



Course Specifications

Muharram 1437 H

Institution:	Majmaah University
Academic Department :	Biology
Programme :	Biology
Course :	Animal Taxonomy
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 :	Animal Taxonomy	Course Code:	ZOO,121
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 :	2nd		
7 - Pre-requisites for this course (if any) :	<ul style="list-style-type: none"> • non 		
8 - Co-requisites for this course (if any) :	<ul style="list-style-type: none"> • 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

<p>What is the main purpose for this course?</p> <p>For students undertaking this course, the aims are to:</p> <p>Identify , nomenclature , describe and classify different animals.</p> <p>Briefly describe any plans for developing and improving the course that are being implemented :</p> <p>Power Point program.</p> <p>Recent research in Taxonomy.</p> <p>Connection with professionals in Zoology.</p>
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C. Course Description

1. Topics to be Covered (Theoretical+Practical)

List of Topics	No. of Weeks	Contact Hours
Introduction to Taxonomy. - Principles of Animal Taxonomy. - History of Taxonomy. - Scientific Classification of Organisms (Basic Characters of Classification), Biological Nomenclature & concepts of Species.	2	8
Classification Scheme Sub-Kingdom: Protista (Protozoa). Classification, Basic Characters. - Examples of Protozoan Animals: <i>Amoeba</i> , <i>Euglena</i> and <i>Vorticella</i> . Sub-Kingdom: Parazoa Porifera (sponge). Basic Characters, Examples, Types	3	12
Mid-term1+ Feedback	1	3
Sub-Kingdom: Eumetazoa Diploplastic -Phylum: Coelenterata General characters of, Classification, Examples: <i>Hydra</i> , <i>Obelia</i> , <i>Aurelia</i> , <i>Alcyonium</i> & <i>Stony corals</i> . -	4	16
Mid-term2+ Feedback	1	3
Triploplastic animals -Phylum: Platyhelminthes, Basic characters, Classification, Examples: <i>Planaria</i> . (Acoelomates) - Phylum: Nematodes, Basic Characters & Classification, Examples: <i>Ascaris</i> . (Pseudocoelomates)	3	12
Phylum: Annelida: Basic Characters, Classification, Examples: <i>Allolobophora</i> , <i>Neries</i> , & <i>Hirudo</i> . (Coelomates).	1	4

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

	Credit	Contact Hours			Self-Study	Other	Total
		Lecture	Laboratory	Practical			
NCAA	3 ch	28	30	-	-	-	58
ECTS	3.7 cp	28	30	-	35	15	108

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

2hrs.



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
1.1	Knowledge		
	On completing this course, students will be able to:
1.1.1	-Apply the general characters of different phyla and classes .	lectures	exams
1.2.1	-Identify digestion, locomotion, respiration and reproduction in different animals.	Discussion	exams
2.1	Cognitive Skills		
	On completing this course, students will be able to:		
2.1.1	-Differentiate between external feature and internal structure of studied animals.	Solve problems	Exams
2.2.1	- Classify studied animals.	Discussion	Exams
3.1	Interpersonal Skills & Responsibility		
	On completing this course, students will be able to:		
3.2.1	- work effectively in a team in lab.	Co- operative Learning	observation
3.4.1	-independently on collecting information on a required topic	Solve problems	observation
4.1	Communication, Information Technology, Numerical		
4.2.1	Able to use IT and search for information.	E-Learning	Evaluation of E-learning duties
5.2	Psychomotor		
	On completing this course, students will be able to:		
5.2.1	-Examine and draw the microscopic slides of the studied species of the animal kingdom.	lab	Practical exam.

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

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

- Khalil M. R. *et al.*,(1996): General Zoology. Angelo Press,Cairo,1996.
- EL-Hosseni, A.H. and Demian, E.S.(1990): Practical Zoology. Cairo. Part 2.

2. List Essential References Materials :

- Abdel-Aziz , M. *et al.*,(2007): Invertebrates. Cairo .Angelo Press.

