

Computer Aided Drafting and Design

Mr. Todd Kress

Phone number/voice mail: 552-5575

E-mail: tkress@dbqschools.org

COURSE DESCRIPTION

This course will teach students computer 2D, 3D, and solid modeling techniques used in mechanical drafting. It is also designed to take a closer look at the CADD software. We are going to be learning many more techniques in our CADD program that were not learned in the Introduction to CADD course. The CADD software is used by thousands of engineers who work in the industry today. The class is going to be centered on the careers of engineering and design so, students who are considering any engineering or drafting career should take this course.

Alignment to the Iowa Core Curriculum: Demonstrate a sound understanding of technology concepts, systems, and operations. Demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology.

CADD Standards

1. The student will work safely, cooperatively, and productively to design and use technology to solve technological problems.
2. 1. The student will work safely, cooperatively, and productively to design and use technology to solve technological problems.

WHAT ARE WE GOING TO DO IN THIS CLASS?

Course Objectives:

Upon completion of this course students will be able to:

- Display the ability to properly sketch given objects.
- Identify major areas associated with computer-aided drafting and design
- Identify and use materials and equipment associated with a CADD system.
- Display the ability to read and interpret residential architecture blueprints.
- Develop proficiency using a CADD system to produce quality mechanical and architectural designs.
- Exhibit the ability to apply proper design theory to the design of their residential structure.
- Display the ability to produce technical drawings via the CADD system.
- Describe the work that various architects and engineers perform.
- Describe the path to becoming an architect, and an engineer

Course Content (subject to change):

1. What is CADD

(1.5-2 weeks)

- Learn what CADD is and how it is used
- Book Chapters, activities, and quizzes
- Learn about careers within the CADD industry

2. Sketching

(2 weeks)

- Orthographic Projection
- Multi-view Drawings
- 3-dimensional drawings
- Sketching worksheet activities and quizzes

3. Intro CADD software

(2 weeks)

- ProDesktop 8.0
- Solidworks
- Guided Tutorials

4. Independent CADD designs

(2-3 weeks)

- Work on graded drawing packets using CADD software
- Independent graded CADD designs
- CADD exam

5. Intro to Architecture

(3 weeks)

- What is Architecture
- How do I design a house
- How a house is properly designed.
- Chapter work and quizzes

6. Intro to Architecture Software

(3 weeks)

- Guided Practice on SoftPlan
- Floor plan assignments using SoftPlan Software

7. Final Floor Plan Assignment

(2 weeks)

- Student will design an entire floor plan, basement plan and elevation views of their own house design.
- Print out final copy on blueprint paper.

8. Final Exam

SUPPLIES

Your textbook -You will not be given a book to check out. There will be a class set of books for you to do assignments in class. These books are to stay in the room. The possibility to check out a book on an individual basis may happen from time to time with instructor approval.

A notebook with a folder to keep handouts - You will need to sometimes take notes, and you will need paper to do that. You will also need a folder to keep all assignments in, most test and quiz questions come from the daily assignment, so you want to make sure you keep them.

A pencil (with an eraser - because we all make mistakes).

Computer Software Used

SolidWorks: This is the technical drafting software that will be used for the first half of the class.

SoftPlan: This is one of the possible Architecture programs we will be using

Chief Architect: This is one of the possible Architecture programs we will be using.

INSTRUCTIONAL STRATEGIES

Instructional strategies that will be used in this course, but are not limited to are: direct instruction, active participation, graphic organizers, presentation, cooperative learning, advanced organizers, probing questions, questioning strategies, student projects, technology, note taking, modeling.

ASSESSMENTS

Summative - There will be unit tests/quizzes. Tests will always be announced in advance. They will be worth approximately 30% of your total points.

Book Assignments - There will be chapter assignments throughout the semester that will give you much needed knowledge towards the application of projects and designs. They will be worth approximately 10% of grade

Lab Activities- Drawings, Designs, Blueprints, and projects. This will be the culmination of all learning that occurs. They will be worth approximately 60% of grade.

