



# Course Specifications

Muharram 1437 H

Institution:	Majmaah University
Academic Department :	Biology
Programme :	Biology
Course :	Virology
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 :	Virology	Course Code:	BOT,326
2. Credit hours :	1hr		
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 :	6 <sup>TH</sup>		
7 - Pre-requisites for this course (if any) :	• non		
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?	10 %
D - e-learning	<input type="checkbox"/>	What percentage?	30 %
E - Correspondence	<input type="checkbox"/>	What percentage?	..... %
F - Other	<input type="checkbox"/>	What percentage?	.....%
Comments :	.....		

## B Objectives

<b>What is the main purpose for this course?</b> To educate the student the general properties of viruses including their structures, classification, multiplication and parasitism of Virus on Human, animals and plants.
<b>Briefly describe any plans for developing and improving the course that are being implemented :</b> Power Point program. Recent research in Virology.

## C. Course Description

### 1. Topics to be Covered





List of Topics	No. of Weeks	Contact Hours
1-Introduction to Virology, general characters of virus	2	2
2-Chemical Structure of Virus.	1	1
3- Virus Classification.	1	1
4-Relation between Virus and other organisms.	1	1
Mid-term exam 1+Feedback	1	0.5
5- Parasitism of Virus on Human, animals and plants.	3	3
Mid-term exam 2+Feedback	1	0.5
6- The process of Viral infection and Multiplication	1	1
7- Purification of Viruses.	1	1
8- Examples on Human ,Animal and Plant Viruses.	3	3

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

	Credit	Contact Hours			Self-Study	Other	Total
		Lecture	Laboratory	Practical			
NCAAA	1ch	14	-	-	-	-	14
ECTS	1.5 cp	14	-	-	20	10	44

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

1hr
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## 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
<b>1.0</b>	<b>Knowledge</b>		
1.1.1	Describe the chemical structure and properties of virus	Self-Learning	Homework
1.2.1	Outline the classification of viruses through the modes of transmission, pathogenesis and control of viral diseases	Lectures	Exams
<b>2.0</b>	<b>Cognitive Skills</b>		
2.1.1	Interpret the results of plant and animal viral diseases.	Solve-problems	Homework
2.2.1	Investigate the clinical diagnosis of viruses.	Cooperative learning	Exams
<b>3.0</b>	<b>Interpersonal Skills &amp; Responsibility</b>		
3.2.1	work in a team .	Cooperative Learning	Evaluation of Duties.
3.3.1	discuss results of work in groups.	Activities	.....
<b>4.0</b>	<b>Communication, Information Technology, Numerical</b>		
4.2.1	Able to use IT	Self-learning Individual and group	evaluation E-learning duties





	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
		researches	
<b>5.0</b>	<b>Psychomotor</b>		
<b>5.1</b>	none	none	none

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

	Assessment task	Week Due	Proportion of Total Assessment
<b>1</b>	1 <sup>st</sup> semester exam	6 <sup>th</sup>	15
<b>2</b>	2 <sup>nd</sup> semester exam	10 <sup>th</sup>	15
<b>3</b>	Activities	weekly	10
<b>6</b>	Final exam	17-19 <sup>th</sup>	60





## D. Student Academic Counseling and Support

Dr. Amal EL-Sayed Abd-ELHady  
e-mail: : [a.elhady@mu.edu.sa](mailto:a.elhady@mu.edu.sa)  
office hours: 6 hrs per week.

## E. Learning Resources

### 1. List Required Textbooks :

- Virology(2006):Hussein, M.H .King Saud University.Press.

### 2. List Essential References Materials :

- Principles of Virology: Molecular Biology, Pathogenesis and Control, 1st ed., 2000, Flint, Enquist, Krug, Racaniello and Skalka ASM Press. 2. Essential Principles and Applications (2007) Carter J., and Saunders V. Virology:. 1 edition. Wiley; 382pages.

### 3. List Recommended Textbooks and Reference Material :

- Introduction to Modern Virology, 6th ed, 2007, Nigel Dimmock, Blackwell publishing Journal of Virology.

### 4. List Electronic Materials :

<http://www.virologyj.com/> <http://www.tulane.edu/~dmsander/garryfavweb.html>  
<http://www.yk.rim.or.jp/~aisoai/soft.html> <http://www.bioprotocol.com/protocolstools/index.jhtml>

### 5. Other learning material :

- non

## F. Facilities Required

### 1. Accommodation

- classroom with the capacity of maximum 25 students is required. (available).

### 2. Computing resources

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

### 3. Other resources

- non

## 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 Virology.
- Supply the library with the most recent references( text book, journals)
- Internet connection in the classroom , 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**

**Department Head**

**Name :** Amal El-sayed Abd-Elhady

**Name :** .....

**Signature :** Amal El-sayed Abd-Elhady.

**Signature :** .....

**Date :** 12/ 4 / 1437 H

**Date :7** / / H



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



## A. Course Identification and General Information

1 - Course title :	Applied Genetics	Course Code:	BOT 325
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 :	sixth		
7 - Pre-requisites for this course (if any) :	<ul style="list-style-type: none"> <li>• <b>BIO 223</b></li> </ul>		
8 - Co-requisites for this course (if any) :	<ul style="list-style-type: none"> <li>• .....</li> </ul>		
9 - Location if not on main campus :	( ..... )		
10 - Mode of Instruction (mark all that apply)			
A - Traditional classroom	<input checked="" type="checkbox"/>	What percentage?	<b>90 %</b>
B - Blended (traditional and online)	<input type="checkbox"/>	What percentage?	..... %
D - e-learning	<input checked="" type="checkbox"/>	What percentage?	<b>10 %</b>
E - Correspondence	<input type="checkbox"/>	What percentage?	..... %
F - Other	<input type="checkbox"/>	What percentage?	..... %
Comments :	.....		

