



Ocean Township High School Spartan School of Technology



Gina Hagerman
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550 West Park Avenue
Oakhurst, NJ 07755
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Dawn C. Kaszuba
Principal

Engineering Graphics and Introduction to CAD

Ocean Township High School

Mr. Craig Adams

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Course Description:

This course is for 11th and 12th grade students who are interested in design and engineering. It includes basic principle of Engineering Graphics, blueprint reading and geometric constructions are reviewed. Multi-view projections and 3D visualization are introduced. CAD software named Inventor Professional is studied extensively. Using Inventor student learn dimensioning, creating Sectional, Auxiliary and Detail/Break views. Aligns with the NJIT course MET103 (**2 college credits with the NJIT Pre-College program application, and successful completion of course with a “C” or above**). **Reduced NJIT tuition fees apply.**

Course Learning Outcomes:

By the end of the course students will be able to:

1. Read a blue print.
2. Create standard orthographic views of a three dimensional object by using geometric tools (without CAD software).
3. Create a three dimensional object and standard orthographic views by using Inventor.
4. Show dimensions and tolerances of an object by following the rules.
5. Use Inventor to create Sectional, Auxiliary and Detail/Breaks views of a three dimensional object.

Class Topics:

Introduction to Engineering graphics and CAD, Line types/Geometric constructions, Introduction to Inventor, Scales in Engineering Graphics/Inventor, Shape Description, Orthographic Projections, 3D Visualization, Dimensioning, Sectional Views, Auxiliary Views, Detail/Break Views, Axonmetric Drawings, Assembly/Working Drawings, Discipline Specific Projects.

Home of the Spartans!





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Grading Policy:

Homework and class participation – 25%

Tests – 45 %

Final Exam 20%

All grades and updates of grades are posted in detail in the Google Classroom.

Course Outline:

Week

Marking Period 1-2

1	Reading a Blueprint and Use of Engineering Graphics
2	Reading a Blueprint and Use of Engineering Graphics
3	Reading a Blueprint and Use of Engineering Graphics
4	Construction Drawing
5	Construction Drawing
6	Construction Drawing
7	Construction Drawing
8	Construction Drawing
9	Construction Drawing
10	Construction Drawing

Week

Marking Period 3 - 4

11	Geometric Construction and Assembly Modeling
12	Geometric Construction and Assembly Modeling
13	Geometric Construction and Assembly Modeling
14	Geometric Construction and Assembly Modeling
15	Geometric Construction and Assembly Modeling
16	Geometric Construction and Assembly Modeling
17 – 20	Final Project/Final Exam

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