3. List Recommended Textbooks and Reference Material :

- 1 – Verm , P.S and Chand, S. A(1983): Manual of Practical Zoology Invertebrates. New Delhi .
- 2- Barrington, E.J.W. and Nelson (1967): Invertebrate structure and function, , London,.
- 3- Gamil, N. S.(2001): Invertebrate Zoology (part I – part II)., The Palm Press, Cairo.
- 4- Dhami, P.S. ; Dhami, J.K. and Chand , R. (1992): Invertebrate Zoology. New Delhi.
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4. List Electronic Materials :

- <http://en.wikipedia.org/wiki/Invertebrates>
- <http://en.wikipedia.org/wiki/ProtozoaParazoa>, Platyhelminthes, Nematoda,





Annelida

5. Other learning material :

- none

F. 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.
- Advance computerized microscopes with camera is required

3. Other resources

- none

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 taxonomy.
- 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 ELsayed Abdel-Hady
Signature :
Date : 1/ 4 / 1437 H

Department Head

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





Institution:	Majmaah University College of Education
Academic Department :	Biology Department
Programme :	BA Biology
Course :	General Physics 2
Course Coordinator :	Dr. Maysun Asaad Makl



Programme Coordinator : Dr. Mouna Mekkiya

Course Specification Approved Date : 30/ 11/ 1433 H

A. Course Identification and General Information

1 - Course title :	General Physics II	Course Code:	PHYS 125
2. Credit hours :	(2)		
3 - Program(s) in which the course is offered:	BA, Biology		
4 – Course Language :	Arabic		
5 - Name of faculty member responsible for the course:	Dr. Maysun Asaad Makl		
6 - Level/year at which this course is offered :	2		
7 - Pre-requisites for this course (if any) :	<ul style="list-style-type: none"> General Physics 1 		
8 - Co-requisites for this course (if any) :	<ul style="list-style-type: none"> N/A 		
9 - Location if not on main campus :	N/A		
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?

This course aims to acquaint the student with physical laws and rules that govern the natural external world and provide the fundamental and basic concepts related to the science of physics, which help the student in her study and work in the future.

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

- The use of the Desire to Learn Program D2L



C. Course Description

1. Topics to be Covered (Theoretical +Practical)

List of Topics	No. of Weeks	Contact Hours
1.Course Orientation	5	15
2. General Physics		
3. Fluid mechanics: Density and Pressure: the Archemides principle, Bernouli Equation applications		
4.Experiment 1: Measuring Fluid Density		
5.Experiment 2: Measurement of Solid Fluidity		
6. Experiment 3: Viscosity		
7. Experiment 4: Surface Tension		
1 st Midterm Exam +Feedback	1	2
9. Thermal basics: Temperature as concept, The Zero-law, Temperature gauges, Thermometers, thermal power units, heat quantity, Specific heat, Heat capacity, Latent heat, and determing Specific heat via the Method of Mixture.	4	12
10. Fifth experiment (Achieving Archimedes' law)		
11. Sixth experiment (set the melting point of the Wax)		
12. Seventh Experiment (set the melting point of Naphthalene)		
13. Eighth Experiment (Set specific heat of solids)		
2 nd Midterm Exam +Feedback	1	2





15. Thermal properties of the material and heat transfer: thermal expansion of solid and liquid objects, heat transfer by conduction, convection and radiation.	4	13
16. Ninth experiment (Set the latent heat of ice)		
17. Practical Revision		
18. Final Practical Test		

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	2.8 cp	14	30	-	25	15	84

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

1.3hrs.

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	Students will be cognizant of the most important and basic concepts in Fluid physics and Thermophysics	• Lectures	• Tasks and assignments
1.2.1	Students should be able to give an explanation of the scientifically true natural phenomena associated with Fluid Dynamics and the Heat.	Warm up	Written Assignment
2.0	Cognitive Skills		





