



MODULE DESCRIPTOR FORM

Module Information			
Module Title	Biomechanics		Module Delivery
Module Type	Core		<input checked="" type="checkbox"/> Theory <input checked="" type="checkbox"/> Lecture <input checked="" type="checkbox"/> Lab <input checked="" type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input checked="" type="checkbox"/> Seminar
Module Code	Zu-Sc-MPHY1206		
ECTS Credits	7		
SWL (hr/sem)	175		
Module Level	1	Semester of Delivery	2
Administering Department	MPHY	College	College of Science
Module Leader	Dr. Asmaa Hadi Mohammed		e-mail ghsoon shakir@gmail .com
Module Leader's Acad. Title	Professor	Module Leader's Qualification	
Module Tutor		e-mail	ghsoon shakir@gmail.com
Module Reviewer			
Peer Reviewer Name		e-mail	
Review Committee Approval		Version Number	

Relation With Other Modules			
Prerequisite module	None		Semester



Co-requisites module	None	Semester	
Module Aims, Learning Outcomes and Indicative Contents			
Module Aims	<ol style="list-style-type: none"> 1. Understanding the Force Vector and Moment and Torque Vectors. 2. Knowing the Systems in Equilibrium. 3. Knowing the Applications of Statics to Biomechanics. 4. Understanding the Dynamics. 5. Learn about Linear Kinematics and Linear Kinetics. 6. Identify the Angular Kinematics and Angular Kinetics. 7. Identify Impulse and Momentum. 8. Knowing Introduction to Deformable Body Mechanics. 9. Identify the laws of Stress and Strain. 		
Module Learning Outcomes	<ol style="list-style-type: none"> 1. For students to be able to distinguish between different types of Force Vector. 2. Students can be able to identify what happens inside the human body mechanically. 3. Distinguishing between Linear Kinematics and Linear Kinetics. 4. Students' ability to distinguish between the Deformable Body Mechanics. 5. Students' ability to perform many calculations such as forces, Angular Kinematics and Angular Kinetics, Impulse and Momentum, Stress and Strain, etc. 6. The ability of students to apply what has been calculated theoretically in a practical way in the future. 		
Indicative Contents	<p>Indicative content includes the following:</p> <ul style="list-style-type: none"> - Introduction of Biomechanics. - Statics: Systems in Equilibrium. - Basic concepts of Biomechanics and applications. - The relation of Dynamics and Body Mechanics. 		



Learning and Teaching Strategies	
Strategies	<ul style="list-style-type: none"> - Discussing the topics of the curriculum book and supporting references Theoretical lectures including problem solving and discussion of homework. - Asking students a set of thinking questions during the lectures for specific topics. - Giving students homework that requires finding self-solutions.

Student Workload (SWL)			
Structured SWL (h/sem)	65	Structured SWL (h/w)	4.3
Unstructured SWL (h/sem)	110	Unstructured SWL (h/w)	7.3
Total SWL (h/sem)	175		

Module Evaluation				
	Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome



Formative assessment	Quizzes	2	10% (10)	Continuous	All
	Assignments	2	10% (10)	Continuous	All
	Projects / Lab.	2	5% (5)	Continuous	All
	Report	2	10% (10)	Continuous	All
	Seminar	1	5% (5)	Continuous	All
Summative assessment	Midterm Exam	2 hr	10% (10)	8	LO # 1-7
	Final Exam	5hr	50% (50)	15	All
Total assessment			100% (100 Marks)		

Module Evaluation

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	Final Exam	5hr	50% (50)	15	All
Total assessment			100% (100 Marks)		



Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Introduction of Biomechanics
Week 2	Force Vector
Week 3	Moment and Torque Vectors
Week 4	Statics: Systems in Equilibrium
Week 5	Applications of Statics to Biomechanics
Week 6	Introduction to Dynamics
Week 7	Linear Kinematics
Week 8	Mid Exam
Week 9	Linear Kinetics
Week 10	Angular Kinematics
Week 11	Angular Kinetics
Week 12	Impulse and Momentum
Week 13	Introduction to Deformable Body Mechanics
Week 14	Stress and Strain
Week 15	Final Exam

Delivery Plan (Weekly Lab. Syllabus)

	Material Covered
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Week 1-2	Lab 1: Laboratory safety
Week 3-4	Lab 2: Simulated body fluid (S.B.F.)
Week 5-6	Lab 3: Simulated body fluid (S.B.F.)
Week 7-8	Lab 4: physical mechanism of blood pressure
Week 9-10	Lab 5: Mid Exam
Week 11-12	Lab 6: Electromyography (EMG) device
Week 13	Lab 7: Electrocardiogram (ECG) device
Week 14	review
Week 15	Final Exam

Learning and Teaching Resources

	Text	Available in the Library?
Required Texts	Fundamentals of Biomechanics, Fourth Edition, 2017	No
Recommended Texts	Fundamentals of Biomechanics: Equilibrium, Motion, and Deformation, 3rd Edition, 2012	No
Websites		

GRADING SCHEME



مخطط الدرجات

Group	Grade	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	90 - 100	Outstanding Performance
	B - Very Good	80 - 89	Above average with some errors
	C - Good	70 - 79	Sound work with notable errors
	D - Satisfactory	60 - 69	Fair but with major shortcomings
	E - Sufficient	50 - 59	Work meets minimum criteria
Fail Group (0 - 49)	FX – Fail	(45-49)	More work required but credit awarded
	F – Fail	(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.

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