



Course Specifications

Muharram 1437 H

Institution:	Faculty of Education
Academic Department :	Biology
Programm :	Biology
Course :	Animal Physiology (I)
Course Coordinator :	Prof.: Zeinab Abd El mohdy Abd Elhaleem
Programme Coordinator :	Dr: Mona Makkia
Course Specification Approved Date :	30/ 11 / 1433 H



A. Course Identification and General Information

1 - Course title :	Animal physiology(1)	Course Code:	ZOO313
2. Credit hours :	(3)		
3 - Program(s) in which the course is offered:	Biology		
4 – Course Language :	Arabic		
5 - Name of faculty member responsible for the course:	Prof : Zeinab Abd Elmohdy		
6 - Level/year at which this course is offered :	5 th level		
7 - Pre-requisites for this course (if any) :	<ul style="list-style-type: none"> • Cytology BIO 123 		
8 - Co-requisites for this course (if any) :	<ul style="list-style-type: none"> • Not applicable 		
9 - Location if not on main campus :	(Main Campus, Al Majmaah City)		
10 - Mode of Instruction (mark all that apply)			
A - Traditional classroom	<input checked="" type="checkbox"/>	What percentage?	50 %
B - Blended (traditional and online)	<input checked="" type="checkbox"/>	What percentage?	5 %
D - e-learning	<input checked="" type="checkbox"/>	What percentage?	15%
E - Correspondence	<input type="checkbox"/>	What percentage?	0%
F - Other	<input checked="" type="checkbox"/>	What percentage?	30 %
Comments :	Other means practical part of the course		

B Objectives

<p>What is the main purpose for this course?</p> <p>This course deals with the structure and function of the Nervous, Muscular and Digestive systems and mechanisms for maintaining their homeostasis.</p> <p>Briefly describe any plans for developing and improving the course that are being implemented :</p> <ol style="list-style-type: none"> 1. Re- new the course references frequently. 2. Using websites that are relevant to the course as posting some course material on the websites to help the students 3. Frequently check the latest discovery in science to improve the course objectives. 4. Using power point program in teaching. 5. exchange of Cooperate with other educational institutions to have their experience in dealing with the subject

C. Course Description

1. Topics to be Covered





List of Topics	No. of Weeks	Contact Hours
Theoretical part		
Transport across the cell membrane	1	2
Digestive system <ul style="list-style-type: none"> - Nutrition and the digestive system - Structure and function of the stomach - Structure and function of small and large intestine - Structure and function of the liver - Components of bile juice and its function - Structure and function of pancreas - Digestion and absorption The control of digestive enzymes	5	10
Midterm1+feedback about exam	1	1
Nervous system <ul style="list-style-type: none"> - Nerve cell (types- structure and function) - Nerve impulse and neurotransmitters - Structure and function of central nervous system - Structure and function of peripheral nervous system 	4	8
Midterm 2+ feedback about exam	1	1
Muscular system <ul style="list-style-type: none"> - Characters and types of muscle - Ultrastructure of muscle fiber - Mechanism of muscle contraction and muscle metabolism 	3	6
Practical part		
Detection of carbohydrates, proteins and fat	2	4
Detection of amylase enzyme in saliva , its characters ,its action on starch and optimum conditions for its action	4	8
Detection of myosin and nitrate in saliva	1	2
Detection of pepsin enzyme, its character and optimum conditions for its action Detection of renin enzymes and its character	2	4
Detection of pancreatic enzymes and their characters	2	4
Detection of biliary juice and its character	2	4
Recognition of brain structure in a model	1	2
Revision	1	2

2. Course components (total contact hours and credits per semester):

	Credit	Contact Hours			Self-Study	Other	Total
		Lecture	Laboratory	Practical			
NCAAA	3 ch	28	30	-	-	-	58





ECTS	4.7 cp	28	30	-	59	22	139
------	--------	----	----	---	----	----	-----

3. Additional private study/learning hours expected for students per week.

3 hours per week

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1.1	Recognize the structure of Digestive, Muscular, and Nervous Systems.	Lectures	Exams
1.2.1	Determine the function of Digestive, Muscular, and Nervous Systems.	e-learning	Exams Homework
2.0	Cognitive Skills		
2.2.1	Explain the mechanism of action of Digestive, Muscular, and Nervous Systems.	Lectures Brain storm	Exams
2.3.1	Analyze the phenomena and problems related to the functions of Digestive , Muscular, and Nervous systems	Problem solving	Exams Homework
3.0	Interpersonal Skills & Responsibility		
3.2.1	Participate effectively with colleagues in researches and presentations	Working in small groups	Research paper
4.0	Communication, Information Technology, Numerical		
4.2.1	Using advanced technology in collection and interpretation of data.	e-learning	Research paper
5.0	Psychomotor		
5.1.1	Use properly laboratory devices and equipment in carrying out experiments of the course	Lab strategy	Practical exams Lab report

5. Schedule of Assessment Tasks for Students During the Semester:

	Assessment task	Week Due	Proportion of Total Assessment
1	Mid-term exam 1	7 th week	10%
2	Mid-term exam 2	12 th week	10%
3	Lab manual report , research paper, presentation and homework	Throughout the semester	10%





6	Final Practical exam	16 th	20%
7	Final theoretical Exam	17-19 th	50%

D. Student Academic Counseling and Support

- 6-office hours per week according to the lecturer schedule.
- The contact with students by e-mail , mobile, office and faculty website (z.madkor@mu.edu.sa)

E. Learning Resources

1. List Required Textbooks :

- Science of Physiology, 1433 H. Setawi Alabd Alaah , Al Msiraa Publishing House.