	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
2.1.1.	Differentiate between the terminology in the fluid physics and in thermophysics	• Brainstorming	• Written Assessments
2.2.1.	The ability to verify the relevant theories through accurate logical mathematical conclusions The ability to analyse conversations.	• Self-learning	Interaction and Active discussion
3.0	Interpersonal Skills & Responsibility		
3.4.1	The student bears the responsibility of self-learning and can communicate more effectively within the Collaborative Learning note the interaction of female students	• Cooperative Learning	• Students Interaction
4.0	Communication, Information Technology, Numerical		
4.2.1	Searching databases available on the university website	• E-learning	
5.0	Psychomotor		
5.1.1	Can name devices and Lab tools and label them correctly as well as deal with them carefully and perfectly to maintain their safety.	• Lab Teaching Strategies	• Assessment of the practical results and assignments

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

	Assessment task	Week Due	Proportion of Total Assessment
1	Midterm Examination 1 + Midterm 2	Week 6 th -11 th	10% 10
2	The assessment of the effort (participation during lectures both theoretical and practical, Electronic Assignments, lab tests)	Through the semester	10%
3	Final Practical Exam	16 th week	20%
4	Final Theoretical Exam	17-19 th week	50%





D. Student Academic Counseling and Support

4 hours per week allocated for individual student counseling and academic advising (Fixed on the Announcements board and on the Home page of the site).

Students have access to

- Electronic mail: m.makl@mu.edu.sa
- Through the Desire to Learn system
- Faculty member's electronic page through the University Portal:
<http://facilty.mu.edu.sa/mmakl>

E. Learning Resources

1. List Required Textbooks :

- 1. Theoretical Part: Issawi, Abdul Aziz Hamid, Walid Tawfiq & Mohammed Younis. General Physics for the first-year university Students. Ed. 2007 (First Volume) Riyadh: AlRushd Editors
- Practical Part: Fahad, Marwan Ahmad & Abdul Aziz Ali Masoud. Fundamental Experimental Physics: Obeikan Library, Riyadh

2. List Essential References Materials :

- Al-Shaibani, Khader Mohammed Abdel-Rahman, Al-Ani, Osama Ahmed Ibrahim. General Physics of Universities (Mechanics - Mechanical Properties of the Material - Heat) Riyadh: Khuraiji House for Publishing and Distribution, 1424
- Shukrallah, Ali Alamani. General Physics. Riyadh: AlRushd Library Publishers, 2008
- Al-Aqeel, Ibrahim Abdul Rahman, Musmus Ahmed Salim. Ahmed Fouad Mahmoud Meera & others. Experimental Physics (Undergraduate Years). Riyadh: Dar Khuraiji for Publishing and Distribution.

3. List Recommended Textbooks and Reference Material :

- Idris, Robin Mohammed, Sweilem, Mohamed Attia, & all. 2006 General Physics.Fifth Edition. Amman, Jordan: Dar AlFekr, 1427
- 2. Fahad. Marwan Ahmad. The Basic Physics Theory: Obeikan Library, Riyadh
- 3. Kamel, Rafat. 1987. The Basics of Classical and Contemporary Physics. Sixth Edition. Cairo: Daralamaref.

4. List Electronic Materials :





- 1. Forum of Arab physicists www.phys4arab.net/vb/
- 2. Encyclopedia of Physical Science and Technology <http://www.sciencedirect.com>
- 3. Physical tests forum www.phys4arab.net/vb/forumdisplay.php...
- 4. Educational site for physics www.hazemsakeek.com
- 4. British Journal of Physics www.physicsworld.com

5. Other learning materials:

F. Facilities Required

1. Accommodation

- Lecture hall (5 *7) m 35 Chairs
- Lab (6*8) m 25 Chairs

2. Computing resources

- Data show projector

3. Other resources

(Density measurement devices, Archimedes device, device to measure Surface Tension, a Viscosity Measurement Device, Device to measure the degree of fusion of the material temperature, calorimeter to measure the Specific Heat and the Latent Heat. Thermometers. metal balls with different types and Diameters, different liquids density and viscosity ...)

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching:

- In Class Questions
- Ongoing Assessments during the semester
- E-learning assignments
- Discussions Seminars
- End of Semester Students' Evaluation Surveys
- End of Semester's Survey about Students' Satisfaction about Teaching and Learning Methods
- Sessions with the outstanding as well as the poor students.