## B Objectives

<p>What is the main purpose for this course?</p> <p>Give the student basic information about the qualities and quantitative methods of measurement and their relevance to humans, give some examples of inheriting some human diseases in this manner, where the behavior of genes in different qualities simple behavior in quantitative traits that are in different groups of organisms.</p> <p>Briefly describe any plans for developing and improving the course that are being implemented :</p> <ol style="list-style-type: none"> <li>1- Use online scientific databases .</li> <li>2- Use interactive presentations</li> <li>3- Benefit of recent research in the field of study.</li> <li>4- e- learning</li> <li>5- communicate with scientists at the local level and the international</li> </ol>
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## C. Course Description

### 1. Topics to be Covered

List of Topics	No. of Weeks	Contact Hours
Quantitative and qualitative characters and the methods for analyzing	1	2
Inbreeding, outbreeding, genetic results on different types of matings and hybrid vigor	1	2
Heritability and selection and its effects on qualitative and quantitative characters	1	2
Hardy -Weinberg law	1	2
Infertility types and its importance in plant breeding	2	4
Mid-term exam 1+ feedback	1	1
foundations to improve plant genetic	2	4
Using mutations to improve the production of antibiotics , crop and animal production and plant genotypes banks	1	2
Mid-term exam 2+ feedback	1	1
genetics applications for human well-being	1	2
Genetic counseling and treatment of genetic disease	1	2
Foundations and applications of biotechnology in the agricultural and environmental purposes	1	2
Bioinformatics	1	2

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

	Credit	Contact Hours			Self-Study	Other	Total
		Lecture	Laboratory	Practical			
NCAAA	2 ch	28	0	-	-	-	28
ECTS	2.9 cp	28	0	-	41	15	84

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

2 hrs.

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
<b>1.0</b>	<b>Knowledge</b>		
1.1.1	Determine genetic inbreeding and outbreeding and hybrid vigor results.	lectures	Weekly activities through E-Learning Activity
1.2.1	Explains the types of infertility and its importance in plant breeding.	Lectures and Discussions through D2L	Exams and electronic quizzes
1.3.1	Display the foundations of biotechnology and how it is used for human well-being	Research in Databases	Research in groups and individual
<b>2.0</b>	<b>Cognitive Skills</b>		
2.1.1	Evaluate the importance of genetic engineering to human life and the environment	Lectures and Discussions	Assessment of assignments and tests.
2.2.1	Recommend genetic counseling to avoid the possibility of a genetic defect in the family.	Cooperative learning	Class discussions
2.3.1	Use bioinformatics to collect data about DNA, RNA, and proteins	Research and survey	written exams
<b>3.0</b>	<b>Interpersonal Skills &amp; Responsibility</b>		
3.4	Know well self-learning skills and her responsibilities.	E-learning D2L	Use D2L student Progress
<b>4.0</b>	<b>Communication, Information Technology, Numerical</b>		
4.1.1	Use biological databases to provide structural and functional analysis of molecular biology.	Research and survey	Provide presentations and give the student the feedback
<b>5.0</b>	<b>Psychomotor</b>		
	none		

### 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	<b>1<sup>st</sup> midterm exam</b>	7 <sup>th</sup> week	15%
3	<b>2<sup>nd</sup> midterm exam</b>	11 <sup>th</sup> week	15%
4	<b>Final written exam</b>	17 <sup>th</sup> -19 <sup>th</sup> week	60%





## D. Student Academic Counseling and Support

**Dr. Amira M. Elmaghawry**

E-mail: [a.almaghawry@mu.edu.sa](mailto:a.almaghawry@mu.edu.sa)

Office hours: According to schedule

## E. Learning Resources

### 1. List Required Textbooks :

- **Biotechnology: fundamentals and applications Dr. Hassan Younis, 1<sup>st</sup> edition, 2006 - National Library and Documentation.**
- **Basics of genetics Dr. Abdel-Azim Tantawy, National Library, 1976**

### 2. List Essential References Materials :

- **Biotechnology: fundamentals and applications Dr. Hassan Younis, 1<sup>st</sup> edition, 2006 - National Library and Documentation.**
- **Basics of genetics Dr. Abdel-Azim Tantawy, National Library, 1976**
- **Genomics and Bioinformatics, Ahmed Elmaitany, El- Bostan Knowledge Library, 2006.**

### 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 :

- **Use of information technology devices (computer, I-pad, mobile phone)**
- .....
- .....





## **F. Facilities Required**

<b>1. Accommodation</b> <ul style="list-style-type: none"><li>• <b>Buildings (lecture rooms, ... etc.)</b></li><li>• <b>Modern rooms equipped with modern technologies for education and various display devices.</b></li><li>• <b>Number of seats enough for all the students of this level</b></li></ul>
<b>2. Computing resources</b> <ul style="list-style-type: none"><li>• <b>one computer and smart blackboard or electronic platforms.</b></li><li>• .....</li></ul>
<b>3. Other resources</b> <ul style="list-style-type: none"><li>• <b>Learning Objects.</b></li><li>• .....</li></ul>

