	Ministry of Higher Education and Scientific Research - Iraq AL Mustaqbaj University College of science Department of Medical Biotechnology	

MODULE DESCRIPTOR FORM
نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	PLANT ANATOMY				
Module Type	CORE		**Theory** **Lecture** **Lab** **Tutorial** **Practical** **Seminar**		
Module Code	UOMU0305122				
ECTS Credits	5				
SWL (hr/sem)					
Module Level			**Semester of Delivery**		
Administering Department	Type Dept. Code		**College**	Type College Code	
Module Leader	MSc. Jaafar hamid jaafar		**e-mail**	Jaafar.hamid.jaafar@uomus.edu.iq	
Module Leader's Acad. Title	Assistant Teacher		**Module Leader's Qualification**	MSc	
Module Tutor			**e-mail**	None	
Peer Reviewer Name			**e-mail**		
Review Committee Approval			**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 Aims أهداف المادة الدراسية	1. Study of the organisms belonging to the phylum Chordata 2. Classification of these organisms into primary chordates and vertebrates 3. Learn about the composition and characteristics of these organisms 4. Comparison of these organisms anatomically		
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	**A- Knowledge and understanding**: 1. Learn the principles of taxonomy. 2. The student should get acquainted with the organisms belonging to the Chordata phylum 3. The ability to classify these organisms 4. To be able to compare structurally and behaviorally between them 5.Know the rules for writing the scientific name. **B- Subject-specific skills:** 1. Explain the differences between organisms and link them with environmental variables 2. The evolutionary link between the ancestors and the current generations 3. To have the ability to dissect laboratory animals 4. The student should be familiar with the materials used in mummification 5. Making skeletons for some animals and mummifying others		
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. 1. Students must wear lab gowns, gloves and masks		

	2. Handle with care laboratory chemicals 3. Do not use the mobile device inside the laboratory 4. Do not eat food and drinks inside the laboratory 5. Ensure that tools and hands are sterilized before and after work
Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	A. Theoretical lectures B. Practical laboratories C. Films and slideshows D. Scientific trips for field application

Student Workload (SWL)
الحمل الدراسي للطالب

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	102	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	7
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	98	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	6.5
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	200		

Module Evaluation
تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	2	10% (10)	5, 10	LO #1, 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects / Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 5, 8 and 10
Summative assessment	**Midterm Exam**	2 hr	10% (10)	7	LO # 1-7
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Lecture. 1: lntroduction to Anatomy and plant Body Organs
Week 2	Lecture 2: Supplement Of plant body Organs -cell wall
Week3	Lecture 3:Non-living contents of the plant cell
Week 4	Lecture 4:Meristematic or structural tissues
Week 5	Lecture 5: permanent tissues -Epidermis
Week 6	Lecture6; parenchyma collenchyma ,Sclerenchyma tissue
Week 7	Lecture 7;primary phloem and xylem
Week 8	Lecture 8: Secretory tissues and root
Week 9	Lecture 9;lnternal structure of the stem and leaf
Week 10	Lecture 10;Secondary thickening ,vascular cambium
Week 11	Lecture 11: Secondary Wood
Week 12	Lecture 12: Secondary phloem perierm
Week 13	Lecture 13: Secondary thickening of the stems and roots
Week 14	Lecture 14: Modification in Drought and aquatic plants
Week 15	Preparatory Week

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Lab 1; Primary wall Secondary wall Interstitial spaces, their types and method of formation Stages of cell wall formation
Week 2	Lab 2: Components of a living plant cell Types of plastids
Week 3	Lab 3; Non-living components of a plant cell
Week 4	Lab 4: Cell wall clicks and their types
Week 5	Lab 5: Meristematic tissues of the growing tip of roots and shoots
Week 6	Lab6; Lateral growing tissues Vascular cambium Cork cambium Surrounding epidermis
Week 7	Lab 7: Permanent tissues, visceral tissues, their types and cell shapes
Week 8	Lab 8; Collenchyma tissue types

Week 9	Lab9; Sclerenchyma tissues, cell types in them - sclerenchyma and its types - sclerenchyma and its types
Week 10	Lab 10: Wood and its components in gymnosperms and angiosperms
Week 11	Lab 11: Types of wood with annual rings Wood with sawn pores, ring pores and non-perforated
Week 12	Lab 12: Bark tissue and its components in gymnosperms and angiosperms - primary and secondary bark
Week 13	Lab 13; Internal anatomy of the stem and root in both dicotyledons and monocots.
Week 14	Lab 14: Types of central cylinder
Week 15	Exam

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	• Fundamentals of Comparative Anatomy of Chordates Dr. Shukri Habib • Principles of Animal Taxonomy. Author,Ashok Verma . 2015 • Invertebrate life. Translated by Salman Dawood Salman, Yahya Touma Dawood and Balsam Anis Hanna - University of Basra 2016	No
Recommended Texts	• The living marine resources of Kuwait, eastern Saudi Arabia, Bahrain, Qater, and united arab Emarates.Author,Kent E.capenter.1997	No
Websites	- The Internet	

APPENDIX:

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	مقبول بقرار	(45-49)	More work required but credit awarded
	F – Fail	راسب	(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.