

Clatsop Community College

DRF 214: Computer Aided Design II

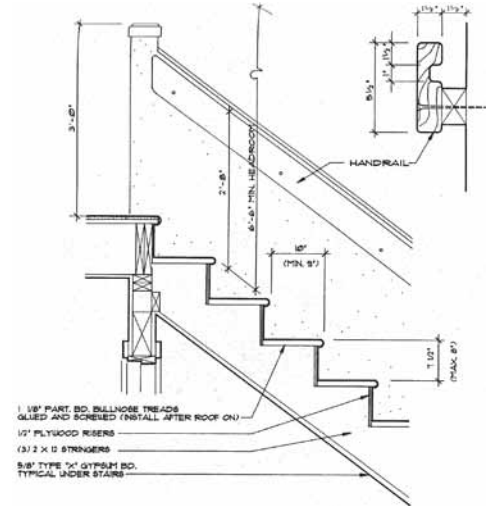
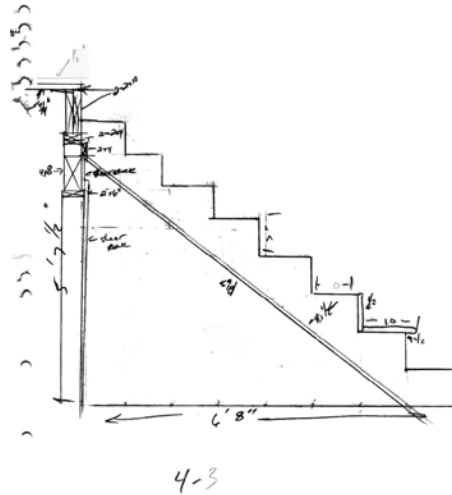
Winter 2014

4 Credit Hours

Instructor: Lucien Swerdloff

Location: IMTC Computer Lab

Times: MW 2:00-4:50pm



Course Description

Students gain and apply knowledge of advanced CAD concepts and techniques. They use CAD systems to develop multiview, sectional, detail and isometric drawings and demonstrate the use of drawing conventions including dimensioning, hatching, symbols and layouts. Students work individually and collaboratively to analyze and solve design problems.

This course is the second in a three course sequence. It examines more advanced computer aided design/drafting techniques and methods of representing three dimensional objects using a variety of drawing conventions. AutoCAD topics covered include advanced editing; drawing and editing polylines, multilines and splines; sketching; multiview drawings; sectional drawings; hatching techniques; advanced paper space and model space concepts; multiple viewports and layouts; external references; blocks, attributes and symbol libraries; dimensioning and tolerancing; and isometric drawings.

Course Learning Outcomes

After completing this course, students will be able to:

- Describe and use advanced terms, concepts and techniques of CAD.
- Use orthographic projection techniques to construct multiview drawings.
- Construct isometric drawings.
- Properly dimension drawings.
- Use CAD systems to create and edit complex objects, set up and print layouts, create and use symbols and share information.
- Use CAD and graphic systems to produce and communicate design documents in a variety of disciplines.
- Research, analyze and solve design problems, individually and collaboratively.

Instructor Information

Office Hours: MW 1:00-2:00 – IMTC Computer Lab (MERTS Campus)

TT 4:00-5:00 – Art 102 (Main Campus)

F 12:00-1:00 – Art 102 (Main Campus)

Phone: 503.338.2301

Email: lswerdloff@clatsopcc.edu

Methodology

Class will meet for two 3 hour sessions per week. The Monday meeting will generally consist of presentations, discussions, demonstrations and tutorials. The Wednesday meeting will typically be used for review and lab time, providing extensive hands-on experience. Students will be required to do a number of exercises throughout the semester and a semester project. Presentations and demonstrations given during class will provide a basis for the exercises. Students should expect to spend at least four hours per week outside of class time to work on exercises.

