



蘇州大學
Soochow University

CEN 231 Engineering Graphics

Summer 2023

Course Credits: 4

Contact Hours: 55 hours

Instructor: TBA

Email: TBA

COURSE OBJECTIVES

This course is an introduction to engineering graphics and computer-aided design (CAD) using a 3D solid modeling software package. Topics include geometric construction, sketching, orthographic projection, isometric, sectional and detailed views, geometric dimensioning and tolerancing, engineering drawings and assemblies. Drawing and CAD laboratory classes will consist of short demonstrations, lectures and exercises, and student work period.

Upon Completion of this Course, students will be able to:

1. Gain proficiency in using standard engineering graphics tools, such as drawing instruments, software applications, and drafting techniques
2. Acquire the ability to visualize and manipulate three-dimensional objects in two-dimensional space
3. Learn to read and interpret engineering drawings, including plans, elevations, and sections and understand the importance of following industry standards, conventions, and practices to produce clear and comprehensive technical drawings
4. Become proficient in using CAD software to create, modify, and analyze engineering drawings and models
5. Leverage the power of CAD tools to enhance productivity, accuracy, and efficiency in the design process and explore advanced features of CAD software, such as parametric modeling, assembly design, and simulation.

PREREQUISITES

N/A



GRADING

Grades will be determined by accumulating points, with 100 points being the maximum, as follows:

ITEM	POINTS
Practicals	20 Points
Drawing/ Sketch	20 Points
Midterm	20 Points
Final Exam	40 Points
Total	100 Points

Late submissions will be graded at the end of the course. Grades will be assigned according to the following rule:

$$A \geq 90 > B \geq 80 > C \geq 70 > D \geq 60 > F.$$

We reserve the right to make adjustments to the overall grading policy.

COURSE MATERIALS

Required Texts:

Modern Graphics Communications, Giesecke, F.E. et al., Peachpit Press, 2009.

Recommended (Optional) Texts or Other Materials:

None

COURSE TOPICS

MODULE	TASKS
Module 1	<p>Topics: Topic 1: Machine Setup, Templates, Sketching, Geometric Relations Topic 2: Exercises: Patterning, Extrude-cuts Topic 3: Revolved Parts, Hole Wizard, Symbolic Threads, Fillets, Chamfers, applying Materials Topic 4: Sweeps, Planes, Shelling</p> <p>Assessments: Practicals#1</p>



Module 2	Topics: Topic 5: Exercises: Use of Calipers, Part Creation Topic 6: Sheetmetal Topic 7: Set up for Making Blueprints Topic 8: Adding Views, Dimensioning, Centerlines, Centermarks Assessments: Practicals#2
Module 3	Topics: Topic 9: Detail views, Broken Views, Sheet Metal Prints, Purchased Part Print Topic 10: Hand Drawn Isometric Views Topic 11: Assemblies and Mating Conditions Topic 12: Features at the Assembly Level, Machining Castings, Welding Assessments: Drawing Midterm
Module 4	Topics: Topic 13: Exercises: Assembly Creation with Features Topic 14: Exercises: Bore Charts, Assembly Drawing Topic 15: Tracking Design Changes, Drawing Revisions Topic 16: Photorendering Assessments: Sketch
Module 5	Topics: Topic 17: Configurations Topic 18: Making Manufacturable Part Topic 19: Tolerancing Topic 20: Lofting Assessments: Final Exam

ATTENDANCE

1) Class attendance is required. Missing classes without permission will lead to decrease in overall grade.

Missing less than two classes: no penalty.

Missing more than two classes: 7% will be taken off from the overall grade.

If the instructor reports a student's frequent missing of class to the Soochow University Academic Administration Office, the student might get a written warning and might be prohibited from attending final exam.



2) Participants in this course are expected to arrive in class promptly and adequately prepared. The primary objective of this course is to critically engage with the readings and the subject matter. Therefore, course participants are expected to have completed the reading prior to class and prepare thoughtful reflections/commentaries to share with fellow colleagues.

LEARNING REQUIREMENTS

- 1) Late assignments are not acceptable and are subjected to grade deductions.
- 2) Assignments submitted in the wrong format will be counted as not submitted.
- 3) Failure to submit or fulfill any required course component results in failure of the class.
- 4) Make-up for midterm and final exams only with valid excuses, as defined by the University.
- 5) In order to earn a Certificate of Completion, participants must thoughtfully complete all assignments by stated deadlines and earn an average quiz score of 50% or greater.

TECHNOLOGY POLICY

The use of electronic devices in class is distracting, both for the user and for the rest of the class. Only non-programmable calculators can be used in the tests and exam. Any attempts to use cell phones and other electronic communication devices will be seemed as cheating. Laptops are discouraged, unless you use them for activities DIRECTLY related to the course (eg., note taking, reading course documents).

ACADEMIC INTEGRITY POLICY

Soochow University highly values the academic integrity and aims to promote the academic fairness, honesty and responsibility. Any academic dishonesty behaviors and any attempts to cheats and plagiarism will be reported to the university administration office. A written warning and the relevant penalties will be imposed. The record might be shown on the official university transcript.

DISABILITY ACCOMMODATION



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Soochow University is committed to maintaining a barrier-free environment so that students with disabilities can fully access programs, courses, services, and activities at Soochow University. Students with disabilities who require accommodations for access to and/or participation in this course are welcome.

Note:

Please contact the University Administrative Office immediately if you have a learning disability, a medical issue, or any other type of problem that prevents professors from seeing you have learned the course material.