## **G Course Evaluation and Improvement Processes**

<b>1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching:</b> <ul style="list-style-type: none"><li>• <b>Viewing students evaluation electronically.</b></li><li>• <b>Analyze the grades of students in the tests statistically and interpreted.</b></li><li>• <b>The number of students posts during the explanation is an indication of the effectiveness of teaching.</b></li></ul>
<b>2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor :</b> <ul style="list-style-type: none"><li>• <b>Assessment of the Course.</b></li><li>• <b>Periodic Review of the course specification model.</b></li><li>• <b>Review from external evaluators.</b></li><li>• <b>sufficiently annual report prepared by the head of the department.</b></li></ul>
<b>3 Processes for Improvement of Teaching :</b> <ul style="list-style-type: none"><li>• <b>Use 25% of the course as e-learning activities.</b></li><li>• .....</li></ul>
<b>4. Processes for Verifying Standards of Student Achievement</b> <ul style="list-style-type: none"><li>• <b>Review papers that have been corrected by the professor ; another member of the department and an external review member for a sample of answer notebook.</b></li></ul>
<b>5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement :</b> <ul style="list-style-type: none"><li>• <b>faculty League meeting to determine the strengths and weaknesses.</b></li><li>• <b>Access to e learning decision .</b></li></ul>





- Develop study plans in the light of contemporary directions and needs of the community.
- Assessment of course.
- Review the study plans.
- The views of students about the scheduled through questionnaires reflect the views on the scheduled topics and way 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:	..... College of Education.....
Academic Department :	.....Biology.....
Programme :	.....Biology.....
Course :	..... Applied Microbiology.....
Course Coordinator :	..... Dr Enas Shaban Ahmed
Programme Coordinator :	.....Dr Mona Makkeia.....
Course Specification Approved Date :	30/ 11/ 1433 H

#### A. Course Identification and General Information

1 - Course title :	Applied Microbiology	Course Code:	..BOT 323
2. Credit hours :	2 Hours ( 1 h lecturer + 2 h practical)		
3 - Program(s) in which the course is offered:	Biology.		
4 – Course Language :	..... Arabic.		
5 - Name of faculty member responsible for the course:	Dr Enas Shaban Ahmed		
6 - Level/year at which this course is offered :	Sixth level		
7 - Pre-requisites for this course (if any) :	• .....BOT 222.....		
8 - Co-requisites for this course (if any) :			





• .....Not required.....

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- Recognize the existence of microorganisms in various environmental
- 2- Demonstrate the economic importance of microorganisms.
- 3- Distinguish between beneficial microbes and microbes that cause diseases of the human, animal and plant.
- 4- Understand the role of genetic engineering in applied aspects of microorganisms.

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

- 1- Take advantage of the Web sites associated with the topics scheduled.
- 2- Use of Power point in teaching.
- 3- Use the Internet to update course content.
- 4- Spare more working hours on e-learning, where some lectures and short exams will be delivered online.
- 5- Work on the exchange of experiences between the university and scientific centers of the relevant.

**C. Course Description**

1. Topics to be covered

List of Topics	No. of Weeks	Contact Hours
1- The existence of microorganisms in various environmental media + Food Microbiology	4	4
2- Food Microbiology and Dairy Microbiology.	2	2
Mid-term exam1+ feedback	1	0.5
3- Industrial Microbiology.	2	2
Mid-term exam2+ feedback	1	0.5
4- Soil microbiology.	3	3
5- Water microbiology.	1	1
6- Medical microbiology	1	1
Practical Part		
1- Isolate microbes from certain foods such as flour, cereals, milk powder	3	6
2- Identification of microbial lactic acid in yogurt to prepare sliced them with cultivation curd	3	6
3- Test the sensitivity of microbes to antibiotics	2	4
4- Study the types of corruption for canned food and dairy products and vegetables and fruit.	2	4







5- Study the effect of preservatives on the growth of microbes	2	4
6- Extracting protein from yeast	2	4
7- General Review	1	2

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	3.8 cp	14	30	-	58	10	112

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

2 hours
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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	Identify different types of micro-organisms and the environments in which they live.	Brain storming and E-learning	Study papers Written tests discussions
1.2.1	Classify various microorganisms activities in the field of industry, soil and water	Problem solving and discussions	Study papers Written tests discussions
2.0	Cognitive Skills		
2.1.1	Classify antibiotic resistance bacteria	Problem solving and discussions E-learning	Worksheets reports Note Research papers written tests and discussions
2.2.1	Differentiate between economic important of microorganism .	Problem solving and discussions E-learning.	Worksheets reports Note Research papers written tests Discussions
3.0	Interpersonal Skills & Responsibility		
3.2.1	Interact collective discussion and take responsibility for self-learning.	Problem solving using	Notes





	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
		internet- E- learning	Presentations Practical tests
4.0	Communication, Information Technology, Numerical		
4.1.1	Learn how to search for an information using the library or internet resources and Working in a group and learn time management.	Problem solving using internet.	Notes Presentations Practical tests
5.0	Psychomotor		
5.1.1	Apply different experiments related to the course and evaluate the results	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	7 <sup>th</sup> week.	10%
2	Second term exam	10 <sup>th</sup> week	.....10%.....
3	Home work activities	During semester	10%
4	Practical exam	16th week	20%
5	Final exam	17-19th week	50%

#### D. Student Academic Counseling and Support

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

#### E. Learning Resources

1. List Required Textbooks :
<ul style="list-style-type: none"> <li>● Sawy et al. (1996): Applied Microbiology Academy Library Egypt.</li> <li>● (Alexander, N. Glazer; Hiroshi Nikaido; (W.H1995)</li> <li>● Microbial Biotechnology. Freeman and company</li> </ul>
2. List Essential References Materials :
<ul style="list-style-type: none"> <li>● Bergey's Manual of determinative Bacteriology (1995( Microbiology (Cambridge Ed. 1995.</li> <li>● Sawy et al. (1996): Applied Microbiology Academy Library Egypt</li> </ul>
3. List Recommended Textbooks and Reference Material :
<ul style="list-style-type: none"> <li>● Shaykhli and Jawdat Sami (1994): laboratory experiments microbes in food and dairy Riyadh University.</li> <li>● Shaykhli and others (1995): knowledge of the food and dairy Riyadh University microbes.</li> <li>● Glazer, A. and Nikaido ( 1995 )</li> </ul>





- Sikyta,B. (1995 ): Techniques in Applied Microbiology. Elsevier, Science. Amsterdam.

