

Module name:	<i>Animal Histology</i>			
Module level, if applicable	<i>Third Level</i>			
Code, if applicable	<i>ZOO 211</i>			
Subtitle, if applicable	<i>None</i>			
Courses, if applicable	<i>Cytology BIO123</i>			
Semester(s) in which the module is taught	<i>First semester</i>			
Person responsible for the module	<i>Dr. Zeinab Eltahir Bakheet Eltahir</i>			
Lecturer	<i>Dr. Zeinab Eltahir Bakheet Eltahir</i>			
Language	<i>Arabic</i>			
Relation to curriculum	<i>Not applicable</i>			
Type of teaching, contact hours	<i>Total Contact hours/semester:58 hrs.</i> <ul style="list-style-type: none"> • <i>Lecture:28</i> • <i>Laboratory :30</i> <i>class size = 47</i>			
Workload	<i>Total-contact hours</i>	<i>Self-study</i>	<i>Discussion</i>	<i>Total workload</i>
	<i>58</i>	<i>56</i>	<i>18</i>	<i>132</i>
Credit points	<i>4.5 TCTs- 3KSA</i>			
Requirements according to the examination regulations	<i>To attend more than 75% of lecture and practical study.</i>			
Recommended prerequisites	<i>Cytology BIO123</i>			

