



Philadelphia University
Faculty of Science
Department of Biotechnology and Genetic Engineering
2nd semester, 2009/2010

Course Syllabus

Course Title: Basic Genetics
Lab

Course code: 240217

Course Level: 2nd year

Course pre- or co- requisite: Basic Genetics (240216)

Lecture time:

Credit hours: 1

Academic Staff Specifics

Name	Rank	Office Number and Location	Office Hours	E-mail Address
Ahmad Abu Jaffal	Lecturer	908 / Faculty of Science	Su/Th: 8:00 – 11:00 W: 11:00 – 13:00	saleh_11j@yahoo.com

Course module description:

This module is a major requisite for the students of biotechnology and genetic engineering and it is presented in lectures. Its contents focus on basic microbiological techniques involved in studying the general characteristics of microorganisms and their growth requirements.

Course module objectives:

Learning how to deal with different microorganisms in laboratory
Studying the biochemical characteristics of microorganisms

Course/ module components

Lab Sheets will be provided during course

Teaching methods:

Practical experiments using basic microbiological techniques will be employed.

Learning outcomes:

1. 1 Knowledge and understanding

The students should be able to know the basic principles of bacterial culture techniques and general biochemical tests.

1. 1 Cognitive skills (thinking and analysis).

The students will learn the ability to correlate between different experiments and data to identify different bacterial species.

- 1.
2. 2 Practical and subject specific skills (Transferable Skills).

1- Bacterial staining

2- Culture transfer techniques

3- Culture media preparation

4- Biochemical identification tests

Assessment instruments

1. 1 Short reports and/ or presentations, and/ or Short research projects
2. 2 Quizzes.
3. 3 Home works
4. 4 Final examination: 50 marks

Allocation of Marks

Mark	Assessment Instruments
30%	Midterm Examination
20%	Reports, Quizzes, Homeworks and presentations
50%	Final Examination
100%	Total

Course Outline

Subject	Week
Smear preparation and simple staining	(1)
Gram staining	(2)
Culture media preparation	(3)
Culture transfer techniques	(4)
Determination of bacterial numbers	(5)
Glucose fermentation	(6)
Midterm Exam	(7)
Triple Sugar Iron and Starch Hydrolysis tests	(8)
Biochemical tests (Enzymes): Catalase & Urease activity assays	(9)
The IMViC Tests	(10)
Casein Hydrolysis test	(11)
Bacterial Growth Curve	(12)
Identification of Unknown Sample	(13)
Final Exam	(14)

Expected Workload:

On average students need to spend 2 hours of study and preparation for each Lab session.

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:

Websites:

