

## COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	University of Technology
2. University Department/Centre	Chemical Engineering Department
3. Course title/code	Engineering Drawing /131
4. Programme(s) to which it contributes	CE.131
5. Modes of Attendance offered	Fall time
6. Semester/Year	2 semester/year
7. Number of hours tuition (total)	3
8. Date of production/revision of this Specification	
9. Aims of the Course	
1. To learn the language of global engineering by understanding the geometric shapes and analysis to view as well as the conclusion of the third and projected student learns also cutting process and understand the internal parts and the student learning to draw isometric shape with a dimensional	
2. Drawing engineering operations such as the pentagon and hexagon and octagon ellipse	

<b>10• Learning Outcomes, Teaching, Learning and Assessment Method</b>
<b>A-Knowledge and Understanding</b>  A- Knowledge and Understanding A1. Basic information ,concepts and terminology of the general principles in Engineering Drawing, A2. Demonstrating a broad and integrated knowledge and a deep understanding in engineering drawing. A3.The ability to analyze the three-dimensional shapes to views
<b>B.Subject-specific skills</b> B1. Understand and analyze the devices by engineering drawing contribute to reducing the cost. B2. By understanding, the shapes can change some of the qualities to improve qualities of services. B3.Acquiring high in drawing skill and ability to deal with engineering tools effectively
<b>Teaching and Learning Methods</b>
Lectures, Tutorials , Example Classes , Informal and formal teamwork , Weekly homework problems
<b>Assessment methods</b>
Midterm exams , Final exam , Quizzes, Weekly homework, Team and homework problems , partial test (free hand :- Practical drawing on the drawing board ), Open questions that have a definite answer , or do not have a definite answer
<b>C. Thinking Skills</b> C1. An ability to apply effective, creative and innovative solutions, both independently and cooperatively, to current and future problems in engineering drawing C2. Apply course concepts in solving interdisciplinary problems, solve the problems through logic and improve their ability to work effectively in a group of peers. C3.Present and evaluate information and ideas in the engineering operations. C4. Analyze and solve engineering problems often on the basis of limited and contradictory information.
<b>Teaching and Learning Methods</b>
Lectures, Tutorials , Example Classes , Informal and formal teamwork , Weekly homework problems , Analysis of cases linked to the work environment , Practical Applications

#### Assessment methods

Midterm exams , Final exam , Quizzes, Weekly homework, Team and homework problems , partial test (free hand :- work in board , alternative response ), Open questions that have a definite answer , or do not have a definite answer

#### D. General and Transferable

#### **Skills (other skills relevant to employability and personal development).**

D1. D1. Work together in same-discipline teams to solve engineering problems.

D2. Be creative, particularly and analytical in the formulation and solution of problems.

D3. Speed intuitive, predictability and evaluate information and ideas in the handling with deferent model

### 11. Course Structure

Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
<b>1<sup>st</sup> semester</b>					
1	3	provide an understanding of the general principles of engineering drawing	Introduction:- introduction and general principle in engineering drawing..	Lectures, Practical Applications	partial test (free hand :- practical drawing ), Open questions that have a definite answer , or do not have a definite answer
2		Basic principles (types of line)	Determine the dimensions necessary to draw a frame	Lectures , Example Classes , Practical Applications	Exams , Weekly homework, Team and homework problems , Open questions that have a definite answer ,
3		Learn engineering operations	Types of engineering operations	Lectures, Tutorials , Example Classes , Practical Applications	Weekly homework, Team and homework solve problems , Open questions that have a definite answer , or do not have a definite answer, partial test

4		Ellipse	. Learn how the four centers	Lectures, Tutorials , Example Classes , Informal and formal teamwork , Weekly homework problems	Exams , Weekly homework, Team and homework solve problems , Open questions that have a definite answer , or do not have a definite answer,
5		Drawing tangents	Types of tangent	Lectures, Tutorials , Example Classes , Informal and formal teamwork , Weekly homework problems	Team and homework solve problems , Open questions that have a definite answer
6		Previous test subjects	All subject	problems	Exams , monthly
7		projection	Types of projection	Lectures, Tutorials , Example Classes , Informal and formal teamwork , Weekly homework problems	Exams , Weekly homework, Team and homework solve problems ,
8		Surfaces at oblique projections	Study oblique surfaces and its impact on the three projections	Lectures, Tutorials , Example Classes , Informal and formal teamwork , Weekly homework problems	Exams , Weekly homework, Team and homework solve problems ,