2. List Essential References Materials :

- Science of Organ Physiology, 1424 H. Nabil Ahmed Abu Elnile, International Publishing House.

3. List Recommended Textbooks and Reference Material :

- Ganong"s Review of Medical Physiology , 2010, McGraw-Hill Companies,23 th ed. -
<https://emergencypedia.files.wordpress.com/2013/04/ganong-pdf.pdf>
- Textbook of Medical Physiology , 2006, Guyton AC and Hall JE, Elsevier Saunders, 11th ed.
<http://vet.uokufa.edu.iq/staff/falah/Textbook%20of%20Medical%20Physiology.pdf>
- International journal of basic science
- Journal of medical research

4. List Electronic Materials :

- www.searchalot.com
- www.google.com
- www.pubmed.com

5. Other learning material :

- Microsoft office ,Word- Power point-Excel

F. Facilities Required

1. Accommodation

- Number of seats in each hall equal 35
- Number of seats in each lab equal 20
- Mini lab for teaching
- Halls should be provided with advanced technology for teaching

2. Computing resources

- The hall should be provided with a computer





- Provide smart board and accessories

3. Other resources

- Provide the animal lab with enzymes and equipment needed for animal physiology (1) course.

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching:

- A questionnaire for course evaluation is distributed among student

And then being analyzed

2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor :

- Continuous follow up by supervisors
- Annual report of program

3 Processes for Improvement of Teaching :

- Provide the latest textbook and journals in library
- Allow the student to use website in library
- Organize program and training courses for staff members
- Periodic maintenance of teaching halls and lab
- Allow staff members to access international academic libraries and journals
- Apply the advanced technology in teaching process
- Apply e- learning program

4. Processes for Verifying Standards of Student Achievement

- Check marking by an independent department staff member of practical and final exam paper and model 1.
- check marking by the head of departments of a random sample (5%) of practical and final exam paper
- Check student exam paper by an independent faculty staff member of other department (5%)

5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement :

- Results of student questionnaire of course evaluation.
- Course report.
- Program report.
- Program self-study.
- Periodical review of study plan and its improvement
- Periodical review of websites to update in the course

Course Specification Approved
Department Official Meeting No (6) Date 30 / 11 / 1433 H





Course's Coordinator

Name : Prof : Zeianb Abd
Elmohdy
Signature :
Date : 8./ 4 / 1437 H

Department Head

Name : Dr: Mona Makkia
Signature :
Date : .../ ... / H



Institution:	Majmaah University
Academic Department :	Biology
Programme :	Biology
Course :	chordata
Course Coordinator :	Dr. Amal EL-Sayed
Programme Coordinator :	Dr. Mona Makkeia
Course Specification Approved Date :	30/ 11 / 1433 H

A. Course Identification and General Information

1 - Course title :	chordata	Course Code:	ZOO,312
2. Credit hours :	3hrs		
3 - Program(s) in which the course is offered:	Biology		
4 – Course Language :	Arabic.		
5 - Name of faculty member responsible for the course:	Dr. Amal EL-Sayed		





6 - Level/year at which this course is offered : 5th

7 - Pre-requisites for this course (if any) :
 • **ZOO,121**

8 - Co-requisites for this course (if any) :
 • **non**

9 - Location if not on main campus :
(main building)

10 - Mode of Instruction (mark all that apply)

A - Traditional classroom	<input type="checkbox"/>	What percentage?	60 %
B - Blended (traditional and online)	<input type="checkbox"/>	What percentage? %
D - e-learning	<input type="checkbox"/>	What percentage?	10 %
E - Correspondence	<input type="checkbox"/>	What percentage? %
F - Other	<input type="checkbox"/>	What percentage?	30 %

Comments :

B Objectives

What is the main purpose for this course?
 For students undertaking this course, the aims are to:
 1-Introduce the systematic classification of different chordate classes.
 2. Discuss the main characteristic features of chordates.
 3. Explain the different structural pattern of main body systems such as digestive ,urinogenital and respiratory systems.

Briefly describe any plans for developing and improving the course that are being implemented :
 Using D2L.
 Recent research in chordates.
 Connection with professionals in Zoology.

