Jordan University of Science and Technology

Faculty of Agriculture

Plant Production Department

PP411 Plant Breeding And Crop Improvement - JNQF Level: 7
Summer Semester 2023-2024

Course Catalog
3 Credit Hours. The course Description include: Principles of plant breeding, applications of genetic principles by means of plant breeding procedures, Methods of selection for self and cross-pollinated and asexually propagated crops, Field techniques for breeding crops and source of germplasm and Problems facing plant breeders and ways to overcome them.
Teaching Method: On Campus

Text Book	
Title	Breeding Field Crops
Author(s)	David Allen Sleper and John Milton Poehlman
Edition	5th Edition
Short Name	1
Other Information	

Instructor	
Name	**Prof. Mohammed Alajlouni**
Office Location	M1L2
Office Hours	
Email	majl@just.edu.jo

Class Schedule & Room
Section 1: Lecture Time: Sun, Mon, Tue, Wed : 08:30 - 09:30 Room: C5023

Prerequisites		
Line Number	**Course Name**	**Prerequisite Type**
821322	HSS132MATH Elements Of Biostatistics	Prerequisite / Study
622130	PP213 Introduction To Biostatistics	Prerequisite / Study
623140	PP314 Seed Production And Technology	Prerequisite / Study
963413	BT341 Molecular Genetics	Prerequisite / Study

Tentative List of Topics Covered		
Weeks	**Topic**	**References**
Week 1	What is plant breeding? & Plant breeder's role	
Weeks 1, 2, 3, 4, 5	The genetic bases of plant breeding.	
Weeks 6, 7, 8	Tools of the plant breeder	
Weeks 9, 10, 11, 12	Methods of plant breeding.	
Weeks 13, 14	Germplasm resources for breeding crop plants.	
Weeks 15, 16	Breeding objectives and techniques	

Mapping of Course Outcomes to Program Outcomes and NQF Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Fostering student understanding of genetic principles underlining plant improvement. [1PLO1, 1PLO2] [1L7K1]	10%	
Describe sources and types of genetic variation and explain their importance for plant improvement [1PLO2] [1L7K1]	10%	
Describe and understand methods that are used in plant breeding including self, cross-pollinated and sexually propagated methods. [1PLO1, 1PLO2, 1PLO6, 1PLO7] [1L7K1, 1L7S1, 1L7S3, 1L7C1, 1L7C2, 1L7C4]	30%	
Locate, analyze, evaluate and synthesis information relevant to plant breeding. [1PLO6, 1PLO7] [1L7S1, 1L7S2, 1L7C3, 1L7C4]	15%	
Promote critical thinking in relation to improvement strategies and methods. [1PLO1, 1PLO6, 1PLO7] [1L7S1, 1L7S2, 1L7S3, 1L7C1, 1L7C3]	20%	
Discuss examples of problems facing plant breeders and approaches to overcome them and develop plans for the application of plant breeding methods to achieve a specific objective [1PLO6] [1L7S3, 1L7C1, 1L7C2, 1L7C3, 1L7C4]	15%	

Relationship to Program Student Outcomes (Out of 100%)						
PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7
19.17	22.5				36.67	21.67

Relationship to NQF Outcomes (Out of 100%)							
L7K1	L7S1	L7S2	L7S3	L7C1	L7C2	L7C3	L7C4
25	12.75	7.75	12	12	8	10.75	11.75

Evaluation	
Assessment Tool	**Weight**
Firest Exam	25%
Second Exam	25%
Class activities	10%
Final Exam	40%

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