



Engineering Graphics

Introduction

Course Outline

Instructor: _____ **Phone:** (269) 965-3931 x _____

Email: _____ @kellogg.edu

Course Name: Engineering Graphics

Length: 4 credit hours, 96 hours of instruction

Text: Engineering Graphics with AutoCAD 2009, James Bethune

Course Description: This CAD based course provides instruction and laboratory practice in basic graphical communication principles used in industry. Topics include technical sketching, lettering, geometric constructions, multiview drawings, sectional views, auxiliary views, dimensioning practices and drawing notation.

Derivation of Grade: Your final grade will be based on lab drawings (60%+/-), homework (15%+/-), quizzes (10%+/-) and the final project (15%+/-). Drawing grades will be a percentage, quiz grades will be a percentage, with all quizzes equal in weight, and the lowest quiz thrown out. The final project grade will be a percentage. The final grading scale will be as follows:

100-93.3 = A	93.2-90.0 = A-	89.9-86.6 = B+
86.5-83.3 = B	83.2-80.0 = B-	79.9-76.6 = C+
76.5-73.3 = C	73.2-70.0 = C-	69.9-66.6 = D+
66.5-63.3 = D	63.2-60.0 = D-	59.9- 0.0 = F

Attendance: Regular attendance and participation are necessary for successful completion of the course. You are responsible for all materials, lectures, and assignments missed (there is no make-up for missed quizzes). Absences in excess of one week of class time will cause a deduction of 3.33% per absence in your final grade. Three tardies will count as one absence.

Instructor Syllabus Rights Statement: Information contained in this syllabus was to the best knowledge of the instructor considered correct and complete when distributed for use at the beginning of the semester. However, this syllabus should not be considered a contract with Kellogg Community College and any student, nor between the instructor and any student. The instructor reserves the right, acting within the policies and procedures of Kellogg Community College, to make changes in the course content or instructional techniques without notice or obligation.

Academic Integrity: All courses offered by the Computer-Aided Drafting and Design Department will be conducted with the highest standards of academic honesty. Each student is expected to support these standards by neither giving nor accepting assistance on quizzes, tests or exams, and by submitting only his or her own work for

credit. The Kellogg Community College policy on Academic Integrity is spelled out in the student handbook. If it is suspected that you are cheating, fabricating, facilitating academic dishonesty, or plagiarizing, there may be serious consequences. The incident will be documented and may be reported to the academic chair and/or program director for possible disciplinary actions up to and including course, program, or college expulsion.

ADA and Section 504 Statement: Kellogg Community College does not discriminate in the admission or treatment of students on the basis of disability. KCC is committed to compliance with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act.

Topic Outline

- ◆ **Graphics as a language**
 - The need for graphical communication
 - The use of graphics in design and engineering
 - The field of drafting and design
- ◆ **Unit 1 - Lettering**
 - The need for proper lettering
 - Single-stroke vertical gothic lettering
- ◆ **Unit 2 - Freehand Sketching**
 - Pictorial sketching techniques
 - Isometric sketching techniques
- ◆ **Introduction to AutoCAD**
 - Accessing AutoCAD
 - Opening and saving drawings
 - Basic concepts and commands
- ◆ **Unit 3 - Geometric Construction**
 - Single view drawing
 - Geometry creation and editing
 - Alphabet of lines and layers
- ◆ **Unit 4 - Orthographic Projection**
 - Glass box theory
 - Normal views and selection
 - Line priority
 - Laying out views in AutoCAD
- ◆ **Unit 5 - Sectional Views**
 - Purpose of sectionals
 - Sectioning symbols and standards
 - Standard sectioning practices
- ◆ **Unit 6 - Auxiliary Views**
 - Purpose of Auxiliary views
 - Auxiliary practices
 - Partial views
 - Primary and secondary auxiliaries
- ◆ **Unit 7 - Dimensioning & Notation**
 - Units of Measure
 - Dimensions of size
 - Dimensions of location
 - Practices and standards
 - Notes
 - Title blocks
- ◆ **Unit 8 - Working Drawings**
 - Purpose of working drawings
 - Working drawing types
 - Bills of material