

8th Grade Design and Modeling
Course Description
Mount Vernon Middle School

Instructor: Mr. Voigt

Quarter/Year: Fall/2025-2026

Period: 3rd/4th

Room: 150

COURSE DESCRIPTION

This exploratory class will teach students introductory skills for making and interpreting technical drawings used to communicate information when building all types of items in the modern world. Students will get hands-on experience using CAD drawing software and will take items they have drawn to production in the wood lab and with the 3D printer.

STANDARDS & LEARNING TARGETS

The learning in this course is organized around two standards. Two of those standards have one learning target and one has two.

STANDARDS	1. Sketching and Interpreting Technical Drawings with Accuracy and Precision
LEARNING TARGETS	I can demonstrate capability to produce detailed and accurate sketches following technical drawing standards. Drawings are generally clear, well-dimensioned, and correctly labeled.

PROFICIENCY SCALE

The codes 1, 2, 3, 4, and M below will be used to communicate student progress in each learning target.

4	3	2	1	M	INC	NE
Mastery (Exceeds Proficiency)	Meets Proficiency	Approaching Proficiency	Beginning Proficiency	Missing Evidence (can be made up)	Students turned in evidence that was not complete (can be made up)	Missing Evidence (can not be made up)

PERFORMANCE ASSESSMENTS

Tech Ed embraces a balanced approach to assessment for all courses, integrating both formative and summative assessments. Through this balanced approach, assessment is an ongoing activity that provides students with a variety of opportunities to demonstrate their knowledge and skills, which allows teachers to monitor student progress and modify instruction accordingly. Tech Ed students show what they've learned by completing classroom activities, projects, and design challenges that undergo assessment. Also, evaluating student work through a range of tools, such as performance rubrics and reflective questioning to deepen and expand their knowledge and skills.

All summative assessments will show up in the gradebook and are used to determine the grades of students. Only some of the formative assessments will be entered in the gradebook, and these will not count towards student grade and are only there so students can track if they have done the work/practice to prepare for the summative assessments.

SPECIFIC COURSE TOPICS OF STUDY

8th Grade Design and Modeling	Technical Drawing Reading Basic Length Measurement 2D/Isometric Hand Drawn Box Drawings 2D/3D Computer Based (Sketchup) Box Drawings 3D Sketchup Practice Drawings Cube Sketchup Assemblies 3D Print Project Bridge Building Project Shop Box Build
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REQUIRED RESOURCES

Google Classroom	All classroom materials will be distributed via Google Classroom(GC). Students must sign up for this class in this application per given instructions.
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MAKEUP POLICY

Assessments that are missed will be marked missing “M” or Incomplete “Inc” in the gradebook until completed. Students must work out how and when they will make up work with Mr. Voigt in a timely manner. Missing and Incomplete assessments can eventually become No Evidence “NE” of the student’s understanding and may cause a student to fail under certain circumstances.

GRADE DETERMINATION

PowerSchool will house all assessments used as evidence towards a final letter grade.

The semester letter grade will be informed by the student’s learning proficiencies over the semester-long body of work with consideration to retained proficiencies and growth over time. Mastery of learning targets leads to mastery of course standards which in turn leads to mastery of the course.

Semester Letter Grade	Exceeds Mastery (4) Demonstrates Mastery (3) Approaching Mastery (2) Developing Foundational Skills (1) Trends in Proficiency Levels on Course Standards
A	All standards achieved at “3” or “4” levels
B	All standards achieved at “2”, “3” or “4” levels with at most one standard at “2” level
C	All standards achieved at “2”, “3” or “4” levels with two or more standards at “2” level
D	All standards achieved at “1”, “2”, “3” or “4” levels with at most one standard at “1” level
F	All standards achieved at “1”, “2”, “3” or “4” levels with two or more standards at “1” level

Important Note: If a student has missing evidence in the form of M (can be made up) or N (cannot be made up) in any amount, then the student runs the risk of failing the course. In these cases, there may not have enough evidence to determine target proficiency nor a course grade.

SCALED LEARNING TARGETS

Students will be given feedback on their level of proficiency towards mastery in each learning target using the gradations below.

Standard-Sketching and Interpreting Technical Drawings

TARGET - Sketching and Interpreting Technical Drawings with Accuracy and Precision**EXCEEDS MASTERY (4)**

Exceptional skill in creating precise and detailed technical sketches. Drawings are highly accurate, well-organized, and include all necessary details and annotations.

DEMONSTRATES MASTERY (3)

I can demonstrate capability to produce detailed and accurate sketches following technical drawing standards. Drawings are generally clear, well-dimensioned, and correctly labeled.

APPROACHING MASTERY (2)

I can demonstrate competence in creating simple sketches with a basic grasp of technical drawing conventions. Drawings are generally clear but may contain inaccuracies or lack some important details.

DEVELOPING FOUNDATIONAL SKILLS (1)

I can demonstrate basic sketching skills with minimal understanding of technical drawing conventions. Drawings may lack accuracy and detail, and are often incomplete or unclear.