

ENGR 207

Introduction to Computer Aided Drafting

Western Illinois University
Department of Engineering Technology
Spring Semester 2009

Instructor: Joe Keitel

Class Time: Thursday, 5:00pm - 8:50pm

Location: Room B10, WIU-QC campus

Office Hours: Thursday, 4:15pm – 5:00pm and 8:50pm – 9:30pm

Phone (cell): 563-299-3944

Class Prerequisite: ENGR 105

Catalog Description: ENGR 207 – Principles and techniques of basic computer aided drafting. An introduction to the components of computer aided drafting including hardware and software. The basic application of AutoCAD software for lettering, multiview drawing, sectional drawing, dimensioning and pictorial drawings. NOT open for students with previous credit in either ENGR 407 or 482.

Textbook: Engineering Drawing & Design, David Madsen

Objectives: Upon completion of the course, students will be able to:

- Identify the various types of hardware, software, and operating systems currently used in industry for the creation of graphics, drawings, and designs.
- Understand the terminology, basic principles, and techniques used in computer-aided drafting.
- Correctly apply drawing, editing, lettering and dimensioning commands in order to successfully produce 2D and basic 3D industrial drawings and designs.
- Identify other computer-aided design systems, distinguish differences and similarities between the competing software.
- Develop skills, which will enable the learning of other drafting and/or design systems.

Evaluation:

- **Attendance & Participation (375 points: 12.5%):** Each student is expected to complete several reading or research assignments prior to the class period. Class discussions, quizzes, exams, presentations or written reports could be used to evaluate the fulfillment of this task.
- **Assignments (1525 points: 50.8%):** Approximately 14 projects will be assigned during the semester. Each one is worth 105 points. Due dates will be set for each given assignment, but are usually the beginning of the next class period.
- **Quizzes (400 points: 13.3%):** Four quizzes will be given during the semester. Each quiz will consist of 12-18 questions worth 3-10 points each (100 points per quiz).
- **Mid-Term Exam (300 points: 10.0%):** The mid-term exam will consist of 30-40 questions worth 3 to 10 points each.

- **Final Exam (400 points: 13.3%):** The final exam will consist of 40-50 questions worth 3 to 10 points each.
- **Extra Credit:** Several extra credit assignments will be presented during the semester. Students are NOT required to fulfill these activities, but each assignment completed correctly could help raise a final grade. A grade of '85' or higher is required to receive the extra assignment credit.

Grading Information: All assignments, tests and projects will be graded according to the following scale:

- 100% - 90% = A (2688 – 3000 points)
- 89% - 80% = B (2388 – 2687 points)
- 79% - 70% = C (2088 – 2387 points)
- 69% - 60% = D (1788 – 2087 points)
- Less than 60% = F (1787 or less points)

Course Policies: It is expected that students will behave properly in class. Students who disrupt class, or deface equipment or property will be removed from the classroom and penalized in the current assignment/project, and in extreme cases with a failing final grade. Cheating will result in **FAILING** the course automatically.

Attendance: Do NOT miss classes, attendance and participation are required. Lectures and demonstrations will occur varying times during the class period. However, attendance for the whole session is not always necessary if the required assignments/project has been completed and turned in. Attendance will be recorded and may affect your final grade. Five (5) or more absences will result in a 10% penalty applied to a final grade/points.

Students Rights and Responsibilities: It is essential that all students know what is required of them in order to complete a course satisfactorily. To that end, the Office of the Provost and Academic Vice President recommends that students become familiar with the guideline concerning their rights and responsibilities. The guidelines are available online at: www.wiu.edu/provost/student.

Students with Disabilities: In accordance with University policy and the Americans with Disabilities Act (ADA), students who require special accommodations due to a disability, or any other medical reason, are encouraged to discuss this matter with the instructor.

Special Course Cost: Each student is required to reimburse the department for the cost of the materials furnished for the class and for lab assignments. The amount that has been established is **\$25.00** and needs to be paid in full no later than **February 12, 2009**.