C. Course Description

1. Topics to be Covered (Theoretical+ Practical)

List of Topics	No. of Weeks	Contact Hours
Introduction to chordates - Protochordates (classes: Ascidiacea), studying some body systems	2	8





(digestive, circulatory and nervous system) and <i>Balanoglossus</i>		
Cephalochordates: general characters, external features, studying some body organs (digestive and reproductive systems)	2	8
Vertebrates. general characters	1	4
Mid-term Exam1+feedback	1	3
Classification of Vertebrates a-Cyclostomata: general characters (digestive, respiratory systems) b-Cartilagenous fishes (dogfish): general characters, external features and digestive system c- bony-fishes (dogfish), the urinogenital system – Osteochthyes (<i>Tilapia nilotica</i>): classification, general characters, digestive and respiratory system.	4	16
Mid-term Exam2+feedback	1	3
d- Amphibia: classification of amphibian, general characters, (digestive, reproductive and respiratory system) e - Reptilia: classification of reptilian and its general characters f- Aves: classification of aves and its general characters - digestive system, urinogenital system g- Mammals: classification and general characters digestive system, urinogenital system.	4	16

2. Course components (total contact hours and credits per semester):

	Credit	Contact Hours			Self-Study	Other	Total
		Lecture	Laboratory	Practical			
NCAAA	3 ch	28	30	-	-	-	58
ECTS	4.4 cp	28	30	-	58	14	130

3. Additional private study/learning hours expected for students per week.

3hrs/week

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
	On completing this course, students will be able to:		
1.1.1	Mention the general characters of phylum chordata and its class .	lectures	exams
1.2.1	Describe the structure of body system and in each class (proto-chordates-vertebrates)..	Discussion	exams
2.0	Cognitive Skills		
	On completing this course, students will be able to:	.	



	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
2.1.1	Compare between, external skeleton, digestive ,respiratory and urogenital systems in different vertebrates.	Solve problems	exams
2.2.1	Illustrate the relation between structure and function of body systems .	Discussion	Oral discussions
3.0	Interpersonal Skills & Responsibility		
	On completing this course, students will be able to:		
3.2.1	- work effectively in a team in lab.	Discussion	observations
4.0	Communication, Information Technology, Numerical		
	On completing this course, students will be able to:		
4.2.1	- use IT and search for information.	Self (auto – learning)	Research paper
5.0	Psychomotor		
	On completing this course, students will be able to:		
5.1.1	-Dissect the internal system of chordates studied.	Mini- teaching	Practical exam.
5.2.1	- Examine the microscopic slides and sketch of the studied species of the chordates.	Lab.	reports

5. Schedule of Assessment Tasks for Students During the Semester:

	Assessment task	Week Due	Proportion of Total Assessment
1	1st semester exam	6 th	10
2	2nd semester exam	11 th	10
3	Activities	weekly	10
6	Final Practical exam	16 th	20
7	Final exam	17 th -19 th week	50





D. Student Academic Counseling and Support

Dr. Amal EL-Sayed Abd-ELHady

e-mail: : a.elhady@mu.edu.sa

office hours 6hrs per week.

E. Learning Resources

1. List Required Textbooks :

- General Zoology, M. R. Khalil *et al.*, Angelo Press, Cairo, 1996. 3rd part chordates.
- Practical Zoology, A.H. ELhosseni and E.S. Demian. Cairo, 1990. Part 2.

2. List Essential References Materials :

- Chordate, Madkour. G. 2007.

3. List Recommended Textbooks and Reference Material :

- Comparative anatomy of the vertebrates, George C. Kent
- Modern Text -Book of Protochordata. O.P. Saxena. , S. Chand and Company. 1985.
- Chordate Morphology, Malcolm Jollie, 1973
- Anatomy of Chordate, Charles K. Weicher, 4th ed. New York, McGraw-Hill. 1970 .

4. List Electronic Materials :

- Dr. Anna E. Ross's
- Comparative Vertebrate Anatomy Course

5. Other learning material :

- non

. Facilities Required

1. Accommodation

- classroom with the capacity of maximum 25 students is required. (available).
- laboratory with the capacity of maximum 14 students is required (not available).
- Microscopes ,dissecting instruments and animals for dissection is required

2. Computing resources

- The classroom is equipped with a smart board, its running software 'active inspire', and internet connection.

3. Other resources

- Advanced microscopes with camera is required.

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching:

- The statistics obtained from the students at the end of semester.
- Student's Discussions.





2 Other Strategies for Evaluation of Teaching by the Program/Department

Instructor :

- Course evaluation
- Periodic revision.
- External staff revision.
- Staff evaluation from students after final result.

3 Processes for Improvement of Teaching :

- Annual refreshing training courses for the faculty members about the teaching practices .
- Acquaintance the most recent in chordata.
- Supply the library with the most recent references(text book, journals)
- Internet connection in the classroom ,labs, library....etc.

4. Processes for Verifying Standards of Student Achievement

- A committee of faculty members are assigned for each subject to review the checking of the final exams.