Online

Blackboard: <http://bb4.clatsopcc.edu>

Email/SkyDrive: <http://home.live.com/>

Email Address: as specified in MyCCC

Login information:

UserName: first initial + last name + last four digits of student ID (e.g. jdoe9999)

Password: birthday in format YYYYMMDD (e.g. 19881204)

Prerequisite

DRF 213 or instructor approval.

Required Text

Discovering AutoCAD 2013, Dix and Riley, Prentice Hall, 2013.

Required Materials

USB Flash Drive. Sketching paper and pencils. Architect's scale.

Attendance and Participation

Attendance and participation in all classes is strongly recommended and necessary for successful completion of the course and learning of AutoCAD. The learning of a complicated software system such as AutoCAD requires time, practice and patience. The course will introduce many topics. It will be necessary to spend a considerable amount of time working on the system and interacting with other students in order to grasp the tools and concepts covered.

Grading

Exercises will be graded for content, completeness and presentation that demonstrate an understanding of the issues covered. All exercises and chapter reviews will be due at the beginning of class on the specified due date. Class participation, attendance and initiative will be considered in the evaluation process.

Grading will be determined as follows:

Exercises	40% (5@10% ea.)
Chapter Reviews	10% (4@ 2.5% ea.)
ePortfolio	10%
Project	20%
Exams	20% (2@10% ea.)

Chapter Reviews

Answer and submit the Chapter Test Questions at the end of each assigned chapter.

Useful Resources

Textbook companion website <http://prenhall.com/dixriley>

CADalyst online journal <http://www.cadalyst.com>

CADdigest online journal <http://www.caddigest.com>

CAD shareware at the CAD depot <http://www.caddepot.com>

Autodesk web site site <http://www.autodesk.com>

Autodesk student site: <http://students.autodesk.com>

The CAD Academy: <http://thecadacademy.com/>

SCHEDULE

1. Introduction, Review and Beyond; Multiview Drawings

M 6 Jan. object selection, quick select, grips, object snaps, tracking, drawing setup, sketch, inserting images, paper space and model space, plotting

W 8 Jan. concepts of orthographic projections, constructing multiview drawings, using line weights

Review: ch. 1-6; Exercise 1

2. Text, Layouts

M 13 Jan. creating and editing text, spell check, defining and using text styles, match properties, review layouts and multiple viewports

W 15 Jan. introduction to annotative text, lab, ePortfolio introduction

Read: ch. 7; Exercise 2

3. Tables and Fields

M 20 Jan. Martin Luther King Jr. Day: college closed

W 22 Jan. creating and using tables and fields, drawing properties

4. Dimensions; Project Proposal

M 27 Jan. dimensioning fundamentals; linear, radial, angular, ordinate dimensions; leaders

W 29 Jan. project proposal due/ePortfolio outline

Read: ch. 8; Exercise 3

5. Dimensions, Section Drawings, Hatching

M 3 Feb. dimension styles, section drawings, hatching and gradient fills, annotative objects

W 5 Feb. review, lab

6. Exam 1; Project Review

M 10 Feb. project review/ePortfolio review

W 12 Feb. exam 1

7. Polylines, Splines

M 17 Feb. President's Day: college closed

W 19 Feb. creating and editing polylines, splines, constraints

Read: ch. 9; Exercise 4

8. Blocks, Design Center; Project Review

M 24 Feb. creating and inserting blocks, tool palettes, dynamic blocks, design center

W 26 Feb. project review/ePortfolio review

Read: ch. 10

9. External References, Attributes

M 3 Mar. external references, defining and extracting attributes

W 5 Mar. lab

10. Project Presentation

M 10 Mar. review, lab

W 12 Mar. project presentation/ePortfolio presentation

11. Finals Week

M 17 Mar. exam 2

Notes

Readings should be done before the week's classes. Exercise due dates are indicated on exercise sheet. Chapter Reviews are due with exercises. The above schedule is a general outline for the course; changes will be made as necessary.