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

- Course Evaluation Model
- Annual performance reports prepared by the department





- Peer evaluation
- Department head evaluation and feedback performance

3 Processes for Improvement of Teaching :

- Training Workshops
- Discussions with other more experienced colleagues

4. Processes for Verifying Standards of Student Achievement

- Exams Check marking by the faculty member all along another colleague as well as an independent faculty member
- Random Check of Students Exam papers by the head of the department.

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

- Regular meetings of the faculty members to find out the weaknesses and strengths and look towards its promotion.
- Students' feedback
- Continuous Updatedness with the last scientific and technological progresses.
- Students/Instructor Discussions and collaborate Evaluation through questionnaires distributed to them at the end of chapters, which provides their feedbacks and reflect their views on the topics scheduled and the teaching methods.
- Course Evaluation
- Review of Study Plans
- Fostering and developing the study plan and course outcomes in the light of contemporary trends and alongside the societal and community needs.

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

Course's Coordinator

Name : Dr. Maysun Asaad
Makl

Signature :

Date : 12/ 4 / 1437 H

Department Head

Name : Dr. Mouna
Mekkeya

Signature :

Date : .../ ... / H



Institution:	Majmaah Faculty of Education
Academic Department :	Department Biology
Programme :	Biology
Course :	Plant Kingdom
Course Coordinator :	Dr. Aisha Ohag Osman Mohammed
Programme Coordinator :	Dr. Mona Makkie
Course Specification Approved Date :	30/11 / 1437 H



A. Course Identification and General Information

1 - Course title :	Plant Kingdom	Course Code:	BOT 122
2. Credit hours :	(3 hours = 2 hours Theory + 2 hours 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. Aisha Ohag Osman		
6 - Level/year at which this course is offered :	Second level		
7 - Pre-requisites for this course (if any) :	not applies		
8 - Co-requisites for this course (if any) :	not applies		
9 - Location if not on main campus :	not applies		
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? A brief description of the main learning outcomes for students enrolled in the course. Student definition prokaryotic cell, eukaryotic cell + optical microscope. Structure of cell, the chemical structure of the cell, the cell organelles and their functions, theoretical and practical. Mitosis and Meiosis and some physiological processes theoretically and practically and systematic.
Briefly describe any plans for developing and improving the course that are being implemented : 1-Take advantage of the internet websites which related to course topics. 2- To use power point in teaching. 3- To use internet to update course content. 4-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
Cell theory, prokaryotic and eukaryotic cells + optical microscope.	1	4
Structure of cell, the chemical structure of the cell, the cell organelles and their functions, theoretical and practical.	2	8
Cell divisions, mitosis and meiosis.	2	8
Mid- term exam1+feedback	1	3
some physiological processes theoretical and practical.	1	4
Systematic (Bacteria, Algae, Fungi, Arshagonium, Ferns, Mosses and Lichens) theoretically and practically.	4	16
Mid- term exam2+feedback	1	3
Angiosperms and gymnosperms.	1	4
Flower, seeds, fruits theoretically and experimentally.	2	8

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	4.1 cp	28	30	-	52	10	120

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

3 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
1.0	Knowledge		
1.1.1	Learn about the plant cell structure and organelles and their function.	lecture	Study papers
1.2.1	To master academic skills to identify and study the plant kingdom divisions.	Dialogue and discussion strategy	Written tests Discussions
2.0	Cognitive Skills		
2.1.1	Analysis of the results for many of the related problems (germination of some seeds) and genetic questions.	Problem-solving strategy	Work sheets and reports





	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
2.2.1	Comparing the steps divisions Meiosis and Mitosis	Dialogue and discussion strategy	The observation Discussions
3.0	Interpersonal Skills & Responsibility		
3.3.1	Expresses her view is committed to the ethics of dialogue and listening to the other opinion.	Cooperative Education	Presentations
4.0	Communication, Information Technology, Numerical		
4.2.1	Use modern technology for required references search to do duties and show.	Self learning e-learning	Research papers The written tests
5.0	Psychomotor		
5.1.1	Take the precautions in the laboratory doing of laboratory experiments	Laboratory strategy Cooperative learning	Practical tests
5.2.1	Draw conclusions specimens.	Self learning	Observation and reports

