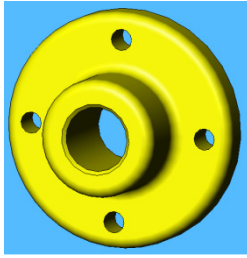
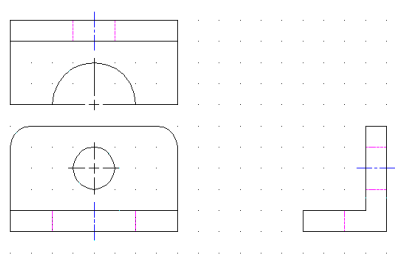


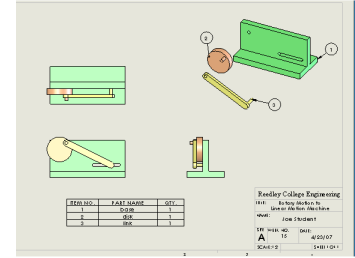
Graphics



Engineering 2



Spring 2012



Instructor: Dr. John Heathcote **Class Times:** Lecture: W: 2:30 pm - 4:20 pm
Labs: Online

Office: FEM-1B, in the new math center **Room:** FEM-4E

Phone: 638-3641 ext. 3215

e-mail: john.heathcote@reedleycollege.edu

Office Hours: Monday 11:00 am - 11:50 am
Tuesday 11:00 am - 12:50 pm
Thursday 11:00 am - 12:50 pm
If you cannot make regular office hours, feel free to make an appointment.

Prerequisites: Math 102 and 103

Advisories: Math 4A, eligibility for English 125 and 126

Required Text: Introduction to Solid Modeling using SolidWorks 2011, William Howard and Joseph Musto, McGraw Hill.

Software that will be used in this course:

DraftSight is a free download, available at <http://www.3ds.com/products/draftsight/download-draftsight/>
(Downloads are available for both Windows and Mac.)

A student edition of SolidWorks can be downloaded from www.solidworks.com/sdk2011 (SDK-ID code: **D2011MH**).
(Use the SDK-ID code above to request a license number. The serial number will be emailed to the address that you give them.)

Suggested Supplies: Memory stick for storing computer files

Online Labs:

When taught in the traditional style, this class involves 6 hours of lab time each week in order to do the CAD and solid model drawings. In the online-lab style, you are responsible to create your drawings on your own time. The lab assignments will be stated during class and posted online. A Blackboard course website is set up for this course. You can look here for class notes, assignments, and schedules. You will also submit work electronically at this site. It can be accessed via the Blackboard link on the Reedley College home page. Your user name is your seven digit student number. If you have never changed it, your password is the same.

Weekly Schedule:

Even though we will meet only once a week, this class is being organized like a three-day-a-week class. There will be three lesson/assignment combinations each week. The first one will be our meeting time on Wednesday afternoon. I will give some instruction and then each student will perform a short lab in class. Then, there will be two online lesson/assignment combinations the rest of the week. The deadlines for each assignment will be clearly stated. Some instruction may be posted as well, in the form of written notes or streaming video.

Access to Computer for Drawing Labs: The computer drawings for weekly labs will be done on either SolidWorks or DraftSight. Both of these can be downloaded from the internet. Students can perform the drawings on their own computer or in one of the computer labs on campus. SolidWorks is available in FEM-4E and on select computers in the library computer lab.

Catalog Description: The principles of orthographic drawing, pictorial drawing, and descriptive geometry and their application to the visualization, representation, analysis, solution, and documentation of engineering problems, using freehand sketching and computer-aided drafting. CAD problems will involve two-dimensional multiview drawings and three-dimensional wire frame and extruded solid models.

Grading:	Lab Assignments:	50%
	Skills Quizzes:	20%
	Assessments/ Projects:	20%
	Final Exam	10%

Grading Scale:	A: 90-100%
	B: 80-89%
	C: 70-79%
	D: 60-69%
	F: <60%

Lab Assignments: Each week, students must perform drawing activities to learn and practice concepts and techniques in engineering graphics. These drawings will be turned in each week (either electronically or on paper) and reviewed by the instructor. Assignments should be turned in on time in order to get full credit.

