Module (Engineering Drawing) Catalogue

2023-2024

College/ Institute	Erbil Technical Engineering College	
Department	Technical Mechanical and Energy Engineering Department	
Module Name	Engineering Drawing	
Module Code	END203	
Degree	Technical Diploma ☐ Bachler ■ High Diploma ☐ Master ☐ PhD ☐	
Semester	2	
Qualification	Master Degree	
Scientific Title	Asst. Lecturer	
ECTS (Credits)	5	
Module type	Prerequisite ☐ Core ■ Assist. ☐	
Weekly hours	3 hours	
Weekly hours (Theory)	( )hr Class	( )Total hrs Workload
Weekly hours (Practical)	(3)hr Class	(36)Total hrs Workload
Number of Weeks	12 weeks	
Lecturer (Theory)		
E-Mail & Mobile NO.		
Lecturer (Practical)	Mrs. sheelan Fareeq Abdulwahab	
E-Mail & Mobile NO.	sheelan.abdulwahab@epu.edu.iq	
Websites		

Course Book

Course Description	This course explained the fundamental for basic engineering drawing. The course applied for first stage of mechanical and energy engineers which can helped to understand the main concept and tools for engineering drawing. A drawing is a graphic representation of an idea, a concept, or an entity which actually or potentially exists in life. The drawing itself is: 1. A way of communicating all necessary information about an abstraction, such as an idea or a concept. 2. A graphic presentation of some real entity, such as a house, a machine part, or a tool, for example. Drawing is older forms of communication. This Course is very important and basis for other courses such as engineering Mechanics, strength of materials, Design of machine and Mechanical drawing.
Course objectives	At the end of this course the student will be able to: 1. Understand the importance of Engineering Drawing. 2. Demonstrate the use of different drawing instruments. 3. Make free hand lettering and numbering. 4. Practice of dimensioning of drawings. 5. Undertake different geometric constructions, projections of straight lines, planes and solids. 6. Take up different orthographic projections. 7. Draw sectional views, development of surface of different solids. Understand the importance of fastening type.
Student's obligation	• Students are responsible to do homework on their own.

<table>
<tr><td></td><td colspan="5">

- There will be several quizzes during the academic year, not necessarily announced. The quiz contains the materials covered in previous lectures, homework or to be covered that day.
- There are 90-minute midterm exam and a 120 -minute final exam. All tests are in class, closed book, and closed notes.
- Any quiz or test missed without a supported documented and excused absence will represent a zero.
- Attendance and participation in the lecture are mandatory and will be considered in the grading.
- Students should bring T- square, set-square, compasses calculators, rulers, pens, pencils and all the drawing tools to be used during the lectures.

</td></tr>
<tr><td>Required Learning Materials</td><td colspan="5">

- Data show, white board and PowerPoint are used throughout the lecture.
- Publish all lecture notes in college website (Moodle) before the lecture day.

</td></tr>
<tr><td rowspan="11">Evaluation</td><td colspan="2">Task</td><td>Weight (Marks)</td><td>Due Week</td><td>Relevant Learning Outcome</td></tr>
<tr><td colspan="2">Paper Review</td><td></td><td></td><td></td></tr>
<tr><td rowspan="6">Assignments</td><td>Homework</td><td>20%</td><td>every week</td><td></td></tr>
<tr><td>Class Activity</td><td>20%</td><td>every week</td><td></td></tr>
<tr><td>Report</td><td></td><td></td><td></td></tr>
<tr><td>Seminar</td><td></td><td></td><td></td></tr>
<tr><td>Essay</td><td></td><td></td><td></td></tr>
<tr><td>Project</td><td></td><td></td><td></td></tr>
<tr><td colspan="2">Quiz</td><td>4%</td><td>Week 5</td><td></td></tr>
<tr><td colspan="2">Lab.</td><td></td><td></td><td></td></tr>
<tr><td colspan="2">Midterm Exam</td><td>16%</td><td></td><td></td></tr>
<tr><td colspan="2">Final Exam</td><td>40%</td><td></td><td></td></tr>
<tr><td colspan="2">Total</td><td>100%</td><td></td><td></td></tr>
</table>

Specific learning outcome:	1. Get information about the important tools for engineering drawing. This will give student basic knowledge of technical drawings professions and means of communications to others. 2. Learning how to draw the shapes, angels and lines and others which is essential for engineer 3. Develop student's imagination and ability to represent the shape size and specifications of physical objects. 4. Understand the main idea of using dimension for engineering drawing 5. Familiarize with different drawing equipment, technical standards and procedures for construction of geometric figures. This will give students ability to draw three-dimension objects on the paper and to draw the pectoral drawings. 6. Explain the principle of projection and sectioning. 7. Understand the intersection, development of surface of body and fasteners. 8. Learning the main idea from assembly and detail drawing.
Course References:	• الرسم الهندسي، تأليف عبد الرسول الخفاف ١٩٩٠ • Bhatt N. D., Engineering Drawing plane and solid geometry, Publishing House Pvt. Ltd, 2011. • David L. Goetssch, John A. Nelson and William S. Chalk., "Technical Drawing" Fourth Edition, 2000. • Albert Boundy, Engineering Drawing, 2nd edition. • Dhanajay A. Joihe, Engineering Drawing, with introduction to AutoCAD.

Course topics (Theory)	Week	Learning Outcome
Practical Topics	**Week**	**Learning Outcome**
Introduction to Engineering drawing, engineering instruments and their uses. Engineering Lettering, Types of Lines, Applications on types of lines, Drawing Scale.	1&2	1 & 2
Geometrical construction drawings, Applications on geometrical constructions, Tangent lines and arcs, Construction of Ellipse	2&3	2&3
Orthographic projection	4&5	5
Fundamental of dimensioning on engineering drawings	6&7	4
Isometric drawings	8&7	7
Sectional views	9&10	6
Descriptive Geometry	10 &11	8

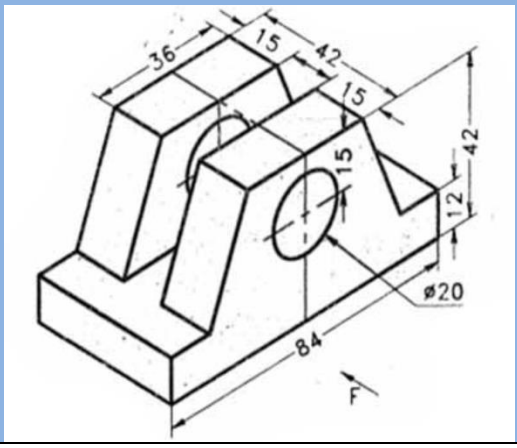
Questions Example Design

Q 1 /

1. Draw an equilateral triangle with 5 cm side length.
2. Divide the angle 95° into two equal angles.
3. Draw a circle of 50 mm radius. Divide it (i) into 8 equal parts by continued bisection and (ii) into 12 equal parts.

Q 2 /

Draw using the first angle projection method front view, top view and side view. All the dimensions in mm. use scale [1:1]



Extra notes: No extra notes
External Evaluator