<p>Module objectives/intended learning outcomes</p>	<p>1.0 Knowledge: Recognize the scientific concept for the tissue and different types of tissues Identify the causes of various modification for every tissue</p> <p>2.0 Cognitive Skills: Explain the relation between the appropriateness of the histological structure of the tissue for the internal systems Compare between various types of tissues</p> <p>3.0 Interpersonal Skills & Responsibility: Perfect the skill of self-learning and responsibility</p> <p>4.0 Communication, Information Technology, Numerical Perfects the skill of using technology and the modern techniques for research</p> <p>5.0 Psychomotor: Examine microscopic sectors with a detailed drawing of them.</p>																																																								
<p>Content</p>	<table border="1"> <thead> <tr> <th data-bbox="368 965 1166 1106">List of Topics</th> <th data-bbox="1166 965 1278 1106">No. of Weeks</th> <th data-bbox="1278 965 1390 1106">Contact Hours</th> <th data-bbox="1390 965 1501 1106">%</th> </tr> </thead> <tbody> <tr> <td data-bbox="368 1106 1166 1162">Tissue concept - Epithelial tissues, their types and functions</td> <td data-bbox="1166 1106 1278 1162">2</td> <td data-bbox="1278 1106 1390 1162">8</td> <td data-bbox="1390 1106 1501 1162">13.8%</td> </tr> <tr> <td data-bbox="368 1162 1166 1218">Connective tissues, their types and functions</td> <td data-bbox="1166 1162 1278 1218">2</td> <td data-bbox="1278 1162 1390 1218">8</td> <td data-bbox="1390 1162 1501 1218">13.8%</td> </tr> <tr> <td data-bbox="368 1218 1166 1274">Muscle tissue, their types and functions</td> <td data-bbox="1166 1218 1278 1274">1</td> <td data-bbox="1278 1218 1390 1274">4</td> <td data-bbox="1390 1218 1501 1274">6.9%</td> </tr> <tr> <td data-bbox="368 1274 1166 1330">Nerve tissues, their types and functions</td> <td data-bbox="1166 1274 1278 1330">1</td> <td data-bbox="1278 1274 1390 1330">4</td> <td data-bbox="1390 1274 1501 1330">6.9%</td> </tr> <tr> <td data-bbox="368 1330 1166 1386">Mid-term Exam1+Feedback</td> <td data-bbox="1166 1330 1278 1386">1</td> <td data-bbox="1278 1330 1390 1386">3</td> <td data-bbox="1390 1330 1501 1386">5.2%</td> </tr> <tr> <td data-bbox="368 1386 1166 1487">Histological structure of skin and its appropriateness for its functions</td> <td data-bbox="1166 1386 1278 1487">1</td> <td data-bbox="1278 1386 1390 1487">4</td> <td data-bbox="1390 1386 1501 1487">6.9%</td> </tr> <tr> <td data-bbox="368 1487 1166 1588">Histological structure of the respiratory system and its appropriateness for its functions</td> <td data-bbox="1166 1487 1278 1588">1</td> <td data-bbox="1278 1487 1390 1588">4</td> <td data-bbox="1390 1487 1501 1588">6.9%</td> </tr> <tr> <td data-bbox="368 1588 1166 1688">Histological structure of the digestive system and its appropriateness for its functions</td> <td data-bbox="1166 1588 1278 1688">1</td> <td data-bbox="1278 1588 1390 1688">4</td> <td data-bbox="1390 1588 1501 1688">6.9%</td> </tr> <tr> <td data-bbox="368 1688 1166 1744">Mid-term Exam2+Feedback</td> <td data-bbox="1166 1688 1278 1744">1</td> <td data-bbox="1278 1688 1390 1744">3</td> <td data-bbox="1390 1688 1501 1744">5.1%</td> </tr> <tr> <td data-bbox="368 1744 1166 1845">Histological structure of the cardiovascular system and its appropriateness for its functions</td> <td data-bbox="1166 1744 1278 1845">1</td> <td data-bbox="1278 1744 1390 1845">4</td> <td data-bbox="1390 1744 1501 1845">6.9%</td> </tr> <tr> <td data-bbox="368 1845 1166 1946">Histological structure of the urinary system and its appropriateness for its functions</td> <td data-bbox="1166 1845 1278 1946">1</td> <td data-bbox="1278 1845 1390 1946">4</td> <td data-bbox="1390 1845 1501 1946">6.9%</td> </tr> <tr> <td data-bbox="368 1946 1166 2047">Histological structure of the reproductive system for male and female and its appropriateness for its functions</td> <td data-bbox="1166 1946 1278 2047">1</td> <td data-bbox="1278 1946 1390 2047">4</td> <td data-bbox="1390 1946 1501 2047">6.9%</td> </tr> <tr> <td data-bbox="368 2047 1166 2148">Types of exocrine and endocrine glands and their appropriateness for its functions</td> <td data-bbox="1166 2047 1278 2148">1</td> <td data-bbox="1278 2047 1390 2148">4</td> <td data-bbox="1390 2047 1501 2148">6.9%</td> </tr> </tbody> </table>	List of Topics	No. of Weeks	Contact Hours	%	Tissue concept - Epithelial tissues, their types and functions	2	8	13.8%	Connective tissues, their types and functions	2	8	13.8%	Muscle tissue, their types and functions	1	4	6.9%	Nerve tissues, their types and functions	1	4	6.9%	Mid-term Exam1+Feedback	1	3	5.2%	Histological structure of skin and its appropriateness for its functions	1	4	6.9%	Histological structure of the respiratory system and its appropriateness for its functions	1	4	6.9%	Histological structure of the digestive system and its appropriateness for its functions	1	4	6.9%	Mid-term Exam2+Feedback	1	3	5.1%	Histological structure of the cardiovascular system and its appropriateness for its functions	1	4	6.9%	Histological structure of the urinary system and its appropriateness for its functions	1	4	6.9%	Histological structure of the reproductive system for male and female and its appropriateness for its functions	1	4	6.9%	Types of exocrine and endocrine glands and their appropriateness for its functions	1	4	6.9%
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Module name:	Ecology			
Module level, if applicable	3th			
Code, if applicable	BOT 213			
Subtitle, if applicable	NA			
Courses, if applicable	NA			
Semester(s) in which the module is taught	2nd semester			
Person responsible for the module	Assistant Prof: Rabab Mohamed Mohamed			
Lecturer	Assistant Prof: Rabab Mohamed Mohamed			
Language	Arabic			
Relation to curriculum	Compulsory course for biology program			
Type of teaching, contact hours	Total Contact hours/semester:58 hrs. <ul style="list-style-type: none"> • Lecture:28 • Laboratory :30 Class size:25 students			
Workload	Total-contact hours	Self-study	Discussion	Total workload
	58	50	13	121
Credit points	4.1ECTs-3KSA			
Requirements according to the examination regulations	To attend more than 75% of lecture and practical study			
Recommended prerequisites	none			

