**ENGR 1025, Engineering Graphics and Computer-Aided Design**
University of Colorado Denver

**Term: SPRING 2009**


Meeting Time: Monday and Wednesday from 5.30 PM to 6:45 PM in NC 2413
Instructor: Billal Hossain
Graduate Teaching Assistant
Mechanical Engineering Department, University of Colorado Denver
Office: NC 3510-C
Office Hours: Monday: 10:00 am to 12:30 pm and 2:30 pm to 3:30 pm
Wednesday: 10:00 am to 12:30 pm and 2:30 pm to 3:30 pm
Phone: 303-556-6258
E-mail: Billal.Hossain@email.ucdenver.edu


## Catalog Description

Introduces microcomputer-based, menu-driven, 3D computer-aided design systems, spreadsheets and freehand drawing; three-dimensional modeling of solid objects; principles of engineering drawing and descriptive geometry with applications to engineering design and analysis. Prerequisite: high school geometry and algebra.

## Required Texts

1) Engineering Graphics, Bryan Graham (ISBN 978-1-58503-412-3)
2) Introduction of Solid Modeling Using SolidWorks® 2008,William E. Howard, and Joseph C. Musto (ISBN978-0-07-721607-8)

Additional Book for AutoCAD

1. Introducing AutoCAD 2008 George Omura
   ISBN: 978-0-470-12150-4

## Additional Materials

1) Ruler or scale with millimeter divisions

## Homework Assignments

Homework assignments will be handed out in class and homework will be due weekly. Homework assignment grades will be 60% of your grade for the course. You will be given a score from 0 to 60 points on each assignment. None of the homework will be dropped before your homework average is computed. The graded homework assignments will be returned in class.

## Tests

There will be two tests and each test will be worth 20% of your grade for the course. The first test will be on March 11th. The second test will be given during the scheduled final exam time for the class. Each test is open book and open notes. Each test will be given a score from 0 to 20 points. The first test will be returned in class. You will need to make arrangements with the instructor to collect the second test if you would like to

have it returned to you. The second test will not be given early and everybody is expected to attend class the last week of the semester.

## Grading

| | |
|---|---|
| Homework Assignments | 60% |
| Test #1 | 20% |
| Test #2 | 20% |

The following scale will be used to assign grades at the end of the semester:

| Average | Grade |
|---|---|
| 94 and above | A |
| 90 to 93.9 | A– |
| 87 to 89.9 | B+ |
| 83 to 86.9 | B |
| 80 to 82.9 | B– |
| 77 to 79.9 | C+ |
| 73 to 76.9 | C |
| 70 to 72.9 | C– |
| 60 to 69.9 | D |
| Below 60 | F |

## Course Policies

There will be no extra credit work given to make up for missing homework assignments or poor performance on the tests. **Late homework will not be accepted for grading**. If you have a good reason why you could not turn in an assignment on time then you may, *with the instructor's permission*, turn in the completed assignment for consideration. If the reason is acceptable then the assignment will be examined for completeness and recorded as completed. These completed assignments will not be included in the computation of your homework average and will simply be excused. Solutions that are merely copies of the work of others or a copy of any kind of posted or published solutions will not be accepted for grading. Any work on a test that is not your own will result in a failing grade for the course.

## Course Schedule (Tentative)

| Week | Topics Covered |
|---|---|
| Week #1 | Getting Started, AutoCAD Fundamentals |
| Week #2 | Basic Object Construction and Dynamic Input, Geometric Construction and Editing Tools |
| Week #3 | Object Properties and Organization |
| Week #4 | Hand Lettering, Sketching Technique, Line Types, Multiview Drawing |
| Week #5 | Orthographic Views in Multiview Drawings |
| Week #6 | Measurement & Scale, Isometric Drawing, Dimensioning |
| Week #7 | Basic Dimensioning and Notes, Templates and Plotting, Auxiliary Views, Sectional Views |
| Week #8 | **Test #1 will be on Wednesday October 8th**<br>Auxiliary Views and Editing with GRIPS, Section Views |
| Week #9 | Basic Part Modeling Techniques |
| Week #10 | Engineering Drawings |
| Week #11 | Creating Reference Geometrics |
| Week #12 | Advanced Concept in Part Modeling |
| Week #13 | Assembly Modeling-1 |
| Week #14 | Assembly Modeling-2 |
| Week #15 | Finite Element Analysis(COSMOS) |
| Week #16 | **Test #2** |