



John H. Reagan High School

Enabling our students to realize great heights

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www.jhreagan.org

CAD II -Computer Aided Drafting Dual Credit with HCC Course Syllabus 2009 – 2010

Instructor: Smalling, Patricia Email: psmallin@houstonisd.org Room# M306

Tutorials: 7:30am -8:30 am Conference: 8th

Course Overview

A continuation of practices and techniques used in basic computer-aided drafting. Emphasis advanced dimensioning techniques, the development and use of prototype drawings, construction of pictorial drawings, and construction of 3-dimensional drawings, interfacing 2-D and 3-D environments

Co-requisite: Geometry (or currently enrolled), CAD 1, passing TAKS with a 2100 and both essays This class is for only 11th and 12th graders.

General Expectations

Learning Outcome(s)/Objectives: Upon successful completion of the course, the student will demonstrate:

1. KNOWLEGE:

1. Understand File maintenance and Microcomputer Operation of a CAD system
2. Understand the principals of drawing development in CAD
3. Understand Draw, Edit, Dimension Command

2. SKILLS:

1. To be able to create Standard 2 Dimension & 3D Engineering Drawing
2. CAD tools, Drawing setup
3. CAD Construction, Edit Techniques

3. ATTITUDE/BEHAVIORS:

1. The student will be able to follow step-by-step instructions in the creation of Standard 2D & 3D engineering drawing
2. Dimension Engineering Drawing via verbal and written instructions as given by the instructor.
3. The student will demonstrate patience and skills.

Required Texts/Materials

Students will be working with the following books: Engineering Drawing and Design along with Architectural Drawing and Light Construction

Materials required for course: All students will be required to purchase the following materials to be used for course: flash drive and writing materials:

1- 3”-3 ring notebook, Gray
1 set of dividers,
1 set of sheet protectors
1- 3 G Flash Drive
Mechanical Pencils
Quad Graph Composition Book

Course Outline

Week 1 Introduction to AutoCAD 2008. System requirements. A continuation of practices and techniques used in basic computer-aided drafting emphasizing advanced dimensioning techniques, the development and use of prototype drawings, construction of pictorial drawings, construction of 3-dimensional drawings, interfacing 2-D and 3-D environments and extracting data.

Assignment 1: Due in Week 3

Week 2 An in-depth study of drafting methods and principles used in civil engineering.

Assignment 2: Due in Week 4

Week 3 AutoCAD Solid works and Inventor Basics

Assignment 3: Due in Week 5

Week 4 Architectural and Mechanical Desktop Basics.

Assignment 4: Due in Week 6

Week 5 Quiz 2

A study of pipe fittings, symbols, specifications, and their applications to a piping process system.

Creation of symbols and their usage in flow diagrams, plans, elevations, and isometrics.

Assignment 5: Due in Week 7

Week 6 Architectural drafting procedures, practices, and symbols including the preparation of detailed working drawings for a commercial building, with emphasis on commercial construction methods.

Assignment 6: Due in Week 8

Week 7 Use parametric based mechanical design software for mechanical assembly design and drafting.

Assignment 7: Due in Week 9

Week 8 Mid-Term Exam.

Principles of instrumentation as applicable to industrial applications; fundamentals of measurements and control devices; currently used ISA (Instrument Society of America) symbology; basic flow sheet layout, and drafting practices.

Assignment 8: Due in Week 11

Week 10 Quiz 3

Preparation for ADA Certification test

Assignment 9: Due in Week 12

Week 11 A study of electrical drawing preparation as applied to commercial and industrial standards.

Assignment 10: Due in Week 13

Week 12 Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student.

Assignment 11: Due Week 14

Week 13 Quiz 4

Use parametric based mechanical design software for mechanical assembly design and drafting.

Assignment 12: Due in Week 15

Development of three-dimensional drawings and models from engineering sketches and orthographic drawings and utilization of three-dimensional models in design work.

Week 16 Final Exam

End of Course Exam and ADA Certification Exam

Grading

Course Evaluation Procedure:

The student will be evaluated and receive a final grade based upon the following criteria:

Lab. work consisting of assigned technical/engineering drawing problems. A minimum of 4 quizzes will count 20%, drawings: 35%, mid-term 20%, final exam 25%. Class and laboratory attendance, active participation in class, professional attitude and growth in term of technical/technology skill development and team work within the lab. Environment shall be taken into consideration.

Grade Procedure:

A = 90 - 100

B = 80 - 89

C = 75 - 79

D = 70-74

F - 69 and below

Late Assignment Policy: Students are encouraged to turn assignments in on time if at all possible.

This allows the instructor to grade the work, return it to the student and the student use the feedback as a learning tool. Make-up test/Project policy: All make-up tests (general test and mid-term only)

should be taken as soon as possible by the student. It is the student's responsibility to make arrangements with the instructor for a schedule time. NO make-up test is given for the final examination.

Attendance Policy: Refer to the HISD Student Handbook and HCC Catalog, "Class Attendance" section. It is the responsibility of the student to make-up all missed work and exams, as approved by the instructor. Program Accessibility (ADA): Reagan High School, Engineering,

Architectural and Design Technology Program is committed to making all aspects of the program accessible to individuals with disabilities, as defined by the American with Disabilities Act (ADA).

Students who fall within the provisions of the ADA are required to obtain certification of their impairment through the Northeast

College ADA

Attendance Policy:

Please refer to the student handbook regarding the Reagan policy governing the maximum number of absences allowed before loss of credit occurs. Excessive absences may be reflected in the student's Semester Grade.

Late Assignment/Make-Up Policy:

- If a class is missed, the student is responsible for copying the class notes and obtaining the homework assignment from a classmate, as well as completing the assignment by the appropriate due date.
- If a special or group assignment is not turned in on time, 10% of the point value of the assignment will be deducted for each Engineering class period the assignment is late. If the assignment is not handed in, the student earns 0 points.
- All assignments must be turned in by the last class day.

Plagiarism/Cheating/Academic Integrity Policy:

Although students will be working extensively with a partner and other classmates, each individual is responsible for completing her own work and making certain that she understands the concepts involved.

Honesty, trustworthiness, and accepting responsibility for one's actions (or lack of action) are important characteristics of a woman of integrity. If I believe that cheating has occurred on any quiz, test, or assignment, a grade of 0 will be given to all parties involved in the deception. Make certain that none of your actions could possibly be misinterpreted as cheating.

Electronic Devices:

We will be using the laptops extensively in this course. Please resist the temptation to play on the Internet, check your email, or instant message during class. I expect you to follow the Reagan Technology Usage Agreement you have signed; please refer to the student handbook for details of that policy.