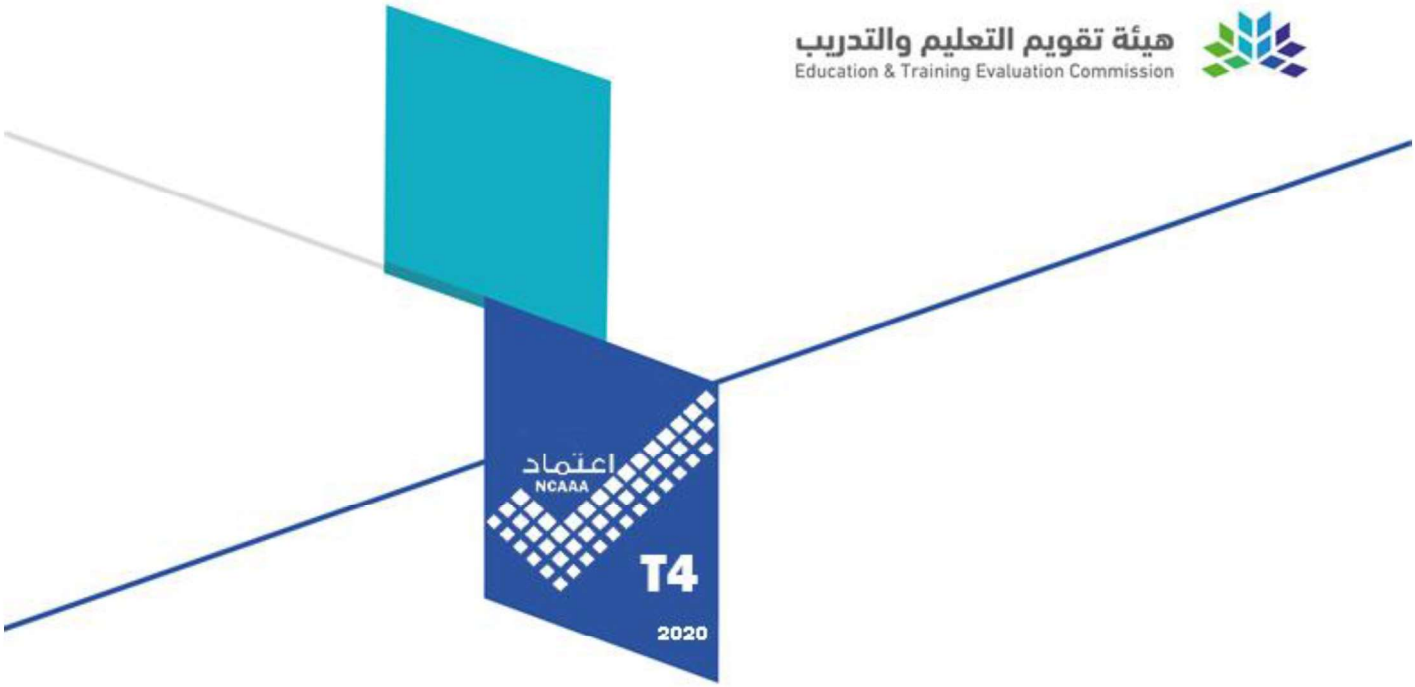
هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission



Course Specifications

Course Title:	Plant Biology
Course Code:	**2052105-3**
Program:	**Bachelor of Biotechnology**
Department:	**Department of Biotechnology**
College:	**College of Science**
Institution:	**Taif University**

Table of Contents

A. Course Identification

1. Credit hours: 3 (2 Lecture, 1 Lab)
2. Course type **a.** University ☐ College ☐ Department ☒ Others ☐ **b.** Required ☒ Elective ☐
3. Level/year at which this course is offered: 5th level/2nd year
4. Pre-requisites for this course (if any)**: General Biology, 201104-4**
5. Co-requisites for this course (if any)**: None**

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	**Traditional classroom**	60	100%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	30
2	**Laboratory/Studio**	30
3	**Tutorial**	
4	**Others** (specify)	
	Total	60

B. Course Objectives and Learning Outcomes

1. Course Description

This course outlines the biological aspects of plant kingdom including plant taxonomy, anatomy, reproduction, and physiology. The course will also introduce the students to the systematics of plant kingdom, the basic plant anatomy and morphology of both monocots and dicots, the main biological processes of plant cell including photosynthesis and respiration, plant reproduction and development, and plant responses to environmental challenge.

