

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	Abdomen and head anatomy		Module Delivery	
Module Type	Basic		☒ Theory ☒ Lecture ☒ Lab ☒ Tutorial ☒ Practical ☐ Seminar	
Module Code	MDER222			
ECTS Credits	5			
SWL (hr/sem)	125			
Module Level	2	Semester of Delivery		4
Administering Department	Biomedical Engineering	College	College of engineering	
Module Leader	Dr. Basim Ali Kraidi		e-mail	Basim.Ali@alayen.edu.iq
Module Leader's Acad. Title	Dr. Basim		Module Leader's Qualification	Ph.D.
Module Tutor	MSc. Hayder Raad		e-mail	Haider.RaadAbbas@alayen.edu.iq
Peer Reviewer Name	Name	e-mail	E-mail	
Scientific Committee Approval Date		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

Module Objectives أهداف المادة الدراسية	This course provides students with fundamental knowledge of human anatomy, focusing on the macroscopic and microscopic structures, and physiological functions of the abdomen, pelvis, and head and neck regions. The focus is on the structural organization of the healthy body, while highlighting anatomical variations and changes related to common clinical conditions and the ageing process. The course provides essential biological and structural data of human systems (such as the CNS and musculoskeletal system of the skull) to support bioengineering applications and medical-device design. Students will gain an in-depth understanding of the central nervous system's architecture, blood supply, and functional localization, essential for understanding neural control and interfaces. Through laboratory sessions, the course aims to develop students' skills in identifying anatomical landmarks and organs on models and specimens, bridging the gap between theoretical concepts and physical reality.		
Module Learning Outcomes مخرجات التعلم للمادة الدراسية 	Knowledge	A2	A2-1: Describe the major anatomical structures of the abdominal cavity, pelvis, cranial fossae and foramina, and the organization of the central nervous system (CNS). A2-2: Explain the anatomical and physiological principles of diaphragm function, posterior abdominal wall mechanics, cranial meninges, cerebrospinal fluid (CSF) circulation, and cerebral localization. A2-3: Apply anatomical knowledge of neuroanatomy and body systems to interpret functional mechanisms in biomedical and engineering contexts.
		A3	A3-1: Recognize anatomical structures on models, diagrams, or specimens, including abdominal organs, skull features, and CNS components. A3-2: Differentiate between anatomical structures and their physiological roles through practical observation and analysis. A3-3 Perform basic functional analysis using anatomical landmarks to evaluate processes such as mastication and sensory system functions.
	Skills	B1	B1.1 Function efficiently as an individual Perform anatomical dissections and identify structures efficiently as an individual. B1.2 Function as a member of a team during laboratory sessions and clinical seminars.
		B2	B2.1 Communicate effectively – graphically with a range of audiences using contemporary tools. B2.2 Communicate verbally and in writing with a range of audiences using contemporary tools.

	Ethics	C2	C1-1: Commit to quality standards. C1-2: Adhere to deadlines. C1-3: Strive for continuous improvement.
Indicative Contents المحتويات الإرشادية	1.		
	The Abdomen (3h) • The abdominal peritoneal Cavity • Peritoneal Folds • Posterior abdominal wall - Inguinal Cana The diaphragm (1h) The Digestive System (3h) • Overview of the Digestive System • Esophagus • The Stomach • The Small and Large Intestines • Accessory Organs in Digestion: The Liver, Pancreas, and Gallbladder The Urinary System (3h) • Gross Anatomy of the Kidney • Gross Anatomy of the ureter and bladder Internal pelvic organs (2h) • Rectum, anal canal • Nerves and vessels of the pelvis • General plane of perineum - Male & female perineum Head & Neck The Head (18h) • The skull - organization & bones • The skull – cranial fossa & foramen • Scalp & face - muscles & vessels • Cranial Meninges • Orbit & eye - Nose & paranasal sinuses • The Ear • Oral cavity - teeth & tongue • The upper & lower jaws, salivary glands, muscles of mastication and temporomandibular joint • The upper & lower jaws, salivary glands, muscles of mastication and temporomandibular joint The neck (6h) • Organization & major vessels • neck viscera • cranial vertebrae		