4. List Electronic Materials :

- Web sites related to the course.

5. Other learning material :

- Data show and power point
- E- learning D2L
- .....

### F. Facilities Required

1. Accommodation

- buildings (lecture halls, laboratories, the ...)
- 50 fixed seat hall
- Microbiology Laboratory (special lab for bacteria)

2. Computing resources

- a fixed Hall of teaching computer connected smart Balsborh and projectors available.

3. Other resources

- isolation room
- Autoclave – oven – incubator
- 4 sterilization Mechanical Equipment (Seitz filter, cellulose filter)
- monitors labs- Petri dishes
- pigments variety- centrifuges
- PH meter – glasses for lab- microscopes

### G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching:

- The distribution of questionnaires given to students from decision with multiple axes school
- Analysis of scores of students in the tests statistically and interpreted.
- The number of posts the students during the explanation is an indication of the effectiveness of teaching

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

- Through model Course Evaluation
- Annual reports prepared by the Management Section

3. Processes for Improvement of Teaching :

- The application of modern technologies in education
- e-learning D2L
- to benefit from the expertise of accredited colleges debate

4. Processes for Verifying Standards of Student Achievement

- Review papers that have been corrected by the professor scheduled and another member of the section
- Review a sample of pamphlets answered by an external member

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





- Regular meeting of the members of the teaching staff based on the course to enhance the strengths and address weaknesses
- Taking views of students about the scheduled topics and teaching methods available through objective questionnaires
- Review study plans and developed according to modern data
- Course evaluation through questionnaires.

Course Specification Approved  
Department Official Meeting No ( 6 ) Date 30 / 11 / 14 H

**Course's Coordinator**

Name : Dr Enas Shaban Ahmed  
Signature : .....  
Date : 12/ 4 / 1437 H

**Department Head**

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



<b>Institution:</b>	Education Collage
<b>Academic Department :</b>	Biology
<b>Programme :</b>	Biology
<b>Course :</b>	Comparative animal anatomy
<b>Course Coordinator :</b>	Dr. Zeinab Mohammed Saleh Abdelmoein
<b>Programme Coordinator :</b>	Dr. Mona Makkie
<b>Course Specification Approved Date :</b>	30/ 11 / 1433 H





## A. Course Identification and General Information

1 - Course title :	Comparative animal anatomy	Course Code: ZOO 322
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:	Dr. Zeinab Mohammed Saleh Abdelmoein	
6 - Level/year at which this course is offered :	sixth	
7 - Pre-requisites for this course (if any) :	<ul style="list-style-type: none"> <li>Chordates ZOO 312</li> </ul>	
8 - Co-requisites for this course (if any) :	<ul style="list-style-type: none"> <li>No</li> </ul>	
9 - Location if not on main campus :	No	
10 - Mode of Instruction (mark all that apply)		
A - Traditional classroom	<input type="checkbox"/> yes	What percentage? 50. %
B - Blended (traditional and online)	<input type="checkbox"/> Home work	What percentage? 5. %
D - e-learning	<input type="checkbox"/> D2l	What percentage? 15 %
E - Correspondence	<input type="checkbox"/>	What percentage? ..... %
F - Other	<input type="checkbox"/> Other- lab	What percentage? 30 %
Comments :	.....	

## B Objectives

<p><b>What is the main purpose for this course?</b></p> <p>The expected purpose at the end of course study is the student is able to compare between the structure of skeletal , circulatory and nervous systems in each of the following animals : amphioxus , lamprey ,dog fish, tilapia , neut sakankoor, pigeon, rabbit and communicate effectively and take responsibility for her education</p>
<p><b>Briefly describe any plans for developing and improving the course that are being implemented</b></p> <p>1- The provision of modern references 2- The application of D2L</p>

## C. Course Description





## 1. Topics to be Covered (Theoretical +Practical)

List of Topics	No. of Weeks	Contact Hours
1- Comparative anatomical study on the internal skeletal system(skull- notochord -vertebral column-pelvic and pectoral girdle and bones of fore and hind limbs) of some pro Chordata and vertebrates	5	20
2- Mid-term 1 +feedback	1	3
3- Comparative anatomical study on the circulatory system( heart, arterial supply and venous drainage ) of amphioxus as pro Chordata and lamprey as cyclostomatous in addition to some vertebrates like, tilapia and dog fish, Neot from amphibians, sakankoor (Scincus) from reptiles, pigeon from birds, and rabbit from mammal	4	16
4- Mid-term 2 +feedback	1	3
5- Comparative anatomical study on the nervous system(brain- spinal cord-cranial nerves and sense organs) of the before mentioned chordate animals	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	4.6 cp	28	30	-	66	10	134

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

3-4hrs.