Late Assignment Policy:

- Assignments that are turned in one class late will be penalized by the loss of up to ten (10) percent plus any drawing errors or mistakes.
- Assignments that are submitted two classes late will lose twenty (20) percent in addition to the discounts for errors or mistakes.
- Assignments submitted more than four classes late will not be considered for grading and awarding of points.
- Students who are absent because of a verifiable illness can usually make up missed work.

Test Schedule: Test schedule is tentatively set as below. The schedule is subject to change and all tests will be announced in advance.

Quiz 1: Thursday, February 5, 2009

Quiz 2: Thursday, February 26, 2009

Mid-Term Exam: Thursday, March 12, 2009

Quiz 3: Thursday, April 9, 2009

Quiz 4: Thursday, April 30, 2009

Final Exam: Thursday, May 14, 2009

Tentative Topic Schedule:

- Wk 1-Jan 22: Drafting concepts, PC components, ACAD screen; *Basic 2D Creation*
- Wk 2-Jan 29: Chap 1 & Chap 3; *Basic Modification*
- Wk 3-Feb 5: QUIZ over weeks 1-2; Chap 7 & Chap 11; *Layers, Lines, Dimensions and Text*
- Wk 4-Feb 12: NO CLASS – LINCOLN'S BIRTHDAY HOLIDAY
- Wk 5-Feb 19: Chap 9 & Chap 10; *Advanced 2D Creation*
- Wk 6-Feb 26: QUIZ over weeks 3-5; Chap 8; *Paper Space, Templates, Printing*
- Wk 7-March 5: Chap 13; *Section views, Blocks, Xref*
- Wk 8-March 12: MID-TERM EXAM over weeks 1-7; Pro/ENGINEER & TurboCAD demos
- Wk 9-March 26: Chap 4; *Basic 3D Creation*
- Wk 10-April 2: Chap 12; *Basic 3D Modification*
- Wk 11-April 9: QUIZ over weeks 8-10; Chap 14; *3D Creation Practice*
- Wk 12-April 16: Chap 15; *Advanced 3D Creation*
- Wk 13-April 23: Chap 18; *3D Drawing Packet*
- Wk 14-April 30: QUIZ over weeks 11-13; *Design & Draw Project – measure, sketch, 3D create*
- Wk 15-May 7: *Design & Draw Project – 3D create*
- Wk 16-May 14: FINAL EXAM over weeks 1-15; *Complete Design & Draw Project*

Helpful websites and references for AutoCAD:

1. AutoCAD tutorial: http://www.andrew.cmu.edu/course/48-568/2DVideosWEB_files/frame.htm
2. AutoCAD lessons and links: <http://www.we-r-here.com/cad/tutorials/index.htm>
3. AutoCAD lessons: <http://www.kwic.com/~crowell/index.htm>
4. AutoCAD, Individual lessons and hints: <http://www.caddigest.com/subjects/autocad/tutorials/index.htm>
5. AutoCAD Tutor: <http://www.cadtutor.net/>
6. fbe Online AutoCAD Tutorials: <http://www.fbe.unsw.edu.au/Learning/autocad/>
7. AutoCAD Everything online chat/help site: <http://www.autocadeverything.com/help/archive/index.php>
8. cadalyst magazine online: <http://management.cadalyst.com/cadman/static/staticHtml.jsp?id=98765>
9. Videos on You Tube: <http://www.youtube.com/> (search for AutoCAD)

Books:

- AutoCAD 2007 Tutor For Engineering Graphics; Alan Kalameja (ENGR 407 Text)
- AutoCAD and its Applications – Basics; Terence Shumaker, David Madsen
- AutoCAD and AutoCAD LT Bible (by version); Ellen Finkelstein
- AutoCAD Secrets Every User Should Know; Dan Abbott

Syllabus subject to change upon notice.