



زانکۆی سه‌لاحه‌دین - هه‌ولێر  
Salahaddin University-Erbil

**Department: General**

**College of Agricultural Engineering Sciences**

**University of Salahaddin**

**Subject: Engineering Drawing**

**Course Book – 1<sup>st</sup> Stage / Autumn Semester**

**Lecturer's name: Dr. Eng. Land. Arch. Kardo Nooruldeen Kareem**

**Academic Year: 2023/2024**

# Course Book

<b>1. Course name</b>	Engineering Drawing
<b>2. Lecturer in charge</b>	Dr. Eng. Land. Arch. Kardo Nooruldeen Kareem
<b>3. Department/ College</b>	Horticulture/ Agricultural Engineering Sciences
<b>4. Contact</b>	E-mail: kardo.kareem@su.edu.krd
<b>5. Time (in hours) per week</b>	Practical: 3
<b>6. Office hours</b>	5 days a week (Please, contact by email because, I am usually available).
<b>7. Course code</b>	
<b>8. Teacher's academic profile</b>	<p>- B.Sc: 2006/ Plant Production / College of Agriculture/ Salahaddin University -Erbil/ Kurdistan Region/ Iraq.</p> <p>- M.Sc : 2009/ Landscape Gardening/ College of Natural Science /Lugansk Taras Shevchenko National University Ukraine.</p> <p>- Ph D.: 2018/ Landscape Architecture / Architecture and Urban Planning/ Faculty of Architecture/ Poznan University of Technology / Poznan/ Poland.</p>
<b>9. Keywords</b>	Drawing, Sketch, Scale, 2D, 3D
<b>10. Course overview:</b>	
<p>In this course try to learn student what is the geometrical, drawing, the map of design and its uses for the people life and practical, beside this to learn the student about the importance of the engineering material for the life and today we see more buildings, landscape architecture and bridges which build by this process and application, in the past review we know that the life are not importance without mapping and engineering, certainly to adaptive the student for other courses.</p> <p>Therefore, an engineer must have knowledge of this language to project his ideas correctly on the paper and then execute the job efficiently and effectively with the help of this drawing.</p> <p>Since, the modern research work in engineering depends mainly upon engineering drawing, it is therefore, necessary for an engineer to acquire a good working knowledge about the subject in order to express and record the shape, size and other information necessary for the landscape design, gardening and landscape architecture, construction of various objects such as buildings, roads etc.</p>	
<b>11. Course objective:</b>	
<ol style="list-style-type: none"> <li>1- The aim of this course is to give the students availability to improve the term of Drawing and Sketch.</li> <li>2- How to classification the types of map and drawing.</li> <li>3- The tools which used for measure the farms.</li> <li>4- To teach the students how to draw maps.</li> <li>5- For development the thinks of students.</li> </ol>	

- 6- To learn students how to making idea about the engineering process, to draw and convert the true area to mapping image.

### **12. Student's obligation**

The obligation of the students in this academic course includes attendance in the lectures on time and listening teachers carefully, preparation every week they will do homework and also encourage all students to participate by giving then questions and giving opportunity to all of them, attendance the exam by studying the materials, make a drawing about engineering drawing and present it for the other students at the class.

### **13. Forms of teaching**

The form of teaching is including use of white board mostly, However, Projector will be used to display my objectives by PowerPoint to present the lecture, and sometimes, give the lecture to the students by Microsoft word for each lecture. Moreover, the other primary materials engineering drawing for T-square, type of pencils (HB-H-B), Set of Square triangles: A-Thirty-sixty degree ( $30^{\circ}$ - $60^{\circ}$ ) set square. B-Forty five degree ( $45^{\circ}$ ) set square, Drawing board/ table (D3 (500x350) mm, used for paper size A3), Drawing sheet/ paper, Compass and dividers, etc..

### **14. Assessment scheme**

First exam after five lectures

Second exam after ten lectures

Mark distribution:

Monthly exam 40% (Two exams 15 mark, quiz 5 mark, Homework 5 mark).

Final exam 60%

Final mark 100%

### **15. Student learning outcome:**

Demonstrate a fundamental understanding of the fundamental design methodologies in engineering drawing at appropriate scales: context, strategy and detail. After finishing this course students will be introduced to the importance of engineering drawing. They will be got information about drawing, sketch and scales. Understanding, interesting and enjoy in the term of engineering drawing

### **16. Course Reading List and References:**

Abdulhusen, A. (1983). Engineering Drawing. Ministry of Higher Education and Scientific research, University of Technology, Baghdad, Iraq. (Arabic T.)

Alxafaf, A. (1993). Engineering Drawing. Ministry of Higher Education and Scientific research, University of Technology, Second press, Baghdad, Iraq. (Arabic T.)

Hasan, N.S. (1988). Engineering Drawing for Agriculture College. Ministry of Higher Education and Scientific research, University of Mosul, College of Agriculture and Forest, Iraq. (Arabic T.)

Hughes, N. (2006). Engineering Drawing and CAD. School of Engineering, Faculty of Technology, University of Plymouth, Drake Circus Plymouth PL4 8AA.