<p>Module objectives/intended learning outcomes</p>	<p>Knowledge: the students are able to</p> <ol style="list-style-type: none">1- <i>Recognize concept of ecology and ecosystem as an integrated unit</i>2- <i>Characterize the various environmental factors and their impact on biodiversity</i>3- <i>Classify components of ecosystem and their imbalance</i> <p>Cognitive Skills: the students are able to</p> <ol style="list-style-type: none">1- <i>Explain the effect of interactions between the components of the environment on the composition of the ecosystem</i> <p>Interpersonal Skills & Responsibility: the students are able to</p> <p><i>Respond well in teamwork groups</i></p> <p>Communication, Information Technology, Numerical: the students</p> <p><i>know how to Use modern technology in gathering and interpretation of information</i></p> <p>Psychomotor:</p> <p><i>the students are able to Use properly laboratory devices and equipment in carrying out experiments of the course</i></p>
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Content	<i>List of Topics</i>	<i>No. of Weeks</i>	<i>Contact Hours</i>	<i>%</i>
		1- <i>Definition of the environment and Ecology and its relationship to other sciences.</i>	1	2
	2- <i>Study of Component of ecosystem ; living and non living</i>	1	2	7
	3- <i>Study of Types of ecosystems</i>	1	2	7
	4- <i>Biological community</i>	1	2	7
	5- <i>Plant sequence and relationship between living organisms</i>	1	2	7
	6- <i>Midterm 1+ feedback</i>	1	1	4.5
	7- <i>Atmosphere as environmental factor</i>	1	2	7
	8- <i>Air and wind as environmental factor.</i>	1	2	7
	9- <i>Light as environmental factor</i>	1	2	7
	10- <i>Heat as environmental factor</i>	1	2	7
	11- <i>Midterm 2+ feedback</i>	1	1	4.5
	12- <i>water</i>	1	2	7
	13- <i>Soil factors</i>	1	2	7
	14- <i>Ecological imbalance</i>	1	2	7
	15- <i>Recent technological methods that deal with ecological imbalance</i>	1	2	7
	<i>Practical part</i>			
	1- <i>Soil analysis physically</i>	2	4	13
	2- <i>Soil analysis chemically</i>	4	8	27
	3- <i>plant cover analysis quantitatively</i>	5	10	33
	4- <i>Devices of climatic measurements</i>	3	6	20
	5- <i>Revision</i>	1	2	7
Study and examination requirements and forms of examination	<i>20 degrees for two Midterm exams</i> <i>10 degrees for assignments, Class work and reseach</i> <i>50 degrees for final theoretical Exam</i> <i>20 degrees for final practical Exam</i>			

Media employed	<p><i>classroom provided with smartboard , computer , internet connection and enough seats</i></p> <p><i>Lab provided with the required devices , light microscopes and models for application of the practical part of the course</i></p>
Reading list	<p>1. List Required Textbooks :</p> <p>2. List Essential References Materials :</p> <ol style="list-style-type: none"> 1. Abdullah (1433): Ecology, Faculty of Science, King Khaled University. 2. Abu-Elfath (1995): Science of Ecology, Deanship of Libraries Affairs in Riyadh, King Saud University