5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement :

- A committee of faculty members are assigned for each subject to review the checking of the final exams.
- An internal revision report is written by the committee for each course.
- The feedbacks of the students are studied carefully.
- All feedbacks coming from the teachers of the course will be collected.
- Annual department review of course content and course specification
- Annual course report.

Course Specification Approved
Department Official Meeting No (.....) Date 30 / 11 / 1433 H

Course's Coordinator

Name : Amal El-Sayed Abd
EL- Hady
Signature :
Date : 12/ 4 / 1437 H

Department Head

Name :
Signature :
Date : .../ ... / H



Institution:	Majmaah University
Academic Department :	Biology
Programme :	Biology
Course :	Cytogenetics
Course Coordinator :	Dr. Amira Elmaghawry
Programme Coordinator :	Dr. Mona Makkie
Course Specification Approved Date :	30/ 11 / 1433 H



A. Course Identification and General Information

1 - Course title :	Cytogenetics	Course Code:	BOT 315
2. Credit hours :	(2)		
3 - Program(s) in which the course is offered:	Biology		
4 – Course Language :	Arabic		
5 - Name of faculty member responsible for the course:	Dr. Amira Elmaghawry		
6 - Level/year at which this course is offered :	fifth		
7 - Pre-requisites for this course (if any) :	<ul style="list-style-type: none"> BIO 223 		
8 - Co-requisites for this course (if any) :	<ul style="list-style-type: none"> 		
9 - Location if not on main campus :	(.....)		
10 - Mode of Instruction (mark all that apply)			
A - Traditional classroom	<input checked="" type="checkbox"/>	What percentage?	60 %
B - Blended (traditional and online)	<input type="checkbox"/>	What percentage? %
D - e-learning	<input checked="" type="checkbox"/>	What percentage?	10 %
E - Correspondence	<input type="checkbox"/>	What percentage? %
F - Laboratory	<input checked="" type="checkbox"/>	What percentage?	30 %
Comments :		

B Objectives

What is the main purpose for this course?

Deepen the understanding of genetic; Cytogenetics is combines between Cytology (which is the study of cell) and genetics with studying the number of chromosomes , molecular organization and the relationship of this organization functions and evolutionary changes. Also addresses the different types of structural chromosomal changes, numerical and impact on each new combinations, inheritance and gene expression.

Briefly describe any plans for developing and improving the course that are being implemented :

Provide the course topics with the recent research results and use of the e-learning for more students interaction.

C. Course Description





1. Topics to be Covered (Theoretical +Practical)

List of Topics	No. of Weeks	Contact Hours
<ul style="list-style-type: none"> •A general review for the structure of the cell. •Relationship between genetic material and the inherited characters . •The morphology of the chromosome. 	2	6
<ul style="list-style-type: none"> •Forms and types of chromosomes in eukaryotic organisms. •Chromosomes behavior during Meiosis 	2	6
• Structural chromosomal aberrations	2	6
• Mid- term exam1+Feedback	1	2
• Numerical chromosomal aberrations	1	3
<ul style="list-style-type: none"> • Changes in chromosome morphology • Organization of the DNA and chromosome forming • Differentiation DNA of the chromosome component. 	2	6
Mid- term exam2+Feedback	1	2
<ul style="list-style-type: none"> • Human genome and the genetic map drawing • Identify the locations of genes on human chromosomes 	2	6
<ul style="list-style-type: none"> • Genetic mutations, definition, kinds, mutagenesis and their applications, and their relationship to cancer. Theoretical Revision	2	7

2. Course components (total contact hours and credits per semester):

	Credit	Contact Hours			Self-Study	Other	Total
		Lecture	Laboratory	Practical			
NCAAA	2 ch	14	30	-	-	-	44
ECTS	4.3 cp	14	30	-	48	10	102



4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1.1	Describe morphology features of the chromosome.	lectures	Weekly activities with reports
1.2.1	Explain the human genome and how to draw the genetic map	Lectures + learning object (video)	written exams
2.0	Cognitive Skills		
2.1.1	Devised the reasons for the differences in chromosomal structural and numerical	Research and survey	Assessment of individual and group researches
2.2.1	Control on mutagenesis and their relationship to cancer	learning object and experiments in the lab	Assessment of assignments and electronic activities
3.0	Interpersonal Skills & Responsibility		
3.2.1	Show interest to respond with colleagues while doing the research and laboratory experiments	Cooperative learning	Practical exams
3.4.1	Know well self-learning skills and her responsibilities.	E-learning D2L	Use D2L student Progress
4.0	Communication, Information Technology, Numerical		
4.1.1	Select the appropriate presentation	Research and survey	Provide presentations and give the student the feedback
5.0	Psychomotor		
5.2.1	Prepare microscopic slides for examining and counting the normal and abnormal chromosomes	Work in small groups	assessment of lab manual



5. Schedule of Assessment Tasks for Students During the Semester:

	Assessment task	Week Due	Proportion of Total Assessment
1	Reports+ assignments+ oral questions + e-learning	weekly	10%
2	1 st midterm exam	During the semester (6-7 th week)	10%
3	2 nd midterm exam	During the semester (11 th week)	10%
4	final laboratory exam	16 TH	20%
5	Final written exam	17-19 th	50%