<b>17. The Topics:</b> <b>18. Practical Topics:</b>	<b>Lecturer's name</b> <b>Dr. Kardo N. Kareem</b>
Principles Engineering Drawing	3 hours 27/10/2023
Practical Engineering Drawing	3 hours 03/11/2023
How to draw and paint a circle within a (triangle, quadrangle, pentagon, hexagon, heptagon, octagon,.....) inside	3 hours 10/11/2023
Geometrical Constructions and Tangency	3 hours 17/11/2023
Tangent arc	3 hours 24/11/2023
Geometrical figures (shape).... 1	3 hours 01/12/2023
Geometrical figures (shape).... 2	3 hours 08/12/2023
Geometrical figures (shape).... 3	3 hours 15/12/2023
Isometric Drawing.....1 (Three – dimensional views)	3 hours 22/12/2023
Isometric Drawing.....2 (Three – Dimensional views)	3 hours 29/12/2023
Isometric Drawing.....3 (Three – Dimensional views)	3 hours 05/01/2024
The Basics 3D Dimension	3 hours 12/01/2024
3D Dimension	3 hours 19/01/2024
3D Dimension	3 hours 26/01/2024

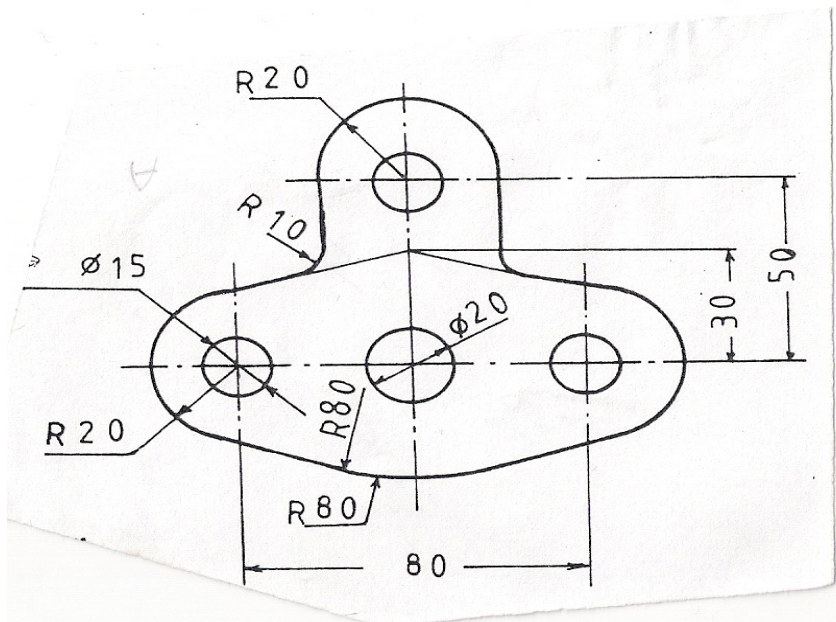
### 19. Examinations:

For example: - Engineering drawing questions section General

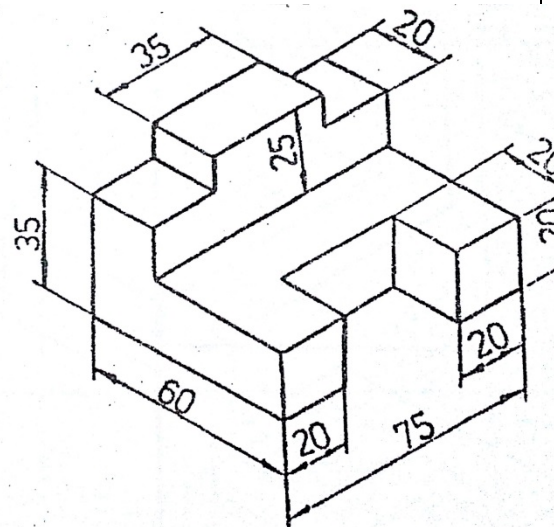
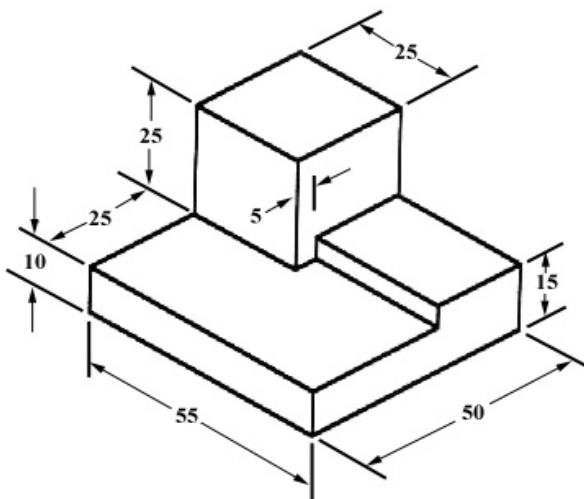
Q1/ Drawing a circle with a pentagon inside.  $R=50\text{mm}$

Q2/ Draw an external tangent with radius of 90 mm for two circles, their radius ( $R_1, R_2$ ) are ;  $R_1=20\text{ mm}$ ,  $R_2=35\text{ mm}$  and the distance between their positions ( $O_1, O_2$ )= $70\text{ mm}$

Q3/ Draw the following form in scale 1:1 with the control of the measurements.



Q4/ Draw the trio projection for the following shapes.



**20. Extra notes:**

Here the lecturer shall write any note or comment that is not covered in this template and he/she wishes to enrich the course book with his/her valuable remarks.

**21. Peer review:**

This course book has to be reviewed and signed by a peer. The peer approves the contents of your course book by writing few sentences in this section.

*(A peer is person who has enough knowledge about the subject you are teaching, he/she has to be a professor, assistant professor, a lecturer or an expert in the field of your subject)..*