Module name:	Morphology and anatomy of flowering plants				
Module level, if applicable	Third level				
Code, if applicable	BOT 212				
Subtitle, if applicable	none				
Courses, if applicable	none				
Semester(s) in which the module is taught	First Semester				
Person responsible for the module	Dr. Aisha Ohag Osman Mohammed				
Lecturer	Dr. Aisha Ohag Osman Mohammed				
Language	Arabic				
Relation to curriculum	not applies				
Type of teaching, contact hours	<i>Total Contact hours/semester:58 hrs.</i> <ul style="list-style-type: none"> • <i>Lecture:28</i> • <i>Laboratory:30</i> <i>Class size:26 students</i>				
Workload	<i>Total-contact hours</i>	<i>Self-study</i>	<i>Discussion</i>	<i>Total workload</i>	
	<i>58</i>	<i>58</i>	<i>15</i>	<i>131</i>	
Credit points	4.5 ECTS-3KSA				

Requirements according to the examination regulations	To attend more than 75% of lecture and practical study.
Recommended prerequisites	none
Module objectives/intended learning outcomes	<p><u>1.0 Knowledge:</u></p> <p>1.1.1 Basic information about the morphology of the plant tissue and its constituent organisms of the main characteristics and anatomy of the plant.</p> <p>1.2.1 Effect of environment on the plants</p> <p><u>2.0 cognitive skills:</u></p> <p>2.1.1 To conclude the effect of the environment on different plant species.</p> <p>2.2.1 Compare monocot and dicot morphologically and anatomically.</p> <p><u>3.0 Interpersonal Skills & Responsibility:</u></p> <p>3.4.1 Perfects the skill of self-learning and responsibility.</p> <p><u>4.0 Communication, Information Technology, Numerical:</u></p> <p>4.2.1 Use technology information in the research and writing proficiently.</p> <p><u>5.0 Psychomotor:</u></p> <p>5.2.1 Examine microscopic samples with a detailed drawing of them.</p>

Content	List of Topics		
	No. of weeks	Contact Hrs	%
Theoretical & practical			
Morphology of complete flowering plant	1	4	6.9%
Study the root system (its functions, regions, types, mutations) shoot system: stem, bud, the leaf (morphology and functions - modification - distribution).	2	8	13.8%
Study meristematic tissue (initial) and tissue types and their present in the plant and functions.	2	8	13.8%
Midterm-Exam1+Feedback	1	3	5.1%
Vascular cambium and phellogen cambium, and periderem, wound phellogen lenticils. Vascular bundle and their types.	1	4	6.9%
Epidermis tissue (Epidermis cells, stomata) Secretory structures (external and internal) - and functions and environmental importance.	1	4	6.9%
Anatomy of the primary structure of roots in monocots and dicots, anatomy of the secondary structure of the roots of the elderly.	2	8	13.8%
Midterm-Exam2+Feedback	1	3	5.2%
Anatomy primary structure of the leg in monocots and dicots, anatomy of the secondary structure elderly in mono and dicot stems, growth layers, soft wood and sap wood. connection between the root and vascular stem.	2	8	13.8%
Anatomy of the primary structure of the leaves in monocots and dicots and defoliation.	1	4	6.9%
The effect of the environment on the structure and functions of the plant and the distinction between xerophytes and hydrophytes plants morphologically and anatomically.	1	4	6.9%
Study and examination requirements and forms of examination	<i>Assignments, Class work and research</i>	weekly	10%
	<i>Midterm exam (1)</i>	6 th week	10%
	<i>Midterm exam (2)</i>	11 th week	10%
	<i>Final practical test</i>	16 th week	20%
	<i>Final theoretical test</i>	17-19 th week	50%