## 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
<b>1.0</b>	<b>Knowledge</b>		
<b>1.1.1</b>	Describe the characteristics of the internal skeleton , circulatory system and nervous system in some proto chordates and vertebrates.	Lecture	exam
<b>2.0</b>	<b>Cognitive Skills</b>		
<b>2.1.1</b>	Explain the structure of the internal skeleton , circulatory system and nervous system in different classes of phylum chordates	Stir mind	exam
<b>2.3.1</b>	Conclude the reasons for the differences in the composition of the body's systems in chordates explaining their suitability for different functions	Lecture Stir mind	exam





	<b>NQF Learning Domains And Course Learning Outcomes</b>	<b>Course Teaching Strategies</b>	<b>Course Assessment Methods</b>
<b>3.0</b>	<b>Interpersonal Skills &amp; Responsibility</b>		
<b>3.4.1</b>	Be responsible for self-learning and continuing personal and professional development with participating in group discussions and accepting the opinions of others	Discussion and dialogue	Assessment of Discussions at course forum on the D2L
<b>4.0</b>	<b>Communication, Information Technology, Numerical</b>		
<b>4.2.1</b>	Perfects the skill of using modern technology to increase the knowledge and preparation of research and homework	Research and survey	Assessment of research paper and dropbox of D2L
<b>5.0</b>	<b>Psychomotor</b>		
<b>5.1.1</b>	Mastered the use of laboratory tools and equipment in dissection of lab animals correctly	Lab Strategy	lab manual practical exam
<b>5.2.1</b>	Perfect testing of the specimens and slides with drawing and writing a comment on the results		

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

	<b>Assessment task</b>	<b>Week Due</b>	<b>Proportion of Total Assessment</b>
<b>1</b>	Homework	Weekly	5%
<b>2</b>	Research and survey	First - 13th	5%
<b>3</b>	First and second midterm	6th , 11th	20%
<b>4</b>	Final practical exam	16 <sup>th</sup>	20%
<b>5</b>	Final theoretical exam	17 <sup>th</sup> -19 <sup>th</sup> week	50%





## D. Student Academic Counseling and Support

E mail: [zm.saleh@hotmail.com](mailto:zm.saleh@hotmail.com) [z.abdelmoein@mu.edu.sa](mailto:z.abdelmoein@mu.edu.sa)

Mobile: 0506627479

Library hours 2 hours

Academic Counseling 3 hours

## E. Learning Resources

### 1. List Required Textbooks :

- Web sites related to the subjects of course
- .....

### 2. List Essential References Materials :

- 1- التشريح المقارن للفقاريات - عبد الرحمن ، منى فريد المكتبة الأكاديمية - القاهرة (١٩٩٢م)
- 2- علم الحيوان العام - خليل ، فؤاد و محمد رشاد الطوبى و احمد حماد الحسيني و محمود حافظ و عطا الله خلف الدويني الطبعة السادسة - مكتبة الانجلو المصرية - القاهرة (١٩٩٦م)
- 3- الفقاريات - عبد الرحمن ، منى فريد المكتبة الأكاديمية - القاهرة (١٩٩٢م)
- 4- بيولوجية الحيوان العملية الجزء الثاني الحسيني ، احمد حماد و إميل شنودة دميان أخر طبعة دار المعارف - القاهرة (٢٠٠٢م)
- 5- التشريح المقارن للفقاريات - ترجمة السيد صلاح الدين النورس كنت ج. وزارة التعليم العالي و البحث العالي - جامعة الموصل (١٩٨٥م)

### 3. List Recommended Textbooks and Reference Material :

- التشريح المقارن للفقاريات - عبد الرحمن ، منى فريد المكتبة الأكاديمية - القاهرة (١٩٩٢م)
- علم الحيوان العام - خليل ، فؤاد و محمد رشاد الطوبى و احمد حماد الحسيني و محمود حافظ و عطا الله خلف الدويني الطبعة السادسة - مكتبة الانجلو المصرية - القاهرة (١٩٩٦م)
- بيولوجية الحيوان العملية الجزء الثاني الحسيني ، احمد حماد و إميل شنودة دميان أخر طبعة دار المعارف القاهرة (٢٠٠٢م)

### 4. List Electronic Materials :

- Web sites related to the subjects of course
- 
- 

### 5. Other learning material :

- word
- Power point

## F. Facilities Required

### 1. Accommodation

- lecture halls, laboratories equipped with a sufficient number of fixed seats
- Provide anti-virus program to electronic platform

### 2. Computing resources

- Provide good Internet network
- Computer in the lab



### 3. Other resources

- Provide microtomes for preparation of slides
- o Provide dissecting tools of high quality
- o microscopes equipped with cameras
- o Provide a computer electronic platform in each lab
- o provide a good Internet network

## G Course Evaluation and Improvement Processes

### 1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching:

- o The application of questionnaires to assess the students about the quality of lecture halls and laboratories
- 

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

- Application of questionnaires to assess students courses at the end of the course.
- Preparation of the annual reports of the department

### 3 Processes for Improvement of Teaching :

- Application D2L and distance learning
- Provision of modern literature and scientific journals.
- Development of faculty members skills through the provision of training courses
- providing the tools and apparatus necessary for application of the practical part of the course

### 4. Processes for Verifying Standards of Student Achievement

- Review papers that have been corrected by the professor article by another member of the department and a member of the external review of a sample of paper answer

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

- Regular meeting of members staff of the department to find out the points of strengths and weaknesses
- Assessment of Courses
- Review of Study Plans
- Analysis the student evaluation of topics and teaching method of courses
- Develop study plans in the light of the needs of society
- Continuous viewing on websites

## Course Specification Approved

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

Course's Coordinator

Department Head

Name Dr. Zeinab Mohammed Saleh Abdelmoein

Name : Dr. Mona Makkie.

Signature : .....

Signature : .....

