



**Philadelphia University**  
**Faculty of Science**  
**Department of Biotechnology and Genetic Engineering**  
**2<sup>nd</sup> semester, 2007/2008**

**Course Syllabus**

<b>Course Title:</b> Animal Tissue Culture	<b>Course code:</b> 240381
<b>Course Level:</b> 3 <sup>rd</sup> year	<b>Course prerequisite (s) and/or corequisite (s):</b> 240241
<b>Lecture Time:</b>	<b>Credit hours:</b> 1

**Academic Staff**

**Specifics**

<b>Name</b>	<b>Rank</b>	<b>Office Number and Location</b>	<b>Office Hours</b>	<b>E-mail Address</b>
<b>Dr. Raed Kanan</b>	<b>Assistant Professor</b>	<b>823 ( ext. 2345)</b>	<b>See schedule</b>	<b>Raedk32@yahoo.com</b>

**Course module description:**

*This module is a basic requirement for the department. It provides insights into the application of tissue culture on animal cells and particularly human cells. The course involves correlation with practical course to ensure full understanding of the techniques.*

**Course module objectives:**

Understand the techniques used in tissue culture.

\* Describe the Equipments used on tissue culture.

\* Understand the safety procedures need for tissue culture.

**Course/ module components**

• **Books (title , author (s), publisher, year of publication)**

Title: "Culture of Animal Cells: A manual of basic technique", 4<sup>th</sup> Edition

Author(s)/Editor(s): Freshney RI.

Publisher: WILEY-LISS

ISBN:0-471-34889-9

- **Support material (s) (vcs, acs, etc).**
- **Study guide (s) (if applicable)**
- **Homework and laboratory guide (s) if (applicable).**

**Teaching methods:**

Lectures,& problem solving in practice.

**Learning outcomes:**

- Knowledge and understanding

**The students should be able to know how to use different sources of tissues**

- Cognitive skills (thinking and analysis).

**The students will learn the ability to correlate between different biological samples and show the importance of different media in tissue culture**

- Communication skills (personal and academic).

NA

- Practical and subject specific skills (Transferable Skills).

**The ability to handle different sources for tissue culture**

**Assessment instruments**

- Short reports and/ or presentations, and/ or Short research projects
- Quizzes.
- Home works
- Final examination: 50 marks

<b><u>Allocation of Marks</u></b>	
<b>Assessment Instruments</b>	<b>Mark</b>
Midterm examination	<b>30 %</b>
Final examination: 50 marks	<b>50%</b>
Reports, research projects, Quizzes, Home works, Projects	<b>20 %</b>
Total	<b>100%</b>

**Documentation and academic honesty**

- Documentation style (with illustrative examples)



- Protection by copyright
- Avoiding plagiarism.

**Course/module academic calendar**

<b>week</b>	<b>Basic and support material to be covered</b>	<b>Homework/reports and their due dates</b>
(1)	Animal Cell Culture : Historical Background	<b>Homework will be assigned during the course and have one week a maximum due date</b>
(2)	Importance of and progress in Animal Cell Culture Technology	
(3)	Biology of Animal Cell; Cellular Interactions	
(4)	Importance of Serum and Serum Free Media	
(5)	Culturing and Sub-Culturing of Animal Cells	
(6)	In Vitro Transformation of Animal Cells	
(7)	Cell Differentiation & Cell Movement	
(8)	<b>Midterm Exam</b>	
(9)	Cloning of Animal Cells	
(10)	Cell Line Preservation	
(11)	Cell Line Characterization	
(12)	Chromosome Spreading and Karyotype Analysis	
(13)	Mycoplasma: Detection and Control	
(14)	Monoclonal Antibody Production	
(15) <b>Specimen examination (Optional)</b>	Insect Cell Culture: An Overview	
(16) <b>Final Examination</b>	<b>Final Exam</b>	

**Expected workload:**

**On average students need to spend 2 hours of study and preparation for each 50-minute lecture/tutorial.**

**Attendance policy:**

**Absence from lectures and/or tutorials shall not exceed 15%. Students who exceed the 15% limit without a medical or emergency excuse acceptable to and approved by the Dean of the relevant college/faculty shall not be allowed to take the final examination and shall receive a mark of zero for the course. If the excuse is approved by the Dean, the student shall be considered to have withdrawn from the course.**

**Module references**

**Books**

Title: "Culture of Animal Cells: A manual of basic technique", 4<sup>th</sup> Edition  
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**Journals**

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**Websites**