	وزارة التعليم العالي والبحث العلمي - العراق جامعة وارث الأنبياء كلية الهندسة قسم تقنيات التبريد والتكييف	

نموذج وصف المادة الدراسية

Module Information
معلومات المادة الدراسية

Module Title	Computer Applications 2	**Module Delivery**	
Module Type	S	☐ **Theory** ☒ **Lecture** ☒ **Lab** ☐ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Code	MPAC301		
ECTS Credits	3		
SWL (hr/sem)	75		
Module Level		**Semester of Delivery**	
Administering Department	Mechanical Power Eng. Dep.	**College**	TCB
Module Leader	Ahmed Aliwi Samarmad,	**e-mail**	ahmed.ol@uowa.edu.iq
Module Leader's Acad. Title	Lecturer.Dr	**Module Leader's Qualification**	MSc
Module Tutor		**e-mail**	E-mail
Peer Reviewer Name		**e-mail**	E-mail
Scientific Committee Approval Date	31 / 08/2025	**Version Number**	1.0

Relation with other Modules
العلاقة مع المواد الدراسية الأخرى

Prerequisite module	MPAC207	**Semester**	L2,S2
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1. The student should be able to draw and design the most common mechanical parts used in mechanical industries. 2. The student should be able to use software to characterize mechanical parts, transitioning from lengthy paper-based calculations to rapid computer operations, comparing results in terms of accuracy and speed, and performing calculations of moment of inertia and bending force for specific mechanical parts. 3. The student should understand and apply simulation to calculate and solve various beam problems, both simple and complex, under different loads (point load, diffuse load, or torsional load).
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	A. Knowledge and Understanding 1. Preparing applied engineers capable of recognizing the difference between computer-aided design and paper-based design 2. Identifying the correct and most efficient steps and methods for achieving suitable results 3. Working with international specifications books from various countries 4. Executing drawings of mechanical parts and conducting theoretical stress analysis
Indicative Contents المحتويات الإرشادية	The course consists of two parts. The first part explains the traditional methods for designing and drawing various main mechanical parts. The second part studies the calculations of moment of inertia, bending, and deformation for various metal sections using a calculator, solving problems related to different beams, and drawing bending and deformation diagrams for various types of metals.
Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	مختبرات الحاسوب,فيديوهات تعليمية منشوره على القناة الخاصة في اليوتيوب رابط القناة https://youtu.be/F_zgHo-T8mg
Student Workload (SWL) الحمل الدراسي للطالب	

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	60	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	6
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	15	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	2
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	75		

Module Evaluation
تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	2	10% (10)	4,10	LO# 1,2.10 and 11
	Assignments	2	10% (10)	2,13	LO# 3,4.6 and 7
	Projects / Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	14	LO# 5,8 and 10
Summative assessment	**Midterm Exam**	2 hr	10% (10)	7	LO# 1-7
	Final Exam	2 hr	50%(50)	16	ALL
Total assessment			100%(100 Marks)		

Delivery Plan (Weekly Syllabus)
المنهاج الاسبوعي العملي

weeks	Material Covered
1	Fasteners (screw –washer –nut)
2	Shaft Generator(cylinder –gear –thread-wrench)
3	Spur Gear & Groove
4	Retaining Rings
5	Keys(4 types of keys)
6	Roller Bearings(single & double)- Plain Bearings
7	Drill Bushings(headless & headed)
8	Seals
٩	Springs(compression ,extension
10	,torsion Belleville)
11	Shaft Break
١٢	Moment of Inertia for steal shapes (nine types)
١٣	Shaft Calculations
١٤	Deflection Line
١٥	Bearing Calculation

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	Available in the Library?

Required Texts	1-Engineering Design and Graphics with Mechanical Desktop 5.0 (book)	no
Recommended Texts	2-Learning Mechanical Desktop Release 4(book) 3- ASTM standardizes 4-Mechanical Desktop (book)	no
Websites	https://www.autodesk.com/	

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
Fail Group (0 – 49)	**FX** – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks 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.

رئيس القسم
ا.م.د محمد حسن عبود
التاريخ: ٢٠٢٥-٠٨-٣١

استاذ المادة
التاريخ : ٢٠٢٥-٠٨-٣١