Hashemite University		Plant Biology 1801041252 Compulsory Course
Faculty of Science		**Pre-requisite: 1801041102**
Department of Biology and Biotechnology	**Course Syllabus**	**Credit Hours**: 4 (3 hrs. theory + 1hr. practical)

Course Information	
Lecture's Time	8.30 – 10.00 Monday & Wednesday Practical Sessions: Sunday 11.30 -1.30, 1.30 -30 .30
Lecture Room	Biology Building 112 Practical Sessions lab.118
Instructor	Rajaa Abueideh Lab. Instructor: Ms. Shorouq Jaradat
Office Location	Herbarium Lab. at Herbarium building or Biology Building 103
Instructor's E-mail	raj@hu.edu.jo
Internet Home Page	staff.hu.edu.jo/rajaa
Office Hours	9.30-10.30 Sunday, 9.30-11.30 Tuesday + Messages using Microsoft teams
Textbook	**Sterns's Introductory Plant Biology,** by K.R. Stern, J.E Bidlack and S.H. Jansky, 14th edition. McGraw-Hill. New York 2017.
References(s)	**- Laboratory manual For Introductory Plant Biology** by K.R. Stern, 14th edition. McGraw-Hill. New York 2017. **- Botany an Introduction to Plant Biology,** by J. D.Mauseth, 6th edition, Jones and & Bartlett Publishers, Boston, 2016. **- Plant Biology** by Thomas L. Rost, et al, 2nd edition, Thomas/Brooks/Cole. Belmont 2006 **- Botany:** an introduction to plant biology by Weier T. Elliot, 6th edition. Person/Prentice Hall. New York 1982

Grading Policy:

Theory		**Practical**	
1st Exam	20 %	Quizzes	5 %
2nd Exam	20 %	Midterm	10 %
Other	%	Reports & Activities	5 %
Final Exam	30 %	Final	10 %
Total	70 %	Total	30 %

Course Objectives

1) Understand the importance of plants to human beings and civilization.
2) Understand the hierarchy of plant structure by learning the basic features of plant cells, tissues, and organs.
3) Describe the anatomical and morphological differences among different plant organs.
4) Understand the components of soil ecosystem and how they interact.
5) Develop an idea about fruits, seeds dispersal
6) Understand the function of water in plants and develop an idea about the forces that move water from soil into and through the plant and into the air.
7) Realize the process of photosynthesis as an energy converter process
8) Understand the alternation of generations in plants.
9) Develop an idea about plant biotechnology and vegetative propagation in plants.
10) Understand the binomial system of plant nomenclature
11) Develop knowledge concerning the great diversity among plants
12) Differentiating between angiosperms and gymnosperms based on the anatomy and morphology of different organs
13) Use the compound microscope properly in examining plant tissues.
14) Report the observation in schematic drawing.
15) Practice collecting, preserving and identifying common plants

Teaching and Learning Methods

Theory classes.
Practical sessions
Scientific reports
Group activities on selected laboratory sessions including preparation of certain plant tissues slides.
Demonstrations of certain procedures.
Field trips to the botanical garden at the university.

Course Contents

Week	Topic
1	- Introduction to Plant Biology - Cells **Lab. 1: Introduction, lab. Instructions & The microscope**
2	- Cells - Tissues **Lab. 2: Microscopy & Plant Cell Structures.**
3	- Tissues - Roots and Soil **Lab. 3: Plant Tissues I: Meristems, Parenchyma Collenchyma & Sclerenchyma**
4	- Roots and Soil - Stems **Lab. 4 : Plant Tissues II: Secretory Tissues, Epidermis, Periderm & the vascular tissue: xylem & phloem.**
5	- Stems - Leaves **Lab. 5: Plant Organs Anatomy I: Monocot and Dicot and Gymnosperms Roots**
6	- **First- Hour Exam** - Leaves **Lab. 6: Plant Organs Anatomy I: Monocot and Dicot and Gymnosperms Stems.**

7	- Flowers, Fruits and Seeds **Mid – Term lab. Exam**
8	- Meiosis and Alternation of Generations - Plant Biotechnology, Plant Breeding and Propagation - Plant Names and Classification **Lab. 7: Morphology of The Leaf.**
9	-Non-Vascular plants **Lab. 8 : Anatomy and Morphology of The Flower and Types of inflorescences**
9	- Non-Vascular plants -The Seedless Vascular Plants **Lab. 9: Types of fruits.**
10	Seed Plants: Gymnosperms **Lab. 10: Non-Vascular Plants (Mosses)**
11	- Seed Plants: Gymnosperms **Lab. 11: Vascular Seedless Plants (Ferns)**
12	- Seed Plants: Angiosperms **- Second- Hour Exam** **Lab. 12: Gymnosperms & Angiosperms.**
13	-Seed Plants: Angiosperms **Lab. 13: -Revision**
14	- Flowering Plants and Civilization **- Final Lab Exam**
15 & 16	**Final Exam**