



Ministry of Higher Education and  
Scientific Research - Iraq  
Al-Mustaqbal University  
College for engineering and technology  
Department of Biomedical Engineering



## MODULE DESCRIPTOR FORM

### نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	engineering drawing		Module Delivery
Module Type	Basic		✓ Theory Lecture ✓ Lab Tutorial Practical Seminar
Module Code	UOMU0101024		
ECTS Credits	5		
SWL (hr/sem)	125		
Module Level	UGI	Semester of Delivery	
Administering Department	Biomedical Engineering Dept.	College	College of Engineering
Module Leader		e-mail	
Module Leader's Acad. Title		Module Leader's Qualification	
Module Tutor	None	e-mail	
Peer Reviewer Name		e-mail	
Review Committee Approval		Version Number	

Relation With Other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

## Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

<p><b>Module Aims</b> أهداف المادة الدراسية</p>	<ol style="list-style-type: none"><li>1. To know about different types of lines &amp; use of different types of pencils in an Engineering Drawing</li><li>2. To know how to represents letters &amp; numbers in drawing sheet</li><li>3. To know about different types of projection</li><li>4. To know projection of points ,straight lines, solids etc.</li><li>5. To know development of different types of surfaces.</li><li>6. To know about isometric projection.</li><li>7. Basics of dimensioning ,Lettering&amp; representation of lines</li><li>8. Different lines used for representation of different Engineering Sections.</li><li>9. To know different angle of projection</li></ol>
<p><b>Module Learning Outcomes</b> مخرجات التعلم للمادة الدراسية</p>	<ol style="list-style-type: none"><li>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.</li><li>2. Learning how to draw the shapes, angels and lines and others which is essential for engineer</li><li>3. Develop student's imagination and ability to represent the shape size and specifications of physical objects.</li><li>4. Understand the main idea of using dimension for engineering drawing</li><li>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.</li><li>6. Explain the principle of projection and sectioning</li><li>7. Understand the intersection, development of surface of body and fasteners</li><li>8. Learning the main idea from assembly and detail drawing</li><li>9. Understanding the types of traditional and non-traditional</li></ol>
<p><b>Indicative Contents</b> المحتويات الإرشادية</p>	<p>Engineering drawing is a basic course for all undergraduate Engineering program. Though Engineering drawing is considered as the language of engineers, most of the universities offer this course as a practical course</p>

	<p>without any lecture component.</p> <p>This course is therefore introduced to provide the basic understanding of the fundamentals of Engineering Drawing, mainly visualization, graphics theory, standards and conventions of drawing, the tools of drawing and the use of Drawings in engineering applications.</p> <p>The topics covered are based on the syllabus for undergraduate studies in engineering. The lectures would be arranged in a sequence and starts from the basic concepts of geometrical constructions and engineering curves and progress to the principles of projection techniques.</p> <p>Towards the end of the course it is expected that the students would be matured to visualize the engineering component from any drawing sheet. , followed by projection techniques A number of chosen problems will be solved to illustrate the concepts clearly.</p>
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### Learning and Teaching Strategies

#### استراتيجيات التعلم والتعليم

<b>Strategies</b>	<p>The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering type of experiments involving some sampling activities that are interesting to the students.</p>
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### Student Workload (SWL)

#### الحمل الدراسي للطالب

<b>Structured SWL (h/sem)</b> الحمل الدراسي المنتظم للطالب خلال الفصل	<b>175</b>	<b>Structured SWL (h/w)</b> الحمل الدراسي المنتظم للطالب أسبوعياً	<b>7</b>
<b>Unstructured SWL (h/sem)</b> الحمل الدراسي غير المنتظم للطالب خلال الفصل	<b>67</b>	<b>Unstructured SWL (h/w)</b> الحمل الدراسي غير المنتظم للطالب أسبوعياً	
<b>Total SWL (h/sem)</b> الحمل الدراسي الكلي للطالب خلال الفصل	108		

### Module Evaluation

#### تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
<b>Formative assessment</b>	<b>Quizzes</b>	2	10% (10)	5, 10	LO #1, 2, 10 and 11
	<b>Assignments</b>	2	10% (10)	2, 12	LO # 3, 4, 6 and 7

	<b>Projects / Lab.</b>	1	10% (10)	Continuous	
	<b>Report</b>	1	10% (10)	13	LO # 5, 8 and 10
<b>Summative assessment</b>	<b>Midterm Exam</b>	2 hr	10% (10)	7	LO # 1-7
	<b>Final Exam</b>	3hr	50% (50)	16	All
<b>Total assessment</b>			100% (100 Marks)		

### Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	<b>Material Covered</b>
<b>Week 1</b>	Basic Engineering Operations/Engineering drawing tools and ways to use them
<b>Week 2</b>	Basic Engineering Operations/Engineering drawing lines and drills
<b>Week 3</b>	Basic Engineering Operations/Geometric operations on the rectum
<b>Week 4</b>	Basic Engineering Operations/Drawing arcs and tangents and drawing curves
<b>Week 5</b>	Drawing a regular polygon (pentagonal and hexagonal)
<b>Week 6</b>	Learn about elliptical drawing methods
<b>Week 7</b>	Exercises on engineering processes
<b>Week 8</b>	Writing dimensions on the engineering drawing
<b>Week 9</b>	Exercises on writing dimensions on engineering drawing
<b>Week 10</b>	Drawing the isometric perspective
<b>Week 11</b>	Exercises on drawing the isometric perspective
<b>Week 12</b>	Principles, elements and theory of geometric projection
<b>Week 13</b>	Perspective drawing and projection deduction
<b>Week 14</b>	Examples of drawing a perspective with third projections
<b>Week 15</b>	Conclusion of the third projection
<b>Week 15</b>	Exercises on drawing perspective and deducing the third projections
<b>Week 16</b>	<b>Final Exam</b>

### Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	<b>Material Covered</b>
<b>Week 1</b>	

Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	
Week 8	
Week 9	
Week 10	
Week 11	
Week 12	
Week 13	
Week 14	

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	1 أساسيات ومبادئ الرسم الهندسي / المهندس عامر حماد الفلاحي 2 الرسم الهندسي والتصميم / الجامعة التكنولوجية 3 الرسم الهندسي 4 ENGINEERING DRAWING NSQF	Yes
Recommended Texts	Schaums' outline Series.	No

#### APPENDIX:

GRADING SCHEME مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria

<b>Fail Group (0 – 49)</b>	<b>FX – Fail</b>	مقبول بقرار	(45-49)	More work required but credit awarded
	<b>F – Fail</b>	راسب	(0-44)	Considerable amount of work required

**Note:**

NB Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.