<p>Media employed</p>	<p>1. Accommodation</p> <p><i>Buildings</i></p> <p><i>Class room for 40- 50</i></p> <p>2. Computing resources</p> <p><i>Computer connected with internet.</i></p> <p>3. Other resources</p> <p><i>Smart blackboard</i></p> <p><i>Prepared slices of vegetarian samples and other sections of the plant.</i></p> <p><i>Stereophonic sections of plant</i></p> <p><i>Light microscopes</i></p> <p><i>Black board</i></p>
<p>Reading list</p>	<p>2. List Essential References Materials :</p> <p>١. أساسيات علم النبات (الشكل الظاهري والتركيب الداخلي) (٢٠١٢)، المنوفى و آخرون مكتبة المعارف الحديثة، الإسكندرية.</p> <p>٢. - مورفولوجيا وتشريح النبات- د. حسين العروسي، د. عماد الدين وصفي- مكتبة المعارف الحديثة-الإسكندرية عام ٢٠٠٠م.</p> <p>3. List Recommended Textbooks and Reference Material :</p> <p>١. مورفولوجيا النبات وتشريحه - الدعيجي، عبد الله رشيد، محمد عبدو العودات - مطابع جامعة الملك سعود ، عمادة شؤون المكتبات ، الرياض ١٩٩٢م .</p> <p>٢. تشريح النبات العملي - الدعيجي، عبد الله رشيد، محمد عبدو العودات - مطابع جامعة الملك سعود، عمادة شؤون المكتبات ، الرياض ١٩٩٢م .</p> <p>٣. النبات العام - العروسي ، حسين، أسامة عبد الحميد المنوفى ، جامعة الإسكندرية ، مكتبة المعارف الحديثة ، الإسكندرية ١٩٩٨م.</p> <p>٤. مورفولوجيا النباتات الزهرية (علم الشكل والتركيب في النباتات الزهرية) - الحديدي ، مصطفى صالح، دار المريخ للنشر، الرياض ١٩٩٤م .</p> <p>٥. الشكل الظاهري والتركيب التشريحي للنبات - سمور، رضا حلمي أحمد، دار الأندلس للنشر والتوزيع، حائل ٢٠٠٣م.</p> <p>4. List Electronic Materials:</p> <p>Websites related to the course.</p> <p>5. Other learning material :</p> <p>Word and power point programs .</p>

Module name:	<i>Organic Chemistry</i>			
Module level, if applicable	<i>The 3rd level</i>			
Code, if applicable	<i>CHEM 201</i>			
Subtitle, if applicable	<i>Not applicable</i>			
Courses, if applicable	<i>Not applicable</i>			
Semester(s) in which the module is taught	<i>In 1st and 2nd Semesters</i>			
Person responsible for the module	<i>Department Head Dr.. Mona Abdullatif Makiya</i>			
Lecturer	<i>Muneerah Mohammed Alzouman</i>			
Language	<i>Arabic</i>			
Relation to curriculum	<i>Programme : Biology Specialization :Organic Chemistry Module : Compulsory in the 3rd level of study plan Semesters : In both 1st and 2nd</i>			
Type of teaching, contact hours	<i>Total Contact hours/semester:58 hrs.</i> <ul style="list-style-type: none"> • <i>Lecture:28</i> • <i>Laboratory :30</i> <i>Class size:25 students</i>			
Workload	<i>Total-contact hours</i>	<i>Self-study</i>	<i>Discussion</i>	<i>Total workload</i>
	<i>58</i>	<i>50</i>	<i>15</i>	<i>123</i>
Credit points	<i>4.2 ECTs-3kSA</i>			
Requirements according to the examination regulations	<i>To attend more than 75% of lecture and practical study</i>			
Recommended prerequisites	<i>Pre-requisites for this course: Physical and Inorganic Chemistry CHEM101</i>			