Date : 7/ 4 / 1437 H

Date : .... / ... / ..... H





Institution:	College of Education
Academic Department :	Biology Department
Programme :	Biology Program
Course :	Entomology II (ZOO321)
Course Coordinator :	Prof. Dr. Hala Ali Abd- El Salam Saleh
Programme Coordinator :	Dr. Mona bdul Latif Makkie
Course Specification Approved Date :	<b>30/ 11 / 1433 H</b>





## A. Course Identification and General Information

1 - Course title :	Entomology 2	Course Code: (ZOO321)
2. Credit hours :	3hrs (2ths+1p)	
3 - Program(s) in which the course is offered:	Biology Program	
4 – Course Language :	Arabic language	
5 - Name of faculty member responsible for the course:	Prof. Dr. Hala Ali ABD-El Salam Saleh.	
6 - Level/year at which this course is offered :	Sixth level	
7 - Pre-requisites for this course (if any) :	<ul style="list-style-type: none"> <li>ZOO 311</li> </ul>	
8 - Co-requisites for this course (if any) :	-	
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 checked="" type="checkbox"/>	What percentage? 5 %
D - e-learning	<input checked="" type="checkbox"/>	What percentage? 5 %
E - Correspondence	<input type="checkbox"/>	What percentage? -
F - Other	<input checked="" type="checkbox"/>	What percentage? 30 %
Comments :	Other : includes teaching the practical part, which deals with practical lessons and the application the theoretical part	

## B Objectives

<p><b>What is the main purpose for this course?</b></p> <p>The student recognizes the internal structure of different insects (including all the internal organs of insects) and their adaptations with a simplified study of the postembryonic development as well as insects environment</p>
<p><b>Briefly describe any plans for developing and improving the course that are being implemented :</b></p> <p>Updating the course materials based on the latest developments in the field of specialization for example( updating the course presentation, pictures, videos and lab.</p>



## C. Course Description

### 1. Topics to be Covered

List of Topics	No. of Weeks	Contact Hours
Digestive system, alimentary canal, digestion process, feeding requirements and feeding habits	2	8
Excretory organs and excretion process	1	4
Circulatory system, blood vessel, blood sinuses, blood circulation, blood and its cells and blood clotting	1	4
Respiratory system, structure of tracheal system, respiration, terrestrial insects, aquatic insects, and parasitic insects	2	8
Mid-term 1 + Feed back	1	3
Reproductive system: structure, types of reproduction, Embryogenesis, postembryonic development included metamorphosis	2	8
-Nervous system: Division, nerve conduction, sense organs: mechanoreceptors, chemoreceptors, auditory organs and visual organs	2	8
Mid-term 2 + Feed back	1	3
-Muscular system: types of muscle and structure	1	4
-Glands (organs of secretion), types and their secretions	1	4
A brief study of the factors that affect the presence and the spread of insects, biotic factors and abiotic factors	1	4

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

System	Credit	Contact Hours			Self-Study	Others	Total
		Lecture	Laboratory	Practical			
NCAAA	3 ch	28	30	-	-	-	58
ECTS	4.4 cp	28	30	-	60	10	128

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

3 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
<b>1.0</b>	<b>Knowledge</b>		
<b>1.1.1</b>	Describe the mechanism of digestion, excretion, blood circulation, respiration process in different insects with the different adaptations of internal structures	Lecture- -Discussion -E-learning	-Written Exams -Homework
<b>2.0</b>	<b>Cognitive Skills</b>		





	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
2.1.1	Explain the structure of nervous system and mechanism of nervous conduction	Lectures -E-learning	Written Exams - <b>Homework</b>
2.2.1	Compare between reproductive system, types of reproduction and metamorphosis in different insects	-Lectures -Brain storm - Discussion	-Written Exams -Assignments
2.3.1	Explain contraction and relaxation of muscles	Lectures --E-learning	Written Exams
<b>3.0</b>	<b>Interpersonal Skills &amp; Responsibility</b>		
3.1.1	Show an interest with her peers during doing collective research papers and presentation	Cooperative learning	Evaluation of research papers
<b>4.0</b>	<b>Communication, Information Technology, Numerical</b>		
4.1.1	Demonstrate the preparation of presentations and research papers with reaching to useful sites on the Internet to increase knowledge of the contents of the course	Self-Education -E-learning	Evaluation of research papers
<b>5.0</b>	<b>Psychomotor</b>		
5.1.1	Examine the microscopes specimens with identification by drawing and maintaining the laboratory tools by using them in a correct scientific way.	Practical sessions	-Practical exam -lab reports.

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

	Assessment task	Week Due	Proportion of Total Assessment
1	1st Mid-term exam	7th week	10%
2	2nd Mid-term exam	12 <sup>th</sup> week	10%
3	Activities (assignment, homework, reports, continuous evaluation in lab.and others)	During the semester.	10%
4	Practical exam	16 <sup>th</sup> week	20%
5	Final theoretical exam	17-19 <sup>th</sup> week	50%

## D. Student Academic Counseling and Support

- Email : hala.ali2010@yahoo; h.saleh.mu.edu.sa
- There will be a schedule for office hours of each staff declared to the students.
- Private electronic gate teaching university site staff





## E. Learning Resources

### 1. List Required Textbooks :

- Makki bin Abdullah Al Amoudi (2008): fundamentals process in entomology
- . Mahmoud, Abdul Aziz Abdul Rahman, Mahmoud El-Borai and Samir Mohammed Hassan(2007): Invetbrates
- Tnoaha\_ Dela- Howell and others translation Ahmad Latifi Abdul Salam and others(1983): Introduction to biological insects
- Tawfik, Mohammed Fouad(1999): General knowledge of insects.
- Rizk, George Nasrallah(1983): Structure and classification of insects

### 2. List Essential References Materials :

- Dr. Naim Saraf (2009): General insects
- Dr. Badawi, Ibrahim& Ali bin Mohammed Alsuhaibani (1417H): Agricultural insects: structure and internal anatomy
- Dr. Hussein, Ahmed Hammad and tend S. Demian Practical animal biology (Part II and III) latest edition

### 3. List Recommended Textbooks and Reference Material :

- Ruppert,Edward,E. and Robert,D., Barnes, 1994: Invertebrates zoology, 6<sup>th</sup>ed. Stunders College publishing.
- Mahmoud, Abdul Aziz Abdul Rahman and Mahmoud El-Borai(2008): Invertebrates
- Dela- Howell and others(1983): Introduction to the biological diversity of insects.
- Rizk, George Nasrallah(1983): Structure and classification of insects
- German Egyptian Society Journal of entomology.