	Neuroanatomy (6h) - Parts & divisions of the nervous system - Gross anatomy of central nervous system (CNS) - Functional localization in the cerebrum - Blood supply of the CNS, meninges - CSF & ventricles, diencephalon, limbic system - Cerebellum & basal ganglia, spinal cord.
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Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	- Integrative Lectures with Clinical and Engineering Context 3D Visualization and Virtual Dissection Tools - Anatomical Lab Work with Emphasis on Engineering Applications - Assessments through regular quizzes, mid-term exams, practical exams, seminars, and reports.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	78	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	1.6
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	47	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	2.65
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	125		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5	A2 A3
	Assignments	1	10% (10)	4	All
	Projects / Lab.	1	10% (10)	10	A2
	Report	1	10% (10)	6	All
Summative assessment	Midterm Exam	3hr	10% (10)	9	A2-3
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered	LOs
Week 1	The Abdomen (The abdominal peritoneal Cavity, Peritoneal Folds -Alimentary Tract)	A2-1, B1.1, C1-1
Week 2	The diaphragm - The Kidney, suprarenal & ureter	A2-1, B2.1, C1-3
Week 3	Posterior abdominal wall - Inguinal Canal	A2-1, A3-2, C1-1
Week 4	The Pelvis (Internal pelvic organs: rectum, anal canal - Nerves and vessels of the pelvis - General plane of perineum - Male & female perineum)	A2-1, A3-1
Week 5	Head & Neck (The skull - organization & bones - The skull – cranial fossa & foramens)	A2
Week 6	Scalp & face - muscles & vessels, Cranial Meninges	A2-1, A2-3, A3-2, B2.2
Week 7	Orbit & eye - Nose & paranasal sinuses	A2-1, A3-1, C1-2
Week 8	The ear	A2-1, A3-1
Week 9	Mid Term Exam	A2
Week 10	Oral cavity - teeth & tongue	A2-2, B2.1, C1-1
Week 11	The upper & lower jaws, salivary glands, muscles of mastication and temporomandibular joint	A2,A3
Week 12	The neck - organization & major vessels, neck viscera, and cranial vertebrae	A2-1, A2-3, A3-2, B1.2, C1-3
Week 13	Parts & divisions of the nervous system, gross anatomy of the central nervous system (CNS), functional localization in the cerebrum	A2-2, A3-2, B1.1
Week 14	Blood supply of the CNS, meninges - CSF & ventricles, diencephalon, limbic system, cerebellum & basal ganglia, spinal cord.	A2-2, A3-2, C1-2
Week 15	Seminars	A2, A3
Week 16	Preparatory week before the final Exam	A2

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered	LOs
Week 1	Lab 1: The Abdomen (The abdominal peritoneal Cavity, Peritoneal Folds -Alimentary Tract)	A3
Week 2	Lab 2: The diaphragm - The Kidney, suprarenal & ureter	A3
Week 3	Lab 3: Posterior abdominal wall - Inguinal Canal, testis & scrotum	A3
Week 4	Lab 4: The Pelvis (Internal pelvic organs: rectum, anal canal - Nerves and vessels of the pelvis - General plane of perineum - Male & female perineum)	A3
Week 5	Lab 5: Head & Neck (The skull - organization & bones - The skull – cranial fossa & foramens)	A3
Week 6	Lab 6: Scalp & face - muscles & vessels, Cranial Meninges	A3
Week 7	Lab 7: Orbit & eye - Nose & paranasal sinuses	A3
Week 8	Lab 8: The ear	A3
Week 9	Lab 9: Oral cavity - teeth & tongue	A3
Week 10	Lab 10: The upper & lower jaws, salivary glands, muscles of mastication and temporomandibular joint	A3
Week 11	Lab 11: The neck - organization & major vessels, neck viscera, and cranial vertebrae	A3
Week 12	Lab 12: Parts & divisions of the nervous system, gross anatomy of central nervous system (CNS), functional localization in the cerebrum	A3
Week 13	Lab 13: Blood supply of the CNS, meninges - CSF & ventricles, diencephalon, limbic system, cerebellum & basal ganglia, spinal cord.	A3



Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Tortora G. J. Principles of Human Anatomy, tenth edition; 2005.	Yes
Recommended Texts	1. Seeley R. R.; Stephens T. D. & Tate P. (1998) Anatomy & Physiology, fourth edition. 2. Moore K. L. & Dalley A. f. (1999). Clinically Oriented Anatomy, fourth edition.	No
Websites	https://eng.alayen.edu.iq//colleges/e/42	

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.				