D. Student Academic Counseling and Support

Dr. Amira M. Elmaghawry
E-mail: a.almaghawry@mu.edu.sa
Office hours: According to schedule

E. Learning Resources

1. List Required Textbooks :

- **Cytogenetics, Adel El-Masry, 2009, Dar El Kitab El hadith, Alex., Egypt.**

2. List Essential References Materials :

- **General Genetics, Abdel-Hussein Elfeaisl, 1999, El-Ahlia for publishing and distribution, Amman, Jordan.**
- **Principles of Physiological Genetics, Medhat Hussein M. Khalil, 2004, Dar El Kitab Elgamegy, UAE.**
- **Genetic Engineering, Abdel- Mohsen Elfeaisl, 1998, Dar El Sharq, for publishing and distribution, Amman, Jordan.**
-

3. List Recommended Textbooks and Reference Material :

- **New versions of previous references and new books**

4. List Electronic Materials :

- <http://learn.genetics.utah.edu/>
- <http://gslc.genetics.utah.edu/>
- <http://ghr.nlm.nih.gov/>
- <http://genetics.thetech.org/>
- <http://www.genome.gov/10000464>
- <http://www.amnh.org/explore/ology/genetics>
- <http://www2.edc.org/weblabs/WebLabDirectory1.html>

5. Other learning material :

-
-
-





F. Facilities Required

1. Accommodation

- The size of the room should be suitable with the number of the students
- Provide enough seats and should be fixed
- Modern rooms equipped with modern technologies for education and various display devices.
- Provide models and equipment for the lab

2. Computing resources

- one computer and smart blackboard or electronic platforms

3. Other resources

- Computerized microscope with a camera.

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching:

- Reviewing of students opinion through questionnaires about subject contents, topics and methods of teaching
- Analysis The students grades in exams statistically and interpreted them.
- Magnitude of students discussions (participation) during the lectures is an indication of the effectiveness (instructiveness) of teaching

2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor :

- Viewing students evaluation electronically
- Departmental annual report prepared by the head of the department.

3 Processes for Improvement of Teaching :

- Use E-learning system and its activities.

4. Processes for Verifying Standards of Student Achievement

- Reviewing of examination sheets "that have been evaluated by the professor" by another member of the department in addition to check sample by external reviewer .

5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement :

- Periodical meeting of staff members to determine the strengths and weaknesses.
- Continuous follow up of the subject websites.
- Development of study plans in the light of contemporary trends



and to meet the needs of the community.

- Assessment of the course.
- Regular reviewing of plans of study.
- Reviewing of students opinion through questionnaires about subject contents, topics and methods of teaching.

Course Specification Approved
Department Official Meeting No (6) Date 30 / 11 / 1433 H

Course's Coordinator

Name : Dr. Amira
Elmaghawry
Signature : Amira
Date : 7 / 4 / 1437 H

Department Head

Name : Dr. Mona Makkie
Signature : Mona
Date : ... / ... / H



Institution:	Faculty Of Education, Majmaah University
Academic Department :	Biology Department
Programme :	Biology Programme.
Course :	Entomology I
Course Coordinator :	Dr. Zeinab EL tahir Bakheet EL tahir
Programme Coordinator :	Faculty Of Education, Majmaah University
Course Specification Approved Date :	30/ 11 / 1433 H



A. Course Identification and General Information

1 - Course title :	Entomology I	Course Code: ZOO 311
2. Credit hours :	((3 hours) 2 academic+2 practical)	
3 - Program(s) in which the course is offered:	Biology Department Program.	
4 – Course Language :	Arabic	
5 - Name of faculty member responsible for the course:	Dr. Zeinab EL tahir Bakheet EL tahir	
6 - Level/year at which this course is offered :	The fifth	
7 - Pre-requisites for this course (if any) :	<ul style="list-style-type: none"> • ZOO221 	
8 - Co-requisites for this course (if any) :	<ul style="list-style-type: none"> • None 	
9 - Location if not on main campus :	(Indoor)	
10 - Mode of Instruction (mark all that apply)		
A - Traditional classroom	<input checked="" type="checkbox"/>	What percentage? 60 %
B - Blended (traditional and online)	<input checked="" type="checkbox"/>	What percentage? 10 %
D - e-learning	<input type="checkbox"/>	What percentage? %
E - Correspondence	<input type="checkbox"/>	What percentage? %
F - Other	<input checked="" type="checkbox"/>	What percentage? 30 %
Comments :	

B Objectives

What is the main purpose for this course?
 The entomology specifies into studying the apparent shape of the insect and the different transforms in insect parts and the reason behind this transforming. To study

Entomology regard to study morphology and the various mutations growths body of the insect and the reasons for those mutations
 Then study the situation of the divisive groups with insecticides bind all that important economic conditions of each example so as to easily identify





harmful and beneficial insects.