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

	Assessment task	Week Due	Proportion of Total Assessment
1	Two theoretical tests (first and second)	6-12 th week	10% +10%
2	Different activities	During semester	10%
3	Final practical test	16 th week	20%
4	Final theoretical test	17 th -19 th week	50%



D. Student Academic Counseling and Support

Dr. Aisha Ohag Osman
E.mail: ai.osman@mu.edu.sa

E. Learning Resources

1. List Required Textbooks :

- ١- سليمان و محمد (١٤٢٤) : علم تشريح النبات - دار كنوز أشبيليا للنشر والتوزيع - السعودية.
- ٢- العروسي و آخرون (١٩٩٨) : المملكة النباتية - دار المطبوعات الجديدة - الإسكندرية.
- ٣- طليبة و حسين السيد (٢٠٠٣) : علم النبات - دار النشر الدولي للنشر والتوزيع - السعودية.

2. List Essential References Materials :

- ١- العروسي و آخرون (١٩٩٨) : المملكة النباتية - دار المطبوعات الجديدة - الإسكندرية.
- ٢- العروسي و آخرون (١٩٩٨) : النبات العام - دار المطبوعات الجديدة - الإسكندرية

3. List Recommended Textbooks and Reference Material :

(Scientific journals, reports, etc ...).

- **4. List Electronic Materials :**
- Related internet websites to the course.

5. Other learning material :

Microsoft Office – word ,power pointetc

F. Facilities Required

1. Accommodation

- ٧٠ seat in lecture hall

2. Computing resources

- Computer connected to a smart board

3. Other resources

- Prepared slices of vegetarian samples and other sections of the plant.
Laboratories equipped with the course requirements
- Monitors labs



G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching:

Distribution of the questionnaires to students from course with multiple axes.

-
-

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

- Through the course evaluation.
- Annual reports prepared by the department.

3 Processes for Improvement of Teaching :

Apply modern technologies in education.

Electronic learning.

4. Processes for Verifying Standards of Student Achievement

Review papers that have been corrected by the professor course and another member of the department.

Sample paper of answer reviewed by an external member.

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

Regular meeting of the faculty members staff based on the course to enhance the strengths and weaknesses treatment.

By questionnaires viewing students about the course topics and available learning methods.

Review and develop study plans depending on recent data.

Course Specification Approved

Department Official Meeting No (.....) Date **7 / 4 / 1437 H**

Course's Coordinator

Name :

Signature :

Date : 7 / 4 / 1437 H

Department Head

Name :

Signature :

Date : ... / ... / H



Institution:	Education Collage
Academic Department :	Biology
Programme :	Biology
Course :	Technology laboratory techniques
Course Coordinator :	Dr. Zeinab Mohammed Saleh Abdelmoein
Programme Coordinator :	Dr. Mona Makkie
Course Specification Approved Date :	30/ 11 / 1433 H



A. Course Identification and General Information

1 - Course title :	Technology laboratory techniques	Course Code:	BIO 124
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 :	second		
7 - Pre-requisites for this course (if any) :			
8 - Co-requisites for this course (if any)	No		
9 - Location if not on main campus :	No		
10 - Mode of Instruction (mark all that apply)			
A - Traditional classroom	yes	What percentage?	50. %
B - Blended (traditional and online)	Home work	What percentage?	5. %
D - e-learning	D2l	What percentage?	15 %
E - Correspondence		What percentage? %
F - Other	Other- lab	What percentage?	30 %
Comments :		

B Objectives

<p>What is the main purpose for this course?</p> <p>Provide the student with Theoretical and laboratory knowledge and complete proficiency of the use of lab equipment and instruments for the processing and dyeing animal and plant microscopic slides in addition to keep plants and insects. and communicate effectively and take responsibility for her education</p>
<p>Briefly describe any plans for developing and improving the course that are being implemented</p> <p>1- take advantage of the Web sites 2- The provision of modern references 3- The application of D2L</p>