Lab Grades and Corrections: Every lab drawing/activity will be graded based upon accuracy and meeting the deadline. If you turn in your file on-time, you will have the opportunity to correct mistakes and improve your grade. **If you do not turn in your file on-time, you will not receive full credit on the assignment nor will you be able to make corrections.** Corrections are due two weeks after the labs have been graded.

Skills Quizzes: Approximately four skills tests will be given during the term. These quizzes will be held during the regular class period. These will involve computer skills and understanding of engineering graphics concepts.

Assessments and Projects: Assessments and projects will be similar to lab assignments except that corrections will not be allowed. The drawings must be performed accurately the first time that they are submitted. These assignments will be either review assignments to test understanding of previous content or applied projects to test students' ability to apply these ideas to practical work.

Final Exam: A cumulative final exam will be given during finals week. This exam will involve both written work and work on the computer to test students' understanding of concepts from the entire course. (Note that our scheduled final exam time is on a Monday, not a Wednesday.)

Cheating and Plagiarism: All work is to be done by each individual student. Any act involving submission of work that is not your own (this could involve copying files from another student or any other act of deception) will result in penalties to all students involved. These penalties may include a failing grade on that assignment, failing grade for the course, and/or referral to the vice president of student services.

Accommodations for Students with Disabilities:

If you have a verified need for an academic accommodation or materials in alternate media (i.e., Braille, large print, electronic text, etc.) per the Americans with Disabilities Act (ADA) or Section 504 of the Rehabilitation Act, please contact me as soon as possible.

Attendance: Class attendance will be recorded. If you miss more than two class sessions, you may be dropped. Course withdrawals, however, are ultimately the responsibility of the student.

Add Date:	Friday, January 27 th	Last day to add a course
Drop Date:	Friday, March 9 th	Last day to drop this course
Holidays:	Monday, January 16 th	Martin Luther King Jr. Day
	Friday-Monday, Feb. 17-20 th	Presidents' Day Holidays
	Monday-Friday, April 2 nd -6 th	Spring Recess Holidays
Final:	<u>Monday, May 14th 2:00pm</u>	Final exam

COURSE OUTCOMES:

Upon completion of this course, students will be able to:

- A. graphically represent three-dimensional objects using accepted engineering practices.
- B. communicate graphically using computer tools and freehand sketching.
- C. solve technical design problems using computer-drawing software.

COURSE OBJECTIVES:

In the process of completing this course, students will:

- A. use computer-drawing software to geometrically construct two-dimensional shapes.
- B. use computer-drawing software to construct multi-view orthographic projections of three-dimensional objects.
- C. create auxiliary and sectional views of objects.
- D. use proper dimensioning and tolerance techniques to fully define an object.
- E. demonstrate proficiency at freehand technical sketching.
- F. use computer-drawing software to create three-dimensional wire-frame and solid models.
- G. design solutions to engineering challenges by use of engineering drawings.
- H. apply the principles of orthographic projection, isometrics, and descriptive geometry to the solution of engineering problems.

Course Schedule (Subject to change):

Week #:	Topics:
1	Computer Skills, 2D Constructions
2	More 2D Constructions
3	Multiview Drawings
4	More multi-views; creating isometrics from a multi-view
5	SolidWorks Part Modeling, Quiz #1
6	SolidWorks Part modeling, using relations
7	Additional Part Modeling Techniques
8	SolidWorks Drawing Files, Quiz #2
9	Auxiliary Views
10	Auxiliary Views
11	Descriptive Geometry
12	Quiz #3
13	SolidWorks Assemblies
14	Modeling Mechanisms, Animating Assemblies
15	Advanced Assemblies, Assembly Drawings
16	Quiz #4
17	Project Presentations
18	Final Exam