Philadelphia University	PHILADELPHIA UNIVERSITY THE WAY TO THE FUTURE	**Approval date:**
Faculty of Science		**Issue:**
Department of Biotechnology and Genetic Engineering		**Credit hours: 3**
Academic year 2022/2023	**Course Syllabus**	**Bachelor**

Course information

Course#	Course title		Prerequisite
0240107	**General Biology II**		**0240101**
Course type		**Class time**	**Room #**
☐University Requirement ☐ Faculty Requirement ✔ Major Requirement ☐ Elective ✔ Compulsory		Sun,Tue (08:15-09:45)	**902**

Instructor Information

Name	Office No.	Phone No.	Office Hours	E-mail
Ahmad Ghuneim	**s823**	**2491**	**Sun,Tue, Thr** (09:30-10:30) **Sun,Mon** (12:00-13:00)	**aghuneim@philadelphia.edu.jo**

Course Delivery Method

Course Delivery Method			
✔ **Physical**	☐ **Online**	☐ **Blended**	
Learning Model			
Precentage	**Synchronous**	**Asynchronous**	**Physical**
			✔

Course Description

This module is required for all the students at the department of "Biotechnology and Genetic Engineering". It is a 3-credit hour course in which 3 lectures each of 50 minutes will be given per a week. The course is designed to introduce the students to the basic fundamental principles of biological sciences in subjects that were not discussed in Biology (101). This module encompasses two main sections; in the first one, it covers topics in transfer of water and other organic metabolites throughout the plant system, reproduction in angiosperms and plant hormones and their functions. The second section mainly introduces the students to the anatomy and physiology of different systems in the human body including; the reproduction, circulatory, respiratory, digestive, and immune systems and animal hormones orchestrating the different vital processes of the living body. The topics covered in this course will allow the students to better comprehend other advanced courses during the following academic years. The Students are encouraged to take both of this module and the practical module # 240108 in the same term.

Course Learning Outcomes

Number	Outcomes	Corresponding Program outcomes
Knowledge		
K1	Understand and Explain the foundational concepts in plant physiology including transfer system within plant system, reproduction and chemical signals controlling the communication and response between cells and environment.	**Kp1**
K2	Describe the structure and function of organ systems in the human body, their interrelationships and homeostatic mechanisms, the processes by which animals acquire nutrients, water and oxygen, eliminate wastes, protect against foreign substances, how acquire information about their environment and reproduce.	**Kp1**
K3	Understand the processes of embryogenesis and development after fertilization in plants and animals.	**Kp1**
Skills		
Competencies		
C1	Demonstrate critical thinking skills utilize a wide range of information sources and communicate through oral presentations and written works.	**Cp2**
C2	Recognize the need for, and have the preparation and ability to engage in life-long learning independently, with a high level of enthusiasm and commitment to improve knowledge and competence continuously.	**Cp3**

Learning Resources

Course textbook	**Campbell Biology** (12th Edition, 2020) by Lisa A. Urry, Michael L. Cain, Steven A. Wasserman, Peter V. Minorsky, and Rebecca Orr. Publisher: Pearson. USA www.pearson.com.
Supporting References	
Supporting websites	
Teaching Environment	✔ **Classroom** ☐ **laboratory** ☐**Learning platform** ☐**Other**

Meetings and subjects timetable

Week	Topic	Learning Methods	Tasks	Learning Material
1	Ch 36: Resource acquisition and transport in vascular plants	Lecture		Textbook (Section 2-6)
2	Ch 36: Resource acquisition and transport in vascular plants	Lecture	Quiz 1	Textbook (Section 2-6)
3	Ch 38: Angiosperm reproduction & biotechnology	Lecture		Textbook (Section 1)
4	Ch 39: Plant responses to internal and external signals	Collaborative learning	In class assignment	Textbook (Section 1+2)
5	Ch 41: Animal nutrition	Lecture		Textbook (Section 3)
6	Ch 42: Circulation and gas exchange	Flipped class	In class Assignment	Textbook (Section 1-6)
7	Ch 42: Circulation and gas exchange	Lecture		Textbook (Section 1-6)
8	Midterm Exam			
9	Ch 43: The immune system	Lecture	Out class assignment	Textbook (Section 1-3)
10	Ch 44: Osmoregulation and excretion	Lecture		Textbook (Section 2-4)
11	Ch 46: Animal reproduction	Lecture		Textbook (Section 3-5)
12	Ch 46: Animal reproduction	Lecture	Quiz 2	Textbook (Section 3-5)
13	Ch 47: Animal development	Lecture		Textbook (Section 1-2)
14	Ch 45: Hormones and the endocrine system	Lecture		Textbook (Section 1-4)
15	Ch 45: Hormones and the endocrine system	Problem solving	In Class Assignment	Textbook (Section 1-4)
16	Final Exam			