C. Course Description

1. Topics to be Covered (Theoretical+ Practical)





List of Topics	No. of Weeks	Contact Hours
1- A glimpse of optics and how to configure and enlarge the pictures by simple lenses and study the structure of different types of simple optical microscope	1	4
2- Identification the different types of compound microscopes .Study the structure of the compound optical microscope and how to configure and enlarge the picture through its multiple lenses, how it is used and maintained.	2	8
3- A study of some anesthetics necessary to experiments. In addition to study of simple and compound chemical stabilizers and identification the advantages and disadvantages of each them , and how to choose the suitable stabilizer	2	8
Mid-term 1 +feedback	1	3
4- Steps to prepare histological permanent section including how to obtain a sample - fixation – washing - dehydration –removal of alcohol – saturation by wax – micro-dissection- load in slides - dyeing sector and finally save the sector as a permanent slide	2	8
5- Types of biological dyes and factors affecting the dyeing process	1	4
Mid-term 2 +feedback	1	3
6- Methods of rapid lab preparation such Squash Method to study stages of plant divisions, blood smears, squamous cells, yeast or bacteria - and preservation of insects	3	12
7- Methods of preparation of plant samples (Temporary - semi-permanent - permanent preparation) and Steps to prepare dry grassy or preservation in a special solutions	1	4
8- Types and structure of electronic microscopes 9- Preparation sectors of the electronic microscope	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	4.4 cp	28	30	-	57	15	130

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

3hrs.

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	Enumerate different types of microscopes describing how image Formed and enlarged by their lenses	Lecture	exam
2.0	Cognitive Skills		
2.1.1	Explain the steps to prepare permanent microscopic sectors	Lecture	exam
2.3.1	Compare the properties of stabilizers and pigments with determining the suitable one for each tissue and study	Lecture Stir mind	exam
3.0	Interpersonal Skills & Responsibility		
3.4.1	Perfect the skill of self-learning and take responsibility and participate in group discussions and accept the opinions of others	Discussion and dialogue	Assessment of Discussions at course forum on D2L
4.0	Communication, Information Technology, Numerical		
4.2.1	Perfects the skill of using modern technology to increase the knowledge and preparation of research and communicate effectively oral and writing with colleagues and a professor course	Research and survey	Assessment of research paper and drop box of D2I
5.0	Psychomotor		
5.1.1	Mastered the use of lab tools and equipment in performing lab experiments With writing a comment on the results	Lab Strategy	Final practical exam Note card

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

	Assessment task	Week Due	Proportion of Total Assessment
1	Homework	Weekly	5%
2	Research and survey	First - 13th	5%
3	First and second midterm	6th , 10 th week	20%
4	Final practical exam	16th	20%
5	Final theoretical exam	17 th -19 th	50%

D. Student Academic Counseling and Support

E mail: zm.saleh@hotmail.com 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 :

- ١- المجاهر و تقنياتها، الخليفة محمد صالح و عبد العزيز الصالح عمادة شؤون المكتبات –جامعة الملك سعود – المملكة العربية السعودية – الرياض (٢٠٠٨م)
- ٢- التقنية المجهريّة إعداد التحضيرات الميكروسكوبية أنسجة- خلية- كيمياء أنسجة ، البنهاوي محمود احمد و منير على الجنزوري دار المعارف – جمهورية مصر العربية- القاهرة (١٩٨٩م).
- ٣- مبادئ التحضير النسيجي (التحضير المجهري) ، الخطيب ، عماد إبراهيم و خلود أبو رمان الطبعة الرابعة دار البازوردي العلمية – عمان- الأردن (١٩٩٧م).

