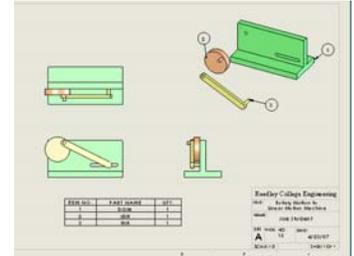
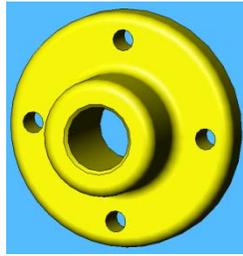
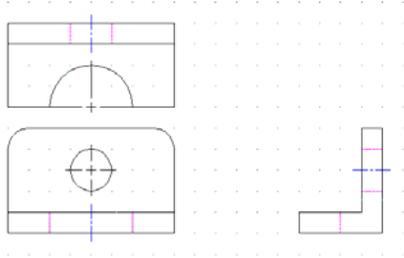


# Graphics

Spring 2014

## Engineering 2 (Section 52835)



**Instructor:** Dr. John Heathcote

**Class Times:** Lecture/Labs: TTH: 2:30 pm - 4:20 pm  
and online

**Office:** FEM-1B, in the math center

**Room:** FEM-4E

**Phone:** 638-3641 ext. 3215

**e-mail:** [john.heathcote@reedleycollege.edu](mailto:john.heathcote@reedleycollege.edu)

**Office Hours:**

Monday	11:00 am - 11:50 am
Wednesday	11:00 am - 11:50 pm
Thursday	11:00 am - 11:50 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 2013, 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 onto your own computer. Details on how to obtain this software will be provided soon.

**Suggested Supplies:** Memory stick for storing computer files

### Online Labs:

A portion of this course is online. That means that outside of the four hours of scheduled class-time each week, you are required to spend approximately four hours on your own time completing the laboratory assignments. You will need to use certain on-campus computers (FEM-4E, FEM-1, or the library computer lab) or download the drawing software onto your own computer. In addition, you can access the Blackboard course website for class notes, assignments, and schedules. You will also submit work electronically at this site.

### Weekly Schedule:

Even though we will meet only twice a week, there will usually be three laboratory assignments each week. The deadlines for each assignment will be clearly stated.

**Catalog Description:** This course covers the principles of orthographic drawing, pictorial drawing, dimensioning, tolerancing, and descriptive geometry. These principles are applied to the visualization, representation, analysis, solution, and documentation of engineering problems, using freehand sketching, computer-aided drafting (CAD), and solid modeling.

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

<b>Grading Scale:</b>	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

**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 Dean 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.

<b>Add Date:</b>	Friday, January 31 <sup>st</sup>	Last day to add a course
<b>Drop Date:</b>	Friday, March 14 <sup>th</sup>	Last day to drop this course
<b>Holidays:</b>	Monday-Friday, April 14 <sup>th</sup> -18 <sup>th</sup>	Spring Recess Holidays
<b>Final:</b>	Tuesday, May 20 <sup>th</sup> 2:00pm	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; 3-D pictorials
5	Project Work, 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	Descriptive Geometry / SolidWorks Assemblies
13	SolidWorks Assemblies, Quiz #3
14	Modeling Mechanisms, Animating Assemblies
15	Advanced Assemblies, Assembly Drawings
16	Project / Quiz #4
17	Project Presentations
18	Final Exam