* includes: Lecture, flipped Class, project- based learning, problem solving based learning, collaborative learning

Course Contributing to Learner Skill Development

Using Technology
Recognize legitimate and scientific information
Communication skills
Creating a safe ambiance, motivate students to initiate and engage in conversation, encouraging them to participate in teamwork and sharing opinions.
Application of concepts learnt
Inspiring students to set challenging goals and transferring the knowledge to new problems and situations by engaging them in cooperative learning and simulation.

Assessment Methods and Grade Distribution

Assessment Methods	Grade Weight	Assessment Time (Week No.)	Link to Course Outcomes
Mid Term Exam	**% 30**	**8**	**K1**
Various Assessments *	**% 30**	**2,4,6,9,12,15**	**K1,C**
Final Exam	**% 40**	**16**	**K1**
Total	**%100**		

* includes: quiz, in class and out of class assignment, presentations , reports, videotaped assignment, group or individual projects.

Alignment of Course Outcomes with Learning and Assessment Methods

Number	Learning Outcomes	Learning Method*	Assessment Method**
Knowledge			
K1	Understand and Explain the foundational concepts in plant physiology including transfer system within plant system, reproduction and chemical signals controlling the communication and response between cells and environment.	- Lecture - Flipped calsses. - Collaborative learning - Problem Resolving	- Exam - Quiz - In class assignment - out class assignment
K2	Describe the structure and function of organ systems in the human body, their interrelationships and homeostatic mechanisms, the processes by which animals acquire nutrients, water and oxygen, eliminate wastes, protect against foreign substances, how acquire information about their environment and reproduce.		
K3	Understand the processes of embryogenesis and development after fertilization in plants and animals.		
Skills			

Number	Learning Outcomes	Learning Method*	Assessment Method**
Competencies			
C1	Demonstrate critical thinking skills utilize a wide range of information sources and communicate through oral presentations and written Works.	Lecture Collaborative learning Flipped class Problem resolving	Assignments
C2	Recognize the need for, and have the preparation and ability to engage in life-long learning independently, with a high level of enthusiasm and commitment to improve knowledge and competence continuously.		

* includes: Lecture, flipped Class, project- based learning , problem solving based learning, collaborative learning

** includes: quiz, in class and out of class assignment , presentations , reports, videotaped assignment, group or individual projects.

Course Polices

Policy	Policy Requirements
Passing Grade	The minimum passing grade for the course is (50%) and the minimum final mark recorded on transcript is (35%).
Missing Exams	• Missing an exam without a valid excuse will result in a zero grade to be assigned to the exam or assessment. • A Student who misses an exam or scheduled assessment, for a legitimate reason, must submit an official written excuse within a week from the an exam or assessment due date. • A student who has an excuse for missing a final exam should submit the excuse to the dean within three days of the missed exam date.
Attendance	The student is not allowed to be absent more than (15%) of the total hours prescribed for the course, which equates to six lectures days (M, W) and seven lectures (S,T,R). If the student misses more than (15%) of the total hours prescribed for the course without a satisfactory excuse accepted by the dean of the faculty, s/he will be prohibited from taking the final exam and the grade in that course is considered (zero), but if the absence is due to illness or a compulsive excuse accepted by the dean of the college, then withdrawal grade will be recorded.
Academic Honesty	Philadelphia University pays special attention to the issue of academic integrity, and the penalties stipulated in the university's instructions are applied to those who are proven to have committed an act that violates academic integrity, such as: cheating, plagiarism (academic theft), collusion, and violating intellectual property rights.