3. List Recommended Textbooks and Reference Material :

- ١- مبادئ التحضير النسيجي (التحضير المجهري) ، الخطيب ، عماد إبراهيم و خلود أبو رمان الطبعة الرابعة دار البازوردي العلمية – عمان- الأردن (١٩٩٧م).
- ٢- أساسيات تحضير العينات النباتية ، الدعيجي، عبد الله رشيد ، مليجي عبد السلام محمد ، عبد الفتاح محمد جلال محمد دار الخريجي للنشر و التوزيع- المملكة العربية السعودية – الرياض (١٩٩٧م).
- ٣- أساسيات علم التحضير النسيجي، الطردة، محمود محمد و جمال حمد عثمان و أسامه خالد الرطروط و محمد أبو دية دار الثقافة للنشر و التوزيع – عمان – الأردن (١٩٩٢م)
- ٤- أساسيات علم كيمياء الأنسجة (النظرية و التطبيقية)- الطيب نوري بن طاهر- جامعة الملك سعود – عمادة شؤون المكتبات (١٤١٥هـ)

4. List Electronic Materials :

- Web sites related to the subjects of course

5. Other learning material :

- programs dependent on computer / software CDs
- Power point

F. Facilities Required

1. Accommodation

- lecture halls, laboratories equipped with a sufficient number of fixed seats
- Provide different display devices smart blackboard, computer or electronic platform
- Provide anti-virus program to the electronic platform
- put curtains in the lecture halls

2. Computing resources

- Provide good Internet network
- Computer in the lab

3. Other resources

- Provide microtomes for preparation of slides



- Provide centrifuges
- microscopes equipped with cameras
- Provide a computer or electronic platform in each lab

G Course Evaluation and Improvement Processes

<p>1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching:</p> <ul style="list-style-type: none"> • The application of questionnaires to assess the students about the quality of lecture halls and laboratories
<p>2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor :</p> <ul style="list-style-type: none"> • Application of questionnaires to assess students courses at the end of semester • Preparation of the annual reports of the department
<p>3 Processes for Improvement of Teaching :</p> <ul style="list-style-type: none"> • 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
<p>4. Processes for Verifying Standards of Student Achievement</p> <ul style="list-style-type: none"> • 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
<p>5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement :</p> <ul style="list-style-type: none"> • 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

Name Dr. Zeinab Mohammed Saleh
: Abdelmoein
Signature :
Date : 12/ 4 / 1437 H

Department Head

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





Institution:	Faculty Of Education, Majmaah University
Academic Department :	Biology Department.
Programme :	Biology Programme .
Course :	Cytology BIO 123
Course Coordinator :	Dr. Zeinab Eltahir Bakheet Eltahir
Programme Coordinator :	Faculty Of Education, Majmaah University





Course Specification Approved Date : 30/ 11 / 1433 H

A. Course Identification and General Information

1 - Course Cytology	Course Code: BIO 123
title :	
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 Eltahir Bakheet Eltahir
6 - Level/year at which this course is offered :	The second
7 - Pre-requisites for this course (if any) :	
• None	
8 - Co-requisites for this course (if any) :	
• None	
9 - Location if not on main campus :	
(Indoor)	
10 - Mode of Instruction (mark all that apply)	
A - Traditional classroom	<input checked="" type="checkbox"/> Yes What percentage? 60 %
B - Blended (traditional and online)	<input checked="" type="checkbox"/> yes What percentage? 10 %
D - e-learning	<input type="checkbox"/> What percentage? %
E - Correspondence	<input type="checkbox"/> What percentage? %
F - Other	<input checked="" type="checkbox"/> yes What percentage? 30 %
Comments :	
.....	

