



**Philadelphia University**  
**Faculty of Science**  
**Department of Biotechnology and Genetic Engineering**  
**First semester, academic year (2011/2012)**

**Course Syllabus**

<b>Course Title:</b> Biochemistry Laboratory	<b>Course code: 240344</b>
<b>Course Level: 3<sup>rd</sup> year</b>	<b>Course prerequisite (s) and/or corequisite (s):</b> Biochemistry (1); 240343 or corequisite
<b>Lecture Time:</b> 1:10-4:00 pm (Section 1; S and Section 2; W)	<b>Credit hours: One</b>

**Academic Staff Specifics**

<b>Name</b>	<b>Rank</b>	<b>Office Number</b>	<b>Office Hours</b>	<b>E-mail Address</b>
Dr. Sameer Masoud	Associate Professor	S817	<b>10-11 (S, Tu, Th)</b> <b>12-13 (M, W)</b>	smasoud@philadelphia.edu.jo
Ms. Lana Qadumii	Lab. Supervisor	Greenhouse	_____	_____

**Course module description:** This module is required for all students in the major "Biotechnology and Genetic Engineering". It is a 300 level and will be taught to third year biotechnology students.

**Course module objectives:** This will enable the students to better understand biochemistry lecture by practical application of major biochemistry principles.

## Assessment instruments

<b>Allocation of Marks</b>	
<b>Assessment Instruments</b>	<b>Mark</b>
Reports and quizzes*	30 %
Midterm examination	30 %
Final examination:	40 %
Total	100 %

\* You should be prepared for **a quiz at the beginning of each lab. Period.** Quizzes subject contains 20% of the score from the new experiment and the remaining 80% from the previous experiment. So you should make your report of the previous experiment and prepare the new experiment from the manual before coming to the lab.

**Expected workload:** On average students need to spend 3 hours of study and preparation each week.

**Attendance policy:** Absence from lectures and/or tutorials shall not exceed 15% (**Equivalent to one lab period**). Students who exceed the 15% limit without a medical or emergency excuse acceptable to and approved by the Dean of Faculty of Science 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 If the excuse is approved by the Dean, the student shall be considered to have withdrawn from the course.

## Course/module academic calendar

<b>Week</b>	<b>Title</b>	<b>Page #</b>
1	Organization and orientation	2
2	Buffers and pH meter	4
3	Determination of isoelectric point of amino acids	9
4	General reactions of amino acids	14
5	Paper chromatography of amino acids	17
6	General reactions of proteins	21
7	Fractionation of Proteins by Ammonium Sulphate and Centrifugation	25
8	Midterm Exam	
9	Quantitative Determination of Proteins using Spectrophotometer	30
10	Exclusion chromatography/Gel filtration	35
11	Enzyme Assay: polyphenol oxidase	39
12	Reactions of carbohydrates	43
13	Reactions of lipids	51
14	Follow up of previous experiment and review	----
15	Final Exam	