### 4. List Electronic Materials :

- <http://en.wikipedia.org/wiki/Entomology>
- [http://en.wikipedia.org/wiki/anatomy\\_of\\_insects](http://en.wikipedia.org/wiki/anatomy_of_insects)
- Encyclopædia: invertebrates and Entomology

### 5. Other learning material :

computer-based programs/CD, professional standards or regulations and software

## F. Facilities Required

### 1. Accommodation

- The number of seats in classrooms and lab. is suitable and no need for extra seats.
- Classrooms be equipped with smart board and e-podium and laboratories provided with smart board
- Saving devices such as microscopes in the lab, microscopic specimens and other laboratory requirements

### 2. Computing resources

- The classrooms provided with smart board and e-podium and laboratories provided with smart board

### 3. Other resources

- The lab. is in need to complete set of laboratory requirements





## **G Course Evaluation and Improvement Processes**

### **1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching:**

- Questionnaire to measure student achievement in decision
- Questionnaire to measure the quality of scientific references

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

- Evaluating faculty member by students through the questionnaire.
- Evaluation of the course by students through the distribution of questionnaires at the end of the semester

### **3 Processes for Improvement of Teaching :**

- The provision of modern scientific references and scientific journals the library.
- Provide access to the Internet for students Library.
- Programs and training sessions for faculty members outside official working hours.
- Ensuring Saving facilities and laboratory supplies required for the course

### **4. Processes for Verifying Standards of Student Achievement**

- Check marking by an independent member
- Forming exam committee from the department members to review the course exam.

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

- Regular meetings between students for the positive and negative aspects
- Determine the strengths and weaknesses to overcome disadvantages
- Review and study plans
- The opinions of students and accept constructive criticism.

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

#### **Course's Coordinator**

**Name :** Hala Ali Saleh  
**Signature :** Hala Ali .  
**Date :** 12./ 4 / 1437 H

#### **Department Head**

**Name :** Mona Makkie  
**Signature :** Mona Makkie  
**Date :** 12./ 4 / 1437 H







Institution:	..... College of Education.....
Academic Department :	.....Biology.....
Programme:	.....Biology.....
Course :	Plant growth and differentiation
Course Coordinator :	.....Dr Enas Shaban Ahmed.....
Programme Coordinator :	.....Dr Mona Makkeia.....
Course Specification Approved Date :	30/ 11/ 1433 H

**A. Course Identification and General Information**

1 - Course title :	<b>Plant growth and differentiation.</b>	Course Code:	<b>..BOT 324</b>
2. Credit hours :	<b>3 Hours ( 2 h lecturer + 2 h practical)</b>		
3 - Program(s) in which the course is offered:	<b>Biology.</b>		
4 – Course Language :	<b>..... Arabic.</b>		
5 - Name of faculty member responsible for the course:	<b>Dr Enas Shaban Ahmed.</b>		
6 - Level/year at which this course is offered :	<b>Sixth level</b>		
7 - Pre-requisites for this course (if any) :	<b>• .....BIO 123.....</b>		
8 - Co-requisites for this course (if any) :			





• .....Not required.....

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**

Interpret the interaction between hormones concentration and plant growth  
**Study the application of plant hormones.**

What is the main purpose for this course?

1. Provide students with basic knowledge of growth and development of the plants and factors affecting them.
2. Provide students an overview of different types of plant hormones, their transport and metabolism and mode of action.
3. Interpret plant tropism in response to an environmental stimulus.
4. Recognize the plant tissue culture and the 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. Keep up with the accelerator development in the area through the use of new technologies
4. Advantage of the Web sites associated with the topics scheduled.
5. Use Power point in teaching.
6. Work on the exchange of experiences between the university and scientific centers of the relevant.

**C. Course Description**

1. Topics to be covered

List of Topics	No. of Weeks	Contact Hours
1- Plant developmental stages (from seeds to flowers and fruits)	1	4
2- Natural Growth Regulators (Plant Hormones): Auxins - Gibberellins -Cytokinins - Abscisic acid - Ethylene	1	4
3- The study of Discovery -Structure - Properties - Measurements - Distribution in plants.	1	4
4- Transport and metabolism of plant hormones	1	4
5- Biosynthesis of plant hormones.	1	4
Mid-term Exam1+Feedback	1	3
6- Physiological function of plant hormones : Cell expansion- cell division and differentiated- seed development- senescence- flowering and fruit development	2	8
7- molecular mechanism of hormones action: Signal transduction – functional genomic- transgenic plants	1	4
Mid-term Exam2+Feedback	1	3
8- Application of plant hormones: tissue culture- green house- nursery- agriculture to increase productivity.	2	8





9- Other Biologically Active Compounds and Hypothetical Hormones: Polyamines - Coumarin - Triacontil , brossins - florigen , Vernalin	1	4
10- Synthetic Growth Regulators: Various Classes - Structure -applications and commercial importance.	1	4
11- Free discussion and students activities+ Revision	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	-	60	20	138

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

<b>3 hours</b>
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**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
<b>1.0</b>	<b>Knowledge</b>		
1.1.1	Identify the growth and development of plants and factors affecting them.	Brain storming and E-learning	Study papers Written tests discussions
1.2.1	Recognize hormones and plant growth regulators and its role in plant tissue culture.	Problem solving and discussions	Study papers Written tests discussions
<b>2.0</b>	<b>Cognitive Skills</b>		
2.1.1	Interpret the effect of each type of plant hormones on plant growth and development.	Problem solving and discussions E-learning	Worksheets reports Note Research papers written tests and discussions
2.2.1	Interpret plant tropism in response to an environmental stimulus	Problem solving and discussions E-learning	Worksheets reports Note Research papers written tests and discussions
<b>3.0</b>	<b>Interpersonal Skills &amp; Responsibility</b>		
3.4.1	Learn how to search for an information using the library or internet resources	Problem solving using internet- E-learning	Notes Presentations Practical tests