Briefly describe any plans for developing and improving the course that are being implemented :

- 1- Using Power point Program
- 2- Visiting the relevant webs on the Internet
- 3- Reading the relevant recent researches
- 4- Assigning the female students with searching and presenting the results in front of their colleagues.
- 5- Updating education sources
Working on the exchange of experiences among faculty members, and among the Arabic universities and International ones especially the accredited universities

C. Course Description

1. Topics to be Covered (Theoretical +Practical)

List of Topics	No. of Weeks	Contact Hours
1- Insects in animal kingdom- the general features and the reasons behind spreading the insects The head: head capsule- antenna	1	4
2- Antenna - body wall - its structure- Projections - its features or properties	1	4
3- Metamorphosis	1	4
4- Mouth parts – chest structure, wings shape, wings machine	3	12
5- Mid- term Exam1+ feedback	1	3
6- The mechanisms of flying and the factors affecting it, the movement and the legs	2	8
7- Abdomen: the reproductive and non reproductive appendages.,	2	8
8- Mid- term Exam2+ feedback	1	3
9- Classification of insects: studying the general properties of every order of the insects with wings and insects with no wings- presenting examples for every order and its shape, life cycle and economical importance briefly. And to concentrate on the economical importance insects and the ways to fight harmful insects both types : Natural and Applied.	3	12



2. Course components (total contact hours and credits per semester):

	Credit	Contact Hours			Self-Study	Other	Total
		Lecture	Laboratory	Practical			
NCAAA	3 ch	28	30	-	-	-	58
ECTS	4.6 cp	28	30	-	66	10	134

3. Additional private study/learning hours expected for students per week.

4 hours

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1.1	Classified the insects into many kinds according to the presence or the absence of the wings and the kind of transforming and kinds of mouth parts, categorized the insects which have economic importance and the ways of using them usefully and the pest and ways to exterminate them: naturally and practically.	-Lecture	-Written exams.
2.0	Cognitive Skills		
2.1.1	Explain the affecting conditions on nutrition and flying mechanisms in different insects	-Lecture	-Written exams.
2.3.1	Compare between Appendages body of the insect and the various mutations of	-Lecture	-Written exams.





	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
	these appendages .	-Brainstorming	
3.0	Interpersonal Skills & Responsibility		
3.4.1	Perfects the skill of self-learning and responsibility.	-Discussion and dialogue	- Discussions
4.0	Communication, Information Technology, Numerical		
4.2.1	Perfects the skill of using technology and the modern techniques for research	-E-learning	-Research papers
5.0	Psychomotor		
5.2.1	Examine microscopic samples with a detailed drawing of them .	-Laboratory strategy	-practical exams. -The Reports

5. Schedule of Assessment Tasks for Students during the Semester:

	Assessment task	Week Due	Proportion of Total Assessment
1	First midterm exam	7 th week	10%
2	Second Midterm exam	12 th week	10%
3	Different activities (domestic assignments and research projects) nonstop evaluation	During the semester	10%
4	The final practical exam	16 th week	20%
5	The final written exam	17-19 th week	50 %



D. Student Academic Counseling and Support

1- The preparations of presenting the faculty members for academic counseling of the student (mention the expected time that the faculty members will show on for that purpose every week)

Dr. Zeinab El tahir Bakheet El tahir

E. mail: z.eltahir@mu.edu.sa

office hours: according to the schedule: 8 office hours

E. Learning Resources

1. List Required Textbooks :

• الحشرات الزراعية شكلها الظاهري وتشريحيها الداخلي، د. بدوي، على إبراهيم وعلي بن محمد السحيباني جامعة الملك سعود- الرياض (١٤١٧ هـ).
الجزء العملي

بيولوجية الحيوان العملية (الجزء الثاني و الثالث) _د. الحسيني، أحمد حماد و أميل شنودة دميان آخر طبعة دار المعارف_ القاهرة (١٩٩٧م)

•

2. List Essential References Materials :

• الحشرات الزراعية شكلها الظاهري وتشريحيها الداخلي، د. بدوي، على إبراهيم وعلي بن محمد السحيباني جامعة الملك سعود- الرياض (١٤١٧ هـ).
الجزء العملي

بيولوجية الحيوان العملية (الجزء الثاني و الثالث) _د. الحسيني، أحمد حماد و أميل شنودة دميان آخر طبعة دار المعارف_ القاهرة (١٩٩٧م)

3. List Recommended Textbooks and Reference Material :

-علم بيولوجيا اللافقاريات- د. محمد حسن الحمود، الأهلية للنشر والتوزيع العلوم البيولوجية، ٢٠٠٥.
• - الأسس العملية في علم الحشرات العام- د. مكّي بن عبدالله العمودي الرياض-الزهراء ٢٠٠٧،

- مجلة الجمعية المصرية لعلم الحشرات

4. List Electronic Materials :

- <http://en.wikipedia.org/wiki/Entomology>
- <http://en.wikipedia.org/wiki/Arthropoda>

الحشرات -الموسوعة العربية

5. Other learning material :

- Using the internet.
- The ability to use the computer and programs such as Word, Excel, Power point .

