive Points based on the scale above. Additional projects will be assigned as needed to enhance instruction. To provide for special needs students' additional time will be allowed to complete projects, as well as extending open lab time to all students for the completion of projects. All grading will be done using Powerschool and will available to the student and parents on the powerschool system accessible through the school's home page.

For additional help:

Please feel free to contact Mr. Herrera at school at 402-443-4332 Ext 3214. You can also email at jherrera@esu2.org I am available in the mornings before school, and once football season has ended, I am available every night after school. Please let me know if there is a time when you would like to meet to make up work or to talk.

Lets have a great 9 weeks in the woodshop!

Mr. Herrera

Parent/Guardian Please Complete:

I have reviewed this syllabus and I give permission for my son/daughter to participate in the 8th grade Industrial Technology class, which includes using hand tools and some power tools and power equipment. I agree with the importance of safety in this class and will expect my son/daughter to follow all safety expectations.

(The completed safety notes and test will also be brought home to be reviewed by a parent/guardian.)

Parent/Guardian Signature_____ Date_____