

3-D Modeling II

Course Guidelines and Goals

ericbrunelle@bpsma.org

Course Description

Everything that has not been created by nature has been designed by someone. Currently, most designs are, at some point, created using a **3-D Modeling** or **CAD** program. During this course, students will advance their knowledge and techniques with **Autodesk Inventor**. During this course, you will review procedures for creating **consumer products and mechanical devices**. The course will culminate in a aircraft design project that will stretch your understanding and appreciation for 3-D modeling as an industrial design tool.

The course is divided into two parts. First, you will review the skills necessary to hand sketch designs. Second, you will display proficiency in the basic and advanced operations of **Autodesk Inventor** CAD software. You will further develop your proficiency in **Autodesk Inventor** by creating multi-part designs from tutorials and textbook exercises, giving you the necessary background for our most complex design – the aircraft.

By the end of this course, you will be able to:

1. **Conceptualize** and **draw** designs using orthographic, isometric and perspective views.
2. Use the necessary **literacy skills** to convey design ideas to your teacher and classmates.
3. Be able to **communicate** your design ideas using the vocabulary and terminology of CAD/3-D Modeling.
4. Identify the components of the Design Process in a work in progress.
5. Apply the Design Process to a mechanical engineering problem.
6. Be able to display proficiency in the basic and advanced elements of **Autodesk Inventor** software.
7. Use proper naming techniques to convey unique characteristics of a design.
8. Troubleshoot 3-D features sketch, and assembly issues using the **Model** window.

Responsibilities

1. Be on time – if you are late for class, it will be noted and reported (demerits).
2. Respect – you must be respectful at all times.

Respect means:

No swearing or inappropriate language

No talking while another person is talking

No interrupting another person while they are working

No heads on desks

Raise your hand for help or questions

NO FOOD!!

Water (in a clear water bottle ONLY) is allowed - NOT IN THE COMPUTER AREA, HOWEVER!!

No waiting at the door!!

3. Have your assignments completed on time – **NO EXCUSES!!**

What to bring to Class

1. Pencils – bring more than one. Why?
2. A Flash Drive – if you “lose” your work, **you will have to re-do it**.
3. A great attitude!

Grading

Projects, Homework, Quizzes and Tests are graded on a point system. Some are worth 10 points; some are worth 100 points, depending on the importance and amount of material covered in the assignment.

Projects/Tests –85%

Class Participation: 15%

Projects

Digital projects must use the filename formula *nameINL_CL_period*, where “name” is the project name (e.g. lego), INL is your initials, CL is the course abbreviation (e.g. CAD1), and period is the period of the day. ***THERE WILL BE AN AUTOMATIC 5% PENALTY IF THIS IS NOT DONE CORRECTLY!***

Work that is missing – ***NO MATTER THE REASON*** – must be made up. Students should purchase an 8 -16 GB ***FLASH DRIVE*** (about \$10 at Staples, Walmart, Office Max) to use as a back-up for digital files that are created in class. If your work is missing due to BPS network problems, ***that is not an excuse for not turning it in. YOU SHOULD BACK UP ALL OF YOUR FILES ONTO A FLASH DRIVE!!***

Missed **quizzes** and **tests** must be made up within two days of returning to school, unless there are extenuating circumstances and approval of Mr. Brunelle.

I have read and understand the course expectations:

Student

Parent/Guardian