9		Circles and cylinders in projections	Study cylinders and its impact on the three projections	Lectures, Tutorials , Example Classes , Informal and formal teamwork , Weekly homework	Exams , Weekly homework, Team and homework solve problems ,
10		Examples	Analyses deferent model to top ,side, front view	Lectures, Tutorials , Example Classes , Informal and formal teamwork , Weekly homework problems	Exams , Weekly homework, Team and homework solve problems
11		Examples	Analyses deferent model to top ,side, front view	Lectures, Tutorials , Example Classes , Informal and formal teamwork , Weekly homework problems	Exams , Weekly homework, Team and homework solve problems
12		Previous test subjects	All subject	problems	Exams , monthly
13		The sections	Types of sections	Lectures, Tutorials , Example Classes , Informal and formal teamwork , Weekly homework problems	Exams , Weekly homework, Team and homework solve problems ,

14		Full sections	Acquire the skill needed to understand the full cut	Lectures, Tutorials , Example Classes , Informal and formal teamwork , Weekly homework problems	Exams , Weekly homework, Team and homework solve problems
15		half a sectioned	Acquire the necessary skill to understand the projected half a sectioned	Lectures, Tutorials , Example Classes , Informal and formal teamwork , Weekly homework problems	Exams , Weekly homework, Team and homework solve problems ,
<b>2<sup>nd</sup> semester</b>					
16		Conclusion and drawing third projection	Acquire the skill necessary conclusion	Lectures, Practical Applications	partial test (Oral questions :- multiple choice ,alternative response ),
17		examples	The ability to resolve issues	Lectures , Example Classes , Practical Applications	Exams , Weekly homework, Team and homework problems ,
18		Compiling projections Draw isometric	To draw isomeric shapes during compiling projections	Lectures, Tutorials , Example Classes , Practical Applications	Weekly homework, Team and homework solve problems)

19		Draw isometric	Acquire the skill drawing	Lectures, Tutorials , Example Classes , Informal and formal teamwork , Weekly homework problems Analysis of cases linked to the work environment	Exams , Weekly homework, Team and homework solve problems ,
20		Dimensions	Learn ways to put dimensional	Lectures, Tutorials , Example Classes , Informal and formal teamwork , Weekly homework problems	Team and homework solve problems ,
21		introduction to AutoCAD program		Lectures, Tutorials , Example Classes , Informal and formal teamwork , Weekly homework problems	Team and homework solve problems ,
22		Continuous line drawing		Lectures, Tutorials , Example Classes , Informal and formal teamwork , Weekly homework problems	Team and homework solve problems ,
23		Curves drawing		Lectures, Tutorials , Example Classes , Informal and formal teamwork , Weekly homework problems	Team and homework solve problems ,

24		Dimensions		Lectures, Tutorials , Example Classes , Informal and formal teamwork , Weekly homework problems	Team and homework solve problems ,
25		2D drawing		Lectures, Tutorials , Example Classes , Informal and formal teamwork , Weekly homework problems	Team and homework solve problems ,
26		3D drawing methods		Lectures, Tutorials , Example Classes , Informal and formal teamwork , Weekly homework problems	Team and homework solve problems ,
27		Composite solid		Lectures, Tutorials , Example Classes , Informal and formal teamwork , Weekly homework problems	Team and homework solve problems ,
28		Drawing simple chemical engineering		Lectures, Tutorials , Example Classes , Informal and formal teamwork , Weekly homework problems	Team and homework solve problems ,



29		Drawing process flow diagram of chemical engineering unit		Lectures, Tutorials , Example Classes , Informal and formal teamwork , Weekly homework problems	Team and homework solve problems ,
30		exams		Lectures, Tutorials , Example Classes , Informal and formal teamwork , Weekly homework problems	Team and homework solve problems ,

12.Infrastructure	
<p>Required reading:</p> <ul style="list-style-type: none"> <li>·CORETEXTS</li> <li>·COURSE MATERIALS</li> <li>·OTHER</li> </ul>	<ul style="list-style-type: none"> <li>○ Lecturers</li> <li>○ Book -References</li> </ul> <ol style="list-style-type: none"> <li>1. الرسم الهندسي، تأليف (عبد الرسول الخفاف) الطبعة الثانية، 1993</li> <li>2. R.P Hoelscher and C.H Springer "Engineering Drawing and Geometry ".2nd edition</li> </ol>
Special requirements(include for example workshops,periodicals, IT software, websites)	Websites , Laboratory
Community-based facilities (include for example,guest Lectures,internship, field studies)	field trips

13. Admissions	
Pre-requisites	Before proceeding with this lesson must be that the student has achieved the conditions for acceptance of the Faculty of Engineering
Minimum numberof students	Central Admission
Maximum numberof students	Central Admission