2. Course Main Objective

Identify the basic knowledge of the biology of plants including: basic plant anatomy, taxonomy, reproduction and development, biochemistry and plant breeding, genetic modification.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Outline the classification of plant kingdom and diversity	K1
1.2	Recognize plant structure and function and biological processes including nutrition, transport, growth, and responses to environment.	K3
2	**Skills :**	
2.1	Practice various techniques to study plant structure and function	S3
3	**Values:**	
3.1		

C. Course Content

No	List of Topics	Contact Hours
1	Plant systematics: classification;diversity of plants (Prokaryotes; Protists: Algae; Fungi; Bryophytes; Seedless vascular plants ;(Ferns);Gymnosperms (conifers); Angiosperms (flowering plants)	3
2	Early development of plant body; Formation of embryo; Maturation of embryo and seed; Seed dispersal; Requirements for seed germination	3
3	The Plant Body: cells and tissues of plant	3
4	Plant Anatomy and Morphology: roots and shoots	3
5	Plant Anatomy and Morphology: leaves, flowers, plant reproduction	3
6	Plants and taxonomy: fruits and seeds	3
7	Plants and Energy: Respiration and Photosynthesis	3
8	Regulating Growth and Development – The Plant Hormones	3
9	Secondary metabolites and Plant defense	3
10	Plant Biotechnology and Genetic Modification.	3
Total		30

List of practical topics	Contact hours
Plant tissue systems	3
Root	3
Stem	3
Leaf	3
Flower	3
Fruit Structure	3
Secondary Growth	3
Cell cycle and Mitosis	3
Meiosis	3
Plant growth regulators	3
Total	30

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	**Knowledge and Understanding**		
1.1	Outline the classification of plant kingdom and diversity	Lecture	Written Exam
1.2	Recognize plant structure and function and biological processes including nutrition, transport, growth, and responses to environment.	Lecture	Written Exam
2.0	**Skills**		
2.1	Practice various techniques to study plant structure and function	Projects, Problem solving	Written Exam (Practical)
3.0	**Values**		
3.1			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm exam	5	20%
2	Periodical Exam	8	10%
3	Report	9	10%
4	Practical Exam	10	20%
5	Final Exam	11	40%

***Assessment task** (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

1. Every faculty member allocates 6 hours per week of office hours in his schedule for student academic consultations, advice about registration and drop/add courses, and academic difficulties if any.
2. The Academic Guidance Unit of the program offers personal, academic, and professional counseling to support students academically, behaviorally, and emotionally.

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	**.** Evert and Eichhorn (2013) Raven Biology of Plants (8th Edition), ISBN:13:978-1-4292-1961-7. **2.** Lectures in plant Biology

Essential References Materials	**1.** Bidlack and Janskey. 2014. Introductory Plant Biology, 13th Edition. **2.**Bidlack. 2014. Introductory Plant Biology, Laboratory Manual, 13th Edition
Electronic Materials	Web Sites, Facebook, Twitter, etc. websites contain various materials for plant science.
Other Learning Materials	computer-based programs/CD, professional standards or regulations and software.

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	**One classroom (60 seats) with internet connection for 2 hours a week and one laboratory for 3 hours a week with internet facility.**
Technology Resources (AV, data show, Smart Board, software, etc.)	**Data show, internet connection**.
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	**specific laboratory equipment is required such as:** **1. Microscopes** **2. slides for plant tissues**

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Course management and planning	Students	Indirect
Effectiveness of teaching and assessment	Students	Indirect
Quality of learning resources	Students	Indirect
Effectiveness of Evaluation and exams	Students, Independent Reviewer	Indirect, Direct

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)
Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	Department Council
Reference No.	7
Date	16-6-1443