	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
4.0	Communication, Information Technology, Numerical		
4.2.1	Use modern techniques to search for the required references for work duties	Problem solving using internet.	Notes Presentations Practical tests
5.0	Psychomotor		
5.1.1	Apply different experiments related to plant growth and development and factors affecting them.	Lab strategies	Practical testes and reports
5.2.1	Test students ability to analyze and graph data and find explanations for each experiment	Lab strategies	Practical tests 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 <sup>TH</sup> week	10%
2	Second term exam	10 <sup>TH</sup> week	10%
3	Activities	During semester	10%
4	Practical exam	16 <sup>th</sup> week	20%
5	Final exam	17 <sup>th</sup> -19 <sup>th</sup> week	50%





#### D. Student Academic Counseling and Support

Dr Enas Shaban 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 General Plant Physiology (Part II) - d 0 Mohamed Ben Omar reform, d 0 Ali bin Abdul Mohsen Crescent - 0 Dr. Mohammed bin Hamad Al Wahaibi - scientific publishing and printing presses - King Saud University, Riyadh in 1427.
- o plant tissue culture of perspective (physiological, genetic and applied development) -m 0 Ihab Ismail Omar Barghouti - First Edition - Dar thought, publishing and distribution - Amman in 1997

##### 2. List of the Essential References Materials :

- o General Plant Physiology (Part II) - d 0 Mohamed Ben Omar reform, d 0 Ali bin Abdul Mohsen Crescent - 0 Dr. Mohammed bin Hamad Al Wahaibi - scientific publishing and printing presses - King Saud University, Riyadh in 1427.
- o plant tissue culture of perspective (physiological, genetic and applied development) -m 0 Ihab Ismail Omar Barghouti - First Edition - Dar thought, publishing and distribution - Amman in 1997

##### 3. List of the Recommended Textbooks and Reference Material :

1. photosynthesis and growth regulators conformation - reform - Mohammad Omar - House Riham, Jeddah 1998.
2. Physiology of growth and excellence, practical - reform - Mohammad Omar - Deanship of Library Affairs, King Saud University - Riyadh in 1990.
- 3-Plant Physiology general reform of Mohammad Omar, Crescent Ali Abdul Mohsen, Mohammed Hamad Al Wahaibi Academic Publishing and Press, King Saud University, Riyadh 2002.

##### 4. List of the Electronic Materials :

Web sites related to course.

##### 5. Other learning materials :

- Data show and power point
- E- learning D2L.

#### F. Facilities Required

##### 1. Accommodation

- buildings (lecture halls, laboratories, the ...)
- 50 fixed seat hall
- physiology Laboratory (special lab for plant physiology)

##### 2. Computing resources

- Library

##### 3. Other resources

- o A fixed computer connected smart board and projector available for each Hall of teaching.
- o Laboratory tools for various experiments.
- o Chemicals to prepare solutions of different concentrations used during testing.
- o plants and equipped with a private commensurate with the requirements for the course
- o Slice to plant samples and other to plant clips.
- o Optical microscopes.
- o Ordinary Whiteboard.

#### G Course Evaluation and Improvement Processes





1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching:
<ul style="list-style-type: none"><li>• The distribution of questionnaires given to students from the course with multiple axes school</li><li>• Analysis of scores of students in the tests statistically and interpreted.</li><li>• The number of the students' posts during the explanation is an indication of the effectiveness of teaching.</li><li>• Student evaluation electronically organizing by the University</li></ul>
2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor :
<ul style="list-style-type: none"><li>• Through Model Course Evaluation</li><li>• Annual reports prepared by the Management Section</li><li>• self-evaluation of the program</li><li>• external audit</li><li>• assess the visiting professors</li></ul>
3 Processes for Improvement of Teaching :
<ul style="list-style-type: none"><li>• The application of modern technologies in education</li><li>• e-learning</li><li>• to benefit from the expertise of accredited colleges debate</li><li>• guidance Commission study plans and schedules on the course</li><li>• Section management guidance on the performance of a faculty member based on direct observation.</li></ul>
4. Processes for Verifying Standards of Student Achievement
<ul style="list-style-type: none"><li>• Review papers that have been corrected by the professor scheduled and another member of the section</li><li>• Review a sample of pamphlets answered by an external member</li><li>• The hiring of external proofreaders similar to the decisions of the sections outside the university to review a sample of papers answers that have been corrected by a faculty member.</li><li>• Collective correction by faculty members of the department</li></ul>
5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement :
<ul style="list-style-type: none"><li>• Regular meeting of the members of the teaching staff based on the course to enhance the strengths and address weaknesses</li><li>• Taking views of students about the scheduled topics and teaching methods available through objective questionnaires</li><li>• Review study plans and to develop them according to modern data</li><li>• Course evaluation through questionnaires</li><li>• Interview scheduled to similar decisions made in similar sections.</li><li>• review scheduled characterization and vocabulary on a regular basis by a committee study plans and schedules</li><li>• Update learning resources for the decision to make sure keep pace of developments in the field.</li><li>• Statistical results to evaluate students with the decision and benefit from the results in the improvement and development course.</li></ul>

Course Specification Approved  
Department Official Meeting No (6) Date 30 / 11 / 14 H

**Course's Coordinator**

Name : DrEnasShaban Ahmed  
Signature : .....  
Date : 12 / 4/1437 H

**Department Head**

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



