



PART A: General Information

1. Course Number ME 174
Course Title Mechanical Engineering Drawing and CAD
Credit (Contact) Hours 1.50 (3.00 hr/week)hours
2. Level and Term (Section) L1T2 (A, B)
Academic Term
3. Type of Course Sessional
Offered to Department of Computer Science and Engineering
4. Pre-requisite Course(s) -
5. Course Website To be announced
6. Lecture Schedule Section A(Saturday 2:30-5:00 pm)
Section B(Wednesday 2:30-5:00 pm)
Section C(Monday 8:00-11:00 am)
7. Important Dates For important dates and examination schedules and latest updates, please follow the course designated course teams
8. Course Teacher(s) Md. Shahriar Alam, Sakib Javed, Sadia Tasnim, Md. Moyeenul Hossain
Ratul, Taslima Hossain Sanjana

PART B: Course Details

9. Course Content (As approved by the Academic Council)
Introduction; Instruments and their uses; Third angle projection; Orthographic drawing; Isometric views; Sectional views; Introduction to computer graphic software: Computer aided drawing (CAD).
10. Course Objectives
After attending lecture and studying the assigned materials, the student will:
 - Classify types of projection and perspectives.
 - Identify norms and practices of mechanical engineering drawing
 - Interpret different types of lines and their uses in engineering drawings
 - Explain sectional view and its conventional practices
 - Use Computer Aided Design (CAD) software (AutoCAD)
11. Knowledge required -
12. Course Outcomes

CO No.	CO Statement	Corresponding PO(s)*	Domains and Taxonomy level(s)**	Delivery Methods	Assessment Tools
1	Describe standards, norms, practices, and techniques of engineering drawing	PO(1)	C1	Lectures, Tutorial	Class Performance, Assignment, Quiz
2	Learn to draw different types of lines, angles, and shapes to construct geometric figures using various drawing tools and construction techniques	PO(1)	C3	Lectures, Tutorial	Class Performance, Assignment, Quiz
3	Understand the principle of projection and sectioning	PO(1)	C4	Lectures, Tutorial	Class Performance, Assignment, Quiz
4	Employ AutoCAD to draw engineering figures	PO(1), PO(5)	P1	Lectures, Tutorial	Class Performance, Assignment, Quiz

***PO (1):** Engineering knowledge; **PO(2):** Problem analysis; **PO (3):** Design/development of solutions; **PO(4):** Investigation; **PO(5)** Modern tool use; **PO(6):** The engineer and society; **PO(7):** Environment and sustainability; **PO(8):** Ethics; **PO(9):** Individual work and teamwork; **PO(10):** Communication; **PO(11):** Project management and finance; **PO(12):** life-long learning

****C-Cognitive:** C1: Knowledge; C2: Comprehension; C3: Application; C4: Analysis; C5: Synthesis; C6: Evaluation
A-Affective: A1: Receiving; A2: Responding; A3: Valuing; A4: Organizing; A5: Characterizing
P-Psychomotor: P1: Perception; P2: Set; P3: Guided Response; P4: Mechanism; P5: Complex Overt Response;
P6: Adaptation; P7: Organization

13. Lecture Plan

Lectures	Topics	Reference	COs
1	Introduction: Basic drawing concepts and practice	TB-1,2, Ref. [i],[ii]	CO1
2	Orthogonal views of simple block with holes	TB-1,2, Ref. [i],[ii]	CO1, CO2
3	Orthogonal views with rounds and fillets	TB-1,2, Ref. [i],[ii]	CO1, CO2
4	Sectional views with conventional practices	TB-1,2, Ref. [i],[ii]	CO3
5	Viva, Isometric views	TB-1,2, Ref. [i],[ii]	CO2, CO3
6	Isometric views with holes	TB-1,2, Ref. [i],[ii]	CO1, CO2
7	Midterm quiz		
8	Introduction to AutoCAD	TB-1,2, Ref. [i],[ii]	CO1
9	Orthographic views in AutoCAD	TB-1,2, Ref. [i],[ii]	CO1, CO2
10	Sectional and Auxiliary views in AutoCAD	TB-1,2, Ref. [i],[ii]	CO1, CO2
11	Final quiz		

14. Assessment Strategy

- Class Participation: Class participation and attendance will be recorded in every class.
- Continuous Assessment: Continuous assessment any of the activities such as quizzes, assignment, presentation, etc. The scheme of the continuous assessment for the course will be declared on the first day of classes.
- Final Quiz: A comprehensive quiz based on the classes will be held at the end of the session.

15. Distribution of Marks

Class Participation	10%
Continuous Assessment	50%
Final Examination	40%
Total	100%

16. Textbook

1. Mechanical Engineering Drawing, Dr. Amallesh Chandra Mandal, Dr. Md. Quamrul Islam, ISBN:984-8725-00-8
2. Class lecture materials are also prepared from a variety of sources on the internet, which will be provided during the semester.

17. References

- i. Reference 1 Jay D. Helsel, (2008). Mechanical Drawing: Board & CAD Techniques. 5th Edition. Glencoe/McGraw-Hill. ISBN: 9780078251023
- ii. Kyles, S. R. (2009). AutoCAD Workbook for Architects and Engineers. Chichester: John Wiley & Sons. 15th Edition. ISBN: 9781444309447

Important University Policies:

- Rules and regulations for the undergraduate programmes:
<https://www.buet.ac.bd/info/Academicinformation/RulesUndergradprogram>

Important Departmental/Course Policies

- Program Outcomes: [Link to program outcomes](#)
- Learning Domains: [Link to learning domains document](#)

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