F. Facilities Required



1. Accommodation
2. Computing resources <ul style="list-style-type: none">• Data show, a computer and one monitor.
3. Other resources <ul style="list-style-type: none">• Completion the devices and the models of animal laboratory.

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching: <ul style="list-style-type: none">• A questionnaire to measure the amount of learning the course by the female student
2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor : <ul style="list-style-type: none">• Evaluating the faculty member by the female students using the questionnaire.• Evaluating the course by the female students using the questionnaire at the end of the semester.
3 Processes for Improvement of Teaching : <ul style="list-style-type: none">• Providing the recent practical resources and the scientific tutorials in the library.• Providing the internet in the library for the search of the female students• Presenting programs and training courses for the faculty board after the official hours of work.• Assuring the availability of the required laboratory tools and facilities for the course.• Following-up the newest and the most useful methods in teaching the course and using the modern techniques.• Providing the suitable condition.
4. Processes for Verifying Standards of Student Achievement <ul style="list-style-type: none">• Reviewing the checked papers by the professor of the subject, another member from the department and abroad member (If possible) to check a random sample of answer papers.•
5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement : <ul style="list-style-type: none">• Tutorial meetings among the female students to know the positive and negative sides





- The tutorial meeting of faculty members to identify the power points and support them and the weakness points to overcome them.
- Review the studying plans and improve them according to the modern trends and the society needs.
- Take the female students opinions.

Course Specification Approved
Department Official Meeting No (6) Date 30 / 11 / 1433 H

Course's Coordinator

Name : Dr. Zeinab El tahir
Bakheet El tahir

Signature :

Date : 12/ 4 / 1437 H

Department Head

Name : Dr. Mona Makkie

Signature :

Date : .../ ... / H





Institution: College of Education.....
Academic Department :Biology.....
Programme:Biology.....
Course :Plant Physiology I.....
Course Coordinator :Dr EnasShaban Ahmed.....
Programme Coordinator :Dr Mona Makkeia.....
Course Specification Approved Date :	30/ 11/ 1433 H

A. Course Identification and General Information

1 - Course title :	Physiology plant	Course Code:	BOT 314
2. Credit hours :	3 Hours		
3 - Program(s) in which the course is offered:		Biology.	
4 – Course Language : Arabic.		
5 - Name of faculty member responsible for the course:		Dr EnasShaban Ahmed.	
6 - Level/year at which this course is offered :		Fifth level	
7 - Pre-requisites for this course (if any) :			
	<ul style="list-style-type: none">• Cytology• Biochemistry		





8 - Co-requisites for this course (if any) :

-plant physiology II.....

9 - Location if not on main campus:

(Not required)

10 - Mode of Instruction (mark all that apply)

A - Traditional classroom	<input type="checkbox"/>	What percentage?	50 %
B - Blended (traditional and online)	<input type="checkbox"/>	What percentage?	10 %
D - e-learning	<input type="checkbox"/>	What percentage?	10%
E - Correspondence	<input type="checkbox"/>	What percentage? %
F - Other	<input type="checkbox"/>	What percentage?	30 %
	lab		

Comments :

.....

B Objectives

What is the main purpose for this course?

- 1- Define the terminology of basic plant physiology, discuss and evaluate all the plant water relations and the mechanism of solute transport across cellular membranes.
- 2- List the importance of plant mineral nutrition, and outline the transport of plant growth regulators and illustrate their physiological effects.
- 3- Evaluate light depend and light independent photosynthesis and factors affecting them.

Briefly describe any plans for developing and improving the course that are being implemented :

1. Periodic Review scheduled by the committee plans and schedules the school department.
2. Periodically updated content as a modern development in the field.
3. Use more software simulations to some of the principles covered.
4. Spare more working hours on e-learning, where some lectures and short exams will be delivered online.
5. Add new experiments in the laboratory that covers the topic of energy.
6. Work on the exchange of experiences between the university and scientific centers of the relevant.

C. Course Description

1. Topics to be covered (Theoretical+ Practical)

List of Topics	No. of Weeks	Contact Hours
1- Water potential and its component.	3	12
2- Movement and translocation of H ₂ O in plant tissues.		
3- Transpiration.	2	8
Mid-term Exam1+Feedback	1	3
4- Cell membrane and permeability.	2	8
5- Major and minor mineral elements and their sources, and physiological roles, and the effects of lack of it.	3	12
Mid-term Exam1+Feedback	1	3
6-Hydro-culture, sand culture and methods for preparation of nutrient solutions	1	4
6- Photosynthesis, light, carbon path is installed in high-end plants and the factors affecting them.	1	4





8-Respiration 9-Physiological response to environmental stresses.	1	4
--	---	---

2. Course components (total contact hours and credits per semester):

	Credit	Contact Hours			Self-Study	Other	Total
		Lecture	Laboratory	Practical			
NCAAA	3 ch	28	30	-	-	-	58
ECTS	4.7 cp	28	30	-	68	12	138

3. Additional private study/learning hours expected for students per week.

4 hours

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy.

