



Unit Description Form
Course Description Form
Faculty of Engineering /
Department of



Unit Information
Course Information

Unit Title	Physics		Unit delivery	
Unit Type	fundamental		<input checked="" type="checkbox"/> نظريه <input checked="" type="checkbox"/> حاضر <input type="checkbox"/> المختبر <input type="checkbox"/> تعليمي <input type="checkbox"/> عملي <input type="checkbox"/> Seminar	
Unit Code	ENG 104			
ECTS Credits	7			
SWL (ساعة / SEM)	175			
Unit level	4	Delivery Semester		
Department of Administration	Biomedical Engineering	College	Faculty of Engineering	
Unit Commander	Maryam Abdullah Saib	E-mail Address	Mayram.ab@uowa.edu.iq	
Title of Unit Commander	Assistant Lecturer	Unit Commander Qualifications	Master	
Unit Teacher		E-mail Address		
Peer Reviewer Name	name	E-mail Address	E-mail Address	
Date of accreditation of the Scientific Committee	26/9/2024	Version number	1.0	

Relationship with other units
Relationship with other subjects

Prerequisites Unit	No	Semester	
Common Requirements Unit	No	Semester	

Unit objectives, learning outcomes and how-to contents Course objectives, learning outcomes and instructional contents	
Objectives of the Unit Course Objectives	<ol style="list-style-type: none"> 1. To real engineering problem solving and preparing the student for more advanced studies in engineering mechanics. 2. To understand static and moving bodies, force, moment, resultants, equilibrium, mas and acceleration, moment of inertia and polar moment of inertia, Impulse and momentum, energy and power. 3. To understand first and second Newtons Laws problems. 4. to use the techniques, skills, and modern engineering tools necessary for engineering practice.
Unit Learning Outcomes Learning outcomes of the course	<p>On completion of the module the student is expected to be able to:</p> <ol style="list-style-type: none"> 1. Explain the two Newton’s laws used in engineering mechanics. 2. Overcome any misconceptions about engineering mechanics (force, energy, power, work etc). 3. Reiterate formal problem-solving skills in a form more convenient for engineering applications. 4. Get hold of four basic thinking skills: <ol style="list-style-type: none"> I. Consciously inconsistencies involving their preconceptions about mechanics II. Arrange systematically the ideas of mechanics in a problem-solving form III. Apply mechanics principles to given realistic engineering problem IV. Solve realistic engineering problem.
Indicative Contents Indicative Contents	<p>Indicative content includes the following.</p> <p>Part A – Static Static bodies, and force systems. [15 hrs] Resultant of forces. [9 hrs] Equilibrium of static bodies. [9 hrs] Three dimensional force system. [9 hrs] Centroid, center of mass, Moment of inertia and polar moment of inertia. [9 hrs] Distributed force – friction. [9 hrs]</p> <p>Part B – Dynamic Moving bodies. [6 hrs] Absolute motion. [6 hrs] Force, mass and acceleration. [6 hrs] Force, energy and power. [6 hrs] Impulse and momentum. [6 hrs]</p>

Learning and Teaching Strategies Learning and Teaching Strategies	
Strategies	<ol style="list-style-type: none"> 1. Active learning: Encouraging students to actively participate by solving exercises and problems on their own, which enhances their understanding of mathematical concepts. 2. Cooperative learning: Teamwork to solve mathematical problems, which helps exchange ideas and develop analytical skills. 3. Continuous assessment: Conduct short tests and regular exercises to monitor students’ progress and identify points that need strengthening. 4. Explanation and discussion: Encourage students to explain their solutions and ways of thinking to stimulate deep understanding and improve communication skills.

Student Workload (SWL)			
The student's academic load is calculated for 15 weeks			
SWL منظم (h / sem) Regular academic load of the student during the semester	108	SWL regulator(h/s) Regular student load per week	6
SWL غير منظم (h / sem) Irregular academic load of the student during the semester	67	Unregulated SWL (h/s) Irregular student academic load per week	6
إجمالي SWL (h / sem) The student's total academic load during the semester	175		

Unit Evaluation					
Course Evaluation					
As		Time/Number	Weight (tags)	Week due	Related learning outcomes
Formative Assessment	Contests	2	10% (10)	5, 10	LO #1 , 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO #3 , 4, 6 and 7
	Projects /Laboratory.	1	10% (10)	continuous	every
	report	1	10% (10)	13	LO #5 , 8 and 10
Final Assessment	Midterm Exam	2 hr	10% (10)	7	LO #1-7
	Final Exam	2 hours	50% (50)	16	every
Overall Rating			100% (100 degree)		

Delivery Plan (Weekly Curriculum)	
Theoretical Weekly Curriculum	
week	Covered Material
Week 1	Introduction to 2D and 3D system, rectangular component
Week 2	Power systems
Week 3	Determination
Week 4	Double moments
Week 5	Outcomes
Week 6	Balance
Week 7	Structures 1
Week 8	Structures 2
Week 9	Midterm exam 1
Week 10	Inertia
Week 11	Center of mass
Week 12	Distributed loads
Week 13	Friction 1
Week 14	Friction 2
Week 15	Midterm exam 2

Learning and Teaching Resources
Learning and Teaching Resources

	text	Available in the library?
Required texts	Engineering Mechanics, STATICS 6th Edition J.L. MERIAM	Yes
Required texts	Engineering Mechanics, DYNAMICS 6th Edition J.L. MERIAM	Yes
Websites		

Grading chart

group	degree	Appreciation	Tags (%)	definition
An-Najah Group (50 - 100)	A - Excellent	privilege	90 - 100	Outstanding Performance
	B - Very Good	Very good	80 - 89	Above average with some errors
	C - Good	Good	70 - 79	Proper work with noticeable errors
	D - Satisfactory	medium	60 - 69	Fair but with significant shortcomings
	E - sufficient	Acceptable	50 - 59	The work meets the minimum standards
Group failure (0 - 49)	FX - Failed	Deposit (in processing)	(45-49)	More work required but credit granted
	F - Failed	Failure	(0-44)	Large amount of work required

Note: Signs that are more than 0.5 decimal places greater than or below the full mark will be rounded higher or lower for example, a score of 54.5 will be rounded to 55, while a mark of 54.4 will be rounded to 54). The university has a policy of not tolerating "imminent traffic failure", so the only modification to the marks granted by the original mark(s) will be the automatic rounding described above.