<p>Module objectives/intended learning outcomes</p>	<p>Knowledge</p> <p>To know some of the scientific concepts and theories in the field of organic chemistry and the nature of the chemical composition of organic compounds T. related to biology</p> <p>To determine the types of natural organic compounds and their properties and their interactions</p> <p>Cognitive Skills</p> <p>To analyzes the relationship between the nature of the construction and chemical composition of organic compounds and chemical reactions or processes that take place inside the bodies of living organisms in molecular and cellular levels</p> <p>To Explores the information to prepare Research and draw conclusions</p> <p>Interpersonal Skills & Responsibility</p> <p>To Exercise on effective response with colleagues while doing the implementation of joint projects</p> <p>Communication, Information Technology, Numerical</p> <p>To Mastered the use of computers and the Internet in the search process in the references for the completion of projects</p> <p>Psychomotor</p> <p>To test practically the scientific theories and hypotheses in the detection of the unknown nature of the organic matter in qualitative analysis</p>
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Content	<i>List of Topics</i>	<i>No. of Weeks</i>	<i>Contact Hours</i>	<i>%</i>
		<i>Showing general introduction about the course include introducing an overview about course specification and introduce workshop to explain how the student deal with interface of the course on e-learning system and how the student can interact with the academic site of instructor</i>	<i>1</i>	<i>2</i>
	<i>Overview of organic chemistry in terms of the nature of the Chemical structure of organic compounds and the types of structural formulas and chemical bonds</i>	<i>1</i>	<i>2</i>	<i>6.7</i>
	<i>Effective functional groups:</i>			<i>13.</i>
	<i>Study the classification of organic compounds into different groups and common and iupac nomenclature and the aromatic and aliphatic hydrocarbons saturated and non-saturated including:</i>	<i>2</i>	<i>4</i>	<i>3</i>
	<i>alkanes</i>			
	<i>Alkenes</i>	<i>2</i>	<i>4</i>	<i>13.</i>
	<i>Mid-term exam1+feedback</i>	<i>1</i>	<i>2</i>	<i>3</i>
	<i>Mid-term exam1+feedback</i>	<i>1</i>	<i>2</i>	<i>6.7</i>
	<i>Aromatic Compounds</i>	<i>1</i>	<i>2</i>	<i>6.7</i>
	<i>Halide Alkyls</i>	<i>1</i>	<i>2</i>	<i>6.7</i>
	<i>Alcohols</i>	<i>1</i>	<i>2</i>	<i>6.7</i>
	<i>Amines</i>	<i>1</i>	<i>2</i>	<i>6.7</i>
	<i>Mid-term exam2+feedback</i>	<i>1</i>	<i>2</i>	<i>6.7</i>
	<i>Aldehydes</i>	<i>1</i>	<i>2</i>	<i>6.7</i>
	<i>Ketones</i>	<i>1</i>	<i>2</i>	<i>6.7</i>
	<i>Carboxylic Acids</i>	<i>1</i>	<i>2</i>	<i>6.7</i>
	<i>Esters</i>	<i>1</i>	<i>2</i>	<i>6.7</i>

<p>Study and examination requirements and forms of examination</p>	<p><i>First mid term exam</i> <i>10 %</i></p> <p><i>Second Mid term exam</i> <i>10 %</i></p> <p><i>Practical activities, class engagement and continuous assessment</i> <i>10 %</i></p> <p><i>Final practical test</i> <i>20 %</i></p> <p><i>Final Theoretical test</i> <i>50 %</i></p>
<p>Media employed</p>	<p><i>Office hours : 6 hours</i></p> <p><i>phone# : 164043638</i></p> <p><i>E-mail. m.alzoman@mu.edu.sa</i></p> <p><i>Twitter : @malzoma</i></p> <p><i>Facebook: munalzoman</i></p> <p><i>Academic site : m.alzoman@mu.edu.sa</i></p> <p><i>Youtube channel: munalzoman</i></p>
<p>Reading list</p>	<ul style="list-style-type: none"> • <i>Principles of Organic Chemistry d. Hassan Hazmi d. Mohammed Hassan - King Saud University (latest edition)</i> • <i>Basis of organic chemistry d. Salem Thiyabi -menkrat King Saud University (latest edition)</i> • <i>The principles of process chemistry Prof. Ahmed Medhat Islam - d. Mr. Ali Hassan - Egypt</i> • <i>experiments in organic chemistry Mohammed Hassan Khrajji bookshop library (latest edition)</i>