	Ministry of Higher Education and Scientific Research - Iraq University of Warith Al_Anbiyaa Engineering College Biomedical Engineering Department	

MODULE DESCRIPTION FORM

Module Information					
Module Title	Bone Injury and Fractures			**Module Delivery**	
Module Type	Core			☒ **Theory** ☒ **Lecture** ☐ **Lab** ☐ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Code	BME-322				
ECTS Credits	4				
SWL (hr/sem)	100				
Module Level	3		**Semester of Delivery**	2	
Administering Department	BME		**College**	ENG	
Module Leader	Aref samir		**e-mail**	aref.alsayad@uowa.edu.iq	
Module Leader's Acad. Title	Assistant lecturer		**Module Leader's Qualification**	master	
Module Tutor			**e-mail**		
Peer Reviewer Name			**e-mail**		
Scientific Committee Approval Date			**Version Number**	1.0	

Relation with other Modules			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents	
Module Aims	1. To know the Function of bones, Identifying characteristics. 2. To understand connective tissue histology 3. This course deals with the basic concept of Muscle tissue. 4. This is the basic subject for all body tissues. 5. To develop skills Upper limb, Clavicle. 6. To Know the types of microscopes used in diagnosis.
Module Learning Outcomes	1. Recognize all types of bone tissues. 2. Summarize Function of bones. 3. Learn about the function of cartilage in the body. 4. Discuss the most important tissues that cover the skeletal system 5. Discuss the characteristics of tissues in the reproductive system 6. Explain what lines the circulatory system of tissues 7. Describe the importance of the tissues of the bone system 8. Discuss the Bone injury and disease which used in diagnosis 9. Description of the immunohistochemistry technique 10. Electron microscopy and its importance in histological diagnosis
Indicative Contents	Nerves in leg, Lumbar plexus, Femoral nerve, Sciatic foramen: Greater Fibular (Peroneal) nerve, Tibial nerve, Fibular (Peroneal) nerve injury .

Learning and Teaching Strategies	
Strategies	The main strategy that will be adopted in delivering this module is to encourage students' Skeleton , Function of bones, Identifying characteristics, Classification of bones and laboratory slides, This will be achieved through classes, interactive tutorials and by considering type of simple experiments involving some sampling activities that are interesting to the students.

Student Workload (SWL)			
Structured SWL (h/sem)	48	**Structured SWL (h/w)**	3
Unstructured SWL (h/sem)	27	**Unstructured SWL (h/w)**	1
Total SWL (h/sem)	75		

Module Evaluation					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5, 10	LO #1, 2
	Assignments	2	10% (10)	2, 12	LO #1, 2
	Projects / Lab.	1	10% (10)	Continuous	LO #1, 2
	Report	1	10% (10)	13	LO #1, 2
Summative assessment	Midterm Exam	3 hrs.	10% (10)	7	LO #1, 2
	Final Exam	3 hrs.	50% (50)	16	LO #1, 2
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
	Material Covered
Week 1	Bones of the upper limb , Skeleton , Function of bones, Identifying characteristics, Classification of bones , Long bones - general features e.g. humerus, femur
Week 2	Short bones - general features e.g. carpal and tarsal bones , Irregular bones - general features e.g. vertebrae , Flat bones - general features e.g. scapula, sternum and ribs , Gross anatomy of bone
Week 3	Upper limb, Clavicle , Scapula, Humerus , Ulna and Radius , Carpal bones
Week 4	Bones of the Lower limb , Femur , Shaft of the femur, Patella , Tibia and fibula , Metatarsal bones
Week 5	Tarsals, Tibia, Fibula , Position of femur, Shaft of the femur
Week 6	Bone of Shoulder girdle , Pneumatic bones - general features e.g. maxilla, frontal and , sphenoid bones , Sesamoid bones - general features e.g. patella (kneecap), Gross anatomy of bone , Shoulder

Week 7	Mid-term Exam
Week 8	spine , supraspinous fossa , infraspinous fossa, subscapular fossa , glenoid cavity , coracoid process , medial, lateral and superior borders , superior and inferior angles , supraglenoid and infraglen tubercles
Week 9	Joints Compulsory components, Optional components, Classification of joints - Uniaxial joints, Hinge, Pivot, Trochoginglimus, Classification of joints - Biaxial joints, Ellipsoid , Saddle
Week 10	Classification of joints - Multiaxial joints, Ball-and-socket, Special joint types, Restricted ball-and- socket, Amphiarthrosis, Sternoclavicular joint , Acromioclavicular joint , Shoulder joint
Week 11	Bone Cell and fibers , Osteocyte , Osteoblast , Osteoclast , Collagen fiber , Elastic fiber
Week 12	Reticular fiber , Fibroblast , Mesenchyme cell, Macrophage cell , Nerve cell
Week 13	Bone injury and disease , Tumor of bone , Necrosis of bone , Declassification
Week 14	Repair of bone , Growth of bone , Classification, Transition
Week 15	**Nerves of bone Median & Ulnar nerves , Median Nerve in Arm, Median Nerve in Hand , Median Nerve Lesion, Median Nerve Lesion at Wrist, Carpal Tunnel Syndrome, Lower-limb nerves**
Week 16	**Nerves in leg, Lumbar plexus, Femoral nerve, Sciatic foramen: Greater and Lesser, Fibular (Peroneal) nerve, Tibial nerve, Fibular (Peroneal) nerve injury .**

Learning and Teaching Resources		
	Text	**Available in the Library?**
Required Texts	Clinical Anatomy of the Upper and Lower Limb, (10 th editions), by Kara Mudd, MSPAS, PA-C	Yes
Recommended Texts		No
Websites	https://ww.coursera.org/browse/physical-science-and-engineering/electrical-engineering	

Grading Scheme			
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: 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.			