	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1.1	Explain the ability of plants to obtain both water and mineral nutrients from the soil	Brain storming and E-learning	Study papers Written tests discussions
1.2.1	To describe and explain metabolism of plant cell and basic physiological processes in plants.	Problem solving and discussions	Study papers Written tests discussions
2.0	Cognitive Skills		
2.1.1	Distinguish water potential components and different transport processes that take place in the plant.	Problem solving and discussions E-learning	Worksheets reports Note Research papers written tests and discussions
2.2.1	Differentiated the action of enzymes on metabolic process	Problem solving and discussions E-learning.	Worksheets reports Note Research papers written tests Discussions
3.0	Interpersonal Skills & Responsibility		
3.4.1	Show interest to respond with colleagues while doing research projects.	Problem solving using internet- E-learning	Notes Presentations





	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
			Practical tests
4.0	Communication, Information Technology, Numerical		
4.2.1	World Wide Web used to fulfill the tasks required of them after each lecture.	Problem solving using internet.	Notes Presentations Practical tests
5.0	Psychomotor		
5.1.1	Apply different experiments related to the course and present a short report.	Lab strategies	Practical testes and reports

5. Schedule of Assessment Tasks for Students during the Semester:

	Assessment task	Week Due	Proportion of Total Assessment
1	First term exam	6 th week.	10%
2	Second term exam	12 th week	10%.
3	Activities	During semester	10%
4	Practical exam	16 th week	20%
5	Final exam	17 th -19 th week	50%

D. Student Academic Counseling and Support

DrEnasShaban Ahmed
E.mail: es.ahmed@mu.edu.sa
office hours : 6
Academic counseling and support : 4 hours

E. Learning Resources

1. List of the Required Textbooks : o o
2. List of the Essential References Materials : 1. Basics of Plant Physiology d / Mohammed Jamal al-Din Dar Hassouna new publications 2003 2. Plant Physiology general (Part I - Part II) d / Mohammed Hamad Al Wahaibi d / Mohamed Ben Omar reform and d / Ali bin Abdul Mohsen Crescent, King Saud University, 1422 3. Plant Physiology process, Hisham Abdel Gawad, Mohammed Hamad Al Wahaibi, Deanship of Library Affairs, King Saud University, Riyadh 1409 H.
3. List of the Recommended Textbooks and Reference Material : 1. Water relations in the plant, Mohammed Hamad Al Wahaibi second edition, publications, King Saud University for publishing





scientific and presses Riyadh 1418. 2. Mineral nutrition in plants Mohammed Hamad Al Wahaibi prints of King Saud University for scientific publishing and printing presses Riyadh 1422 H.
4. List of the Electronic Materials : Web sites related to the course.
5. Other learning materials : <ul style="list-style-type: none">• Data show and power point• Word program

F. The Required Facilities

1. Accommodation <ul style="list-style-type: none">o A fixed computer connected smart board and projector available for each Hall of teaching.o Laboratory tools for various experiments.o Test the plant samples.o Chemicals to prepare solutions of different concentrations used during testing.o Optical microscopes.o Ordinary Whiteboard.
2. Computing resources <ul style="list-style-type: none">o Internet-connected computer.
3. Other resources <ul style="list-style-type: none">o Smart blackboard and projector.o Some chemicals that are not available in the lab.o Special wear white lab.

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching: <ul style="list-style-type: none">• The distribution of questionnaires to students at the end of the chapter for a special assessment of the decision.• Sample of students enrolled in an interview scheduled to take their opinions.• Student evaluation electronically organizing by the University
2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor : <ul style="list-style-type: none">• Through Model Course Evaluation• Annual reports prepared by the Management Section• Self-evaluation of the program• External audit• Assess the visiting professors
3 Processes for Improvement of Teaching : <ul style="list-style-type: none">• Taking the recommendations of the internal and external audit results, especially with the course.• Guidance Commission study plans and schedules on the course• Section management guidance on the performance of a faculty member based on direct observation.
4. Processes for Verifying Standards of Student Achievement <ul style="list-style-type: none">• Review papers that have been corrected by the professor scheduled and another member of the section• Collective correction by faculty members of the department.• Review a sample of pamphlets corrected by an especial committee in the section.
5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement :





- Interview scheduled to similar courses made in similar sections.
- Review scheduled characterization and vocabulary on a regular basis by a committee study plans and schedules
- Update learning resources for the course to make sure keep pace of developments in the field.
- Statistical results to evaluate students with the decision and benefit from the results in the improvement and development course.

Course Specification Approved
Department Official Meeting No (6) Date 30 / 11 / 1433 H

Course's Coordinator

Name : Dr EnasShaban Ahmed
Signature :
Date : 12/ 4 / 1437 H

Department Head

Name : Dr Mona Makkeia
Signature :
Date : .../ ... / H