Formative - I will use white boards, discussions, and written assessments and drawings that are ungraded to assess student knowledge throughout the units.

GRADING

Your grade will be based on the following using total points:

Tests/Quizzes - Tests will always be announced in advance. They will be worth approximately 30% of your final grade. You will have a test over the 4 chapters we do in our CADD book. You will have a test over the 4 chapters we do in our Architectural Drafting book. You will have a hand drafting quiz. You will have a Computer Aided Drawing quiz that will be done on the computer.

Homework - Most homework assignments will be done in class time. These include (but not limited to) chapter assignments, drawing assignments, and worksheets.

Each assignment will be graded in class, and each assignment will have a due date associated with it. This will be worth approximately 10% of your final grade.

Projects - Hand drafting assignments, Computer generated designs, and basic blueprint drawings. These assignments are worth approximately 30% of your final grade.

Final Projects- You will be given 2 final projects. The first final project will be at the end of the Technical Drafting unit. You will be doing a computer generated design that will incorporate everything we learned up to that point. The second final project will be given after the Architectural Unit. This final project will consist of designing a residential house plan, which includes the floor plan, foundation plan and elevations views. These assignments are worth approximately 30% of your final grade.

Semester Exam - You will be given a semester test during exam days at the end first semester. There will be a final, cumulative exam at the end of the semester. All tests/quizzes make up approximately 30% of your final grade.

Extra Credit- There will be no extra credit. You are expected to do the required work in a timely fashion.

Grading Scale:

| | | | | | | | |
|--------------|----|--------------|----|--------------|----|--------------|----|
| 93.0 - 100% | A | 83.0 - 86.99 | B | 73.0 - 76.99 | C | 63.0 - 66.99 | D |
| 90.0 - 92.99 | A- | 80.0 - 82.99 | B- | 70.0 - 72.99 | C- | 60.0 - 62.99 | D- |
| 87.0 - 89.99 | B+ | 77.0 - 79.99 | C+ | 67.0 - 69.99 | D+ | Below 60% | F |

Please keep track of your scores so that you can figure your own grade at any time.

ABSENCES

If you miss class FOR ANY REASON it is your responsibility to get the assignment. Assignment sheets will be given to you at the beginning of each chapter. Be sure to pick up anything that you may have missed when you were absent.

If you miss class on a test/quiz day, you will be expected to take the test/quiz on the day you return to school. If you miss the day before a previously announced test/quiz, you will be expected to take the test/quiz with the rest of your class. If you miss more than one day I will work with you to make other arrangements.

Try not to miss this class. If you know you will be gone, be sure to get the assignment before you leave.

Problems with absences (excused or unexcused) or tardies will be handled according to the Senior High School attendance policy.

GETTING HELP

If you are having trouble with CADD you need to get help IMMEDIATELY. I will be available after school most days, and before school on days when we have no meetings scheduled. My prep time is 1st hour and I am available that time most days. Let me know when you want to meet me so I can be sure I'm in my room when you are looking for me. You may also come in without an appointment, but it may take a few minutes to track me down. A lot of what we do in this class is on the computers only found in this classroom, so you will need to make arrangements to come in to make up work when I am available.

BEHAVIOR EXPECTATIONS

You are in high school, and I expect you to behave as the responsible students that you are. Should a problem arise I may contact your parents and/or pursue assistance from the office. If a serious offense occurs, you will be asked to leave the classroom. At no time will I allow a disruption to the educational environment.

Cheating on anything for this class (tests, quizzes, assignments or projects) will not be tolerated. Consequences may include, but are not limited to, a score of zero on the work, contacting your parents and/or Assistant Principal, or an F in the course.

All other rules in regards to Tardies, Cell-phone usage, proper internet usage, etc. We will follow the Senior High School rules which are found in your student handbook.

COMMUNICATION

The best way to contact me with any questions or concerns is via email (tkress@dbqschools.org). You may also reach me by phone at 552-5575. Messages left will be returned as soon as possible. I also update Powerschool after every test or quiz we take within a day or two of the assessment. It is a great way to keep track of your or your child's grade.