East West University
Department of Computer Science and Engineering
Course Outline CSE 200

Course: CSE200 Computer Aided Engineering Drawing

Credit and Teaching Scheme:

	Theory	Laboratory	Total
Credits	0	1	1
Contact Hours	0	2 Hours/Week for 13 weeks + Final exam in 14th week	2 Hours/Week for 13 weeks + Final exam in the 14th week

Prerequisite: None

Course Objective

This course introduces students to the standards and conventions of engineering drawing. This course emphasizes the use of CAD software to generate computer models and technical drawings. The fundamental principles of orthogonal projections as well as isometric projections and views are also covered in this course.

Knowledge Profile

K3: Theory-based engineering fundamentals; A systematic, theory-based formulation of engineering fundamentals required in the engineering discipline.

Learning Domains

Cognitive – **C2:** Understanding **C3:** Applying, **C4:** Analyzing
Psychomotor – **P2:** Manipulation, **P3:** Precision
Affective - **A2:** Responding

Program Outcomes (POs)

PO1: Engineering Knowledge

Complex Engineering Problem Solution

EP1: Depth of knowledge required
EP2: Range of conflicting requirements

Course Outcomes (Cos)

After completion of this course students will be able to:

CO	CO Description	PO	Learning Domains	Knowledge Profile	Complex Engineering Problem Solving
CO1	**Understand** the fundamental concepts of engineering drawings and **use** computer aided drawing instruments to create geometric constructions.	PO1	C2, C3	K3	

CO2	**Understand** the theory of projection and sectional views. **Use** CAD tools to **apply** and **examine** multi-view projection techniques i.e. orthographic projections of lines, planes and solids.	PO1	C2, C3, C4	K3	
CO3	**Apply** and **examine** isometric drawing techniques, isometric projections and conversion among 3D drawing, isometric drawing and multi-view projections using CAD tools.	PO1	C3, C4	K3	
CO4	**Demonstrate** skills on Computer Aided Design instruments to create 2D and 3D engineering drawings, write report on a complete design.	PO1	C3, P2, P3, A2	K3	EP1, EP2

Course Contents, Teaching-Learning Method and Assessment Scheme

Course Topic	Teaching - Learning Method	CO	Mark of Cognitive Learning Levels			Mark of COs	Exam Mark
			C2	C3	C4		
Introduction to drawing instruments, Lines, Lettering and Dimensioning.	Lecture, Demonstration, Class Discussion, Discussion with Instructor/TA	CO1	5			5	Mid Semester Assessment (20)
Scales: Plain, Diagonal and Vernier Scale. **Curves used in engineering practice:** ellipse, parabola, hyperbola.	Do	CO1	5			5	
Projection of Lines: Oblique Lines, Traces. Applications of Projection of Lines. **Projection of Planes:** Polygonal Lamina, Circular Lamina. **Projection of Solids:** Cube, Prism, Pyramid, Cylinder, Cone. Suspended Solids	Do	CO1	5			5	
Sectional views: Full section, Half section, Offset section, Broken section	Do	CO2	5			5	

Isometric Projections: Isometric Lines, Planes and Scale. Conversion of given 2D views to Isometric Projection/View. Conversion of given 3D View to 2D representation	Do	CO3			10	10	Final Lab Exam (30)
AutoCAD Drafting (3D): Isometric drawing	Do	CO3			10	10	
AutoCAD Drafting (3D): 3D modelling	Do	CO3			10	10	
Orthographic Projection: First and Third angle projection methods	Do	CO2			10	10	Lab Performance (30)
AutoCAD Drafting (2D): Drawing 2D geometric constructions, Floor planning	Do	CO2			10	10	
AutoCAD Drafting (Projection): Drawing multi-view projections and sectional views.	Do	CO2			10	10	

Mini Project

Mini Project	Teaching-Learning Method	CO	EP/ EA	Mark of Cognitive Learning Level		Mark of Psychomotor Learning Levels		Mark of Affective Learning Level	CO Mark
				C2		P2	P3	A2	
Lab-based Mini Project On AutoCAD Drafting (3d modelling) including Report and Presentation	Group based moderately complex 3d modelling project with report writing	CO4	EP1, EP2	7		3	3	2	15

Overall Assessment Scheme

Assessment Area	CO				Other	PO Marks
	CO1	CO2	CO3	CO4		PO1
Class Test	5	10	10			25
Assignment		5	5			10
Midterm Semester Assessment	10	10				20
Lab Final Exam			30			30
Lab Performance				5		05
Mini Project				15		15
Total Mark	15	25	40	20		100

Teaching Materials/Equipment

Textbook:
1. Engineering Drawing (With an introduction to AutoCAD) by Dhananjay A Jolhe
2. Engineering Drawing by Basant Agrawal & C M Agrawal

Lab Manual:
Lab manual will be provided.

Project Description:
Project description will be provided.

Equipment/Software:
AutoCad 2023.

Grading System

Marks (%)	Letter Grade	Grade Point
80% and above	A+	4.00
75% to less than 80%	A	3.75
70% to less than 75%	A-	3.50
65% to less than 70%	B+	3.25
60% to less than 65%	B	3.00
55% to less than 60%	B-	2.75
50% to less than 55%	C+	2.50
45% to less than 50%	C	2.25
40% to less than 45%	D	2.00
Less than 40%	F	0.00

Office Hour

Exam Dates

Section	Class Slot	Mid Semester Exam	Final Lab Test
According to the academic calendar provided in the University website			

Academic Code of Conduct

Academic Integrity:
Any form of cheating, plagiarism, personification, falsification of a document as well as any other form of dishonest behavior related to obtaining academic gain or avoidance of evaluative exercises committed by a student is an academic offence under Academic Code of conduct and **may lead to severe penalties as decided by the Disciplinary committee of the university.**

Special Instructions:

- Students are expected to attend all the classes and examinations. A student MUST have at least 80% class attendance to sit for final exam.
- Students will not be allowed to enter into the classroom after 20 minutes of the starting time.
- For plagiarism, Grade will automatically become zero for that exam/assignment.
- Normally there will be **NO make-up exam.** However, in case of **severe illness, death of any family member, any family emergency, or any humanitarian ground,** if a student misses any exam, he/she MUST get approval of makeup exam by written application to the Chairperson through the Course Instructor **within 48 hours** of the exam time. Proper supporting documents in favor of the reason of the missing the exam must be presented with the application.
- For **Final exam,** there will be No makeup exam. However, in case of **severe illness, death of any family member, any family emergency, or any humanitarian ground,** if a student misses the final exam, he/she MUST get approval of **Incomplete Grade** by written application to the Chairperson through the Course Instructor **within 48 hours** of the final exam time. Proper supporting documents in favor of the reason of the missing the final exam must be presented with the application. **It is the responsibility of the student to arrange an Incomplete Exam within the deadline mentioned in the Academic Calendar in consultation with the course Instructor.**
- All mobile phones MUST be turned into **Silent Mode** during class and exam period.
- There is **zero tolerance for cheating** in exams. Students caught with cheat sheets in their possession, whether used or not; writing on the palm of hand, back of calculators, chairs, or nearby walls; copying from cheat sheets or other cheat sources; copying from other examinee etc. would be treated as cheating in the exam hall. The only penalty for cheating is **expulsion for several semesters as decided by the Disciplinary Committee of the university.**