B Objectives

<p>What is the main purpose for this course?</p> <p>By the end of the course, it's expected that the female student will be able to know the difference between the animal cells and the plant cells. The student will also recognize the specific structure of every organella in organellae and its function. As it's determined in the electron microscopy.</p> <p>Briefly describe any plans for developing and improving the course that are being implemented :</p> <ol style="list-style-type: none"> 1- Using Power point Program 2- Visiting the relevant webs on the Internet 3- Reading the relevant recent researches
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- 4- Updating education sources.
- 5- 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- Introduction in Cytology and determining the methods of studying the cell	1	4
2- Studying the structure of Prokaryotic cell and comparing it with eukaryotic cell and its two kinds, the plant and the animal	1	4
3- Studying the chemical components of the cell, organic compounds, and inorganic compounds and the method of exploring some of them.	1	4
4- Studying the different theories of plasma membrane's structure and its way in transforming to fit with its different functions.	2	8
5- Mid-term exam 1+feedback	1	3
6- Studying the micro structure of Mitochondria, blastides, Endoplasmic Reticulum, Golgi apparatus, and determining the functions of every organellae and its relation with other organella	4	16
7- Mid-term exam 2+feedback	1	3
8- Studying the micro structure of nuclei, lysosome and peroxisome and determining the functions of every organellae and its relation with other organella.	2	8
9- Studying the cytoskeleton of the cell, and the kinds of chemotaxis.	1	4
10- Studying the cell cycle and the kinds of divisions	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	4.4 cp	28	30	-	55	15	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
1.0	Knowledge		
1.1.1	Describe the Variety of different methods in studying the living cells and fixed cells, and the micro structure of every organallae in the cell and its different functions	-Lecture	-Written exams.
2.0	Cognitive Skills		
2.1.1	Explain the structure of organallae in the animal and plant cells.	-Lecture	-Written exams.
2.3.1	Compare the prokaryotes with eukaryotes and Comparing between the animal and plant cells	-Lecture Brainstorming	-Written exams.
3.0	Interpersonal Skills & Responsibility		
3.4.1	Perfects the skill of self-learning and responsibility.	-Discussion and dialogue	- Discussion
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	6 th week	10%
2	Second Midterm exam	11 th week	10%
3	Different activities	During the semester	10%
4	The final practical exam	16 th week	20%
5	The final written exam	17 th -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 Eltahir Bakheet

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

office hours: 4 hours according to the schedule: 8 hours for academic counseling.

E. Learning Resources

1. List Required Textbooks :

- 1- علم الخلية- الراوي ،ميساء محمد مطابع الصفا – مكة المكرمة المملكة العربية السعودية (٢٠٠٦م)
- ٢ – علم الخلية- البنهاوي محمود احمد فهمي إبراهيم الخطاب و منير على الجنزوري عبد الفتاح محمود الشرشابي دار المعارف – جمهورية مصر العربية- القاهرة (١٩٩١م).
- ٣- بيولوجيا الخلية (التركيب و الوظيفة) – الرباعي ،على بن احمد و فريد بن سعدي أبو زينه جامعة الملك عبد العزيز –كلية العلوم – جدة – المملكة العربية السعودية (١٩٩٥م).
- 4- Campbell, N. A. Reece, J.B. and Mitchell (2006). Biology ,Seventh edition or later. Addison Wesley Inc. New York

2. List Essential References Materials :

- ١- علم الخلية- الراوي ،ميساء محمد مطابع الصفا – مكة المكرمة المملكة العربية السعودية (٢٠٠٦م)



- 2- Campbell, N. A. Reece, J.B. and Mitchell (2006). Biology ,Seventh edition or later. Addison Wesley Inc. New York.

3. List Recommended Textbooks and Reference Material :

- **The previous references but the recent ones.**

4. List Electronic Materials :

- Campbell Biology Gateway; http://www.aw_bc.com/campbell/
- Book Box and other relevant websites.

5. Other learning material :

- Power point

F. Facilities Required

1. Accommodation

- Classrooms, laboratories and.. etc.,
- Enough numbers of chairs
- Monitors- Computer – Intelligent board

2. Computing resources

- A computer.

3. Other resources

- Microtome and preparing the slides
- Centrifuges.
- Digital microscopes with cameras and monitors
- A computer

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching:

- Distributing questionnaire about the acceptance of the female students of the department before the end of the semester .
-

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

- Distributing assessment questionnaire on the female students on the courses
- Setting up the annual report.

3 Processes for Improvement of Teaching :

- Practicing the electronic learning
- Providing the recent practical references and the scientific tutorials in the library
- Giving the faculty members courses and programs after the work hours.





- Assuring the availability of the required laboratory tools and facilities for the course.

4. Processes for Verifying Standards of Student Achievement

- Reviewing the checked papers of the professor of the subject, by 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 :

- 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 .
- 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

Department Head

Name : Dr. Zeinab Eltahir
Bakheet

Name : Dr. Mona Makkie

Signature :

Signature :

Date : 12/ 4 / 1437H

Date : .../ ... / H

