Course Description Form Plant Breeding

Course Name
Plant Breeding
Course Code
PLAB412
Semester/Year
Second / 2025
Date this description was prepared
15 January 2025
Available attendance forms
In-Person
Number of Credit Hours (Total) / Number of Units (Total)
Number of hours = 5 (2 theoretical + 3 practical) , number of units = 3.5
Course administrator's name (if more than one name is mentioned
Dr. Nizar Suleiman Ali nazaralzUhairy@uodiyala.edu.iq Othman Nassif Jassim
Course Objective
1- Teaching students basic concepts in plant breeding. 2- Studying methods of plant reproduction. 3- Studying the phenomenon of infertility and incompatibility. 4- Identify the importance and genesis of genetic variations in plants. 5- Studying the most important methods of plant breeding. 6- Studying methods of breeding and improving the most important field crops such as (wheat, barley, yell corn and Forage crops).
Teaching and Learning Strategies
In-person lectures for 15 weeks with two monthly exams, daily exams and scientific reports
Course Structure

Week	Credits	Intended Learning Outcomes	Unit or Topic Name	Learning Method	Evaluation Method
First	2	Introduction to the history of the development of plant breeding science and its associated sciences and the specifications of a successful plant breeder.	Plant Breeding	Lecture, explanation and examples	Daily Exam
Level 2	2	Reproduction systems in plants .	Plant Breeding	Lecture, explanation and examples	Daily Exam
third	2	Male infertility and its types.	Plant Breeding	Lecture, explanation and examples	Daily Exam
Fourth	2	Intrinsic sexual incompatibility and its conditions and means of overcoming them.	Plant Breeding	Lecture, explanation and examples	Daily Exam
Fifth	2	Genetic variations and their relationship to plant breeding and improvement.	Plant Breeding	Lecture, explanation and examples	Daily Exam
Six	2	Inheritance of qualitative and quantitative traits and genetic equivalent and estimation of some genetic parameters.	Plant Breeding	Lecture, explanation and examples	Daily Exam
Seven	2	Genetic Repeatability, Hybrid Power and Inbreeding	Plant Breeding	Lecture, explanation and examples	Daily Exam
Eighth	2	Genetic improvement of self-pollinated plants.	Plant Breeding	Lecture, explanation and examples	Daily Exam
Nine	2	Genetic enhancement supplement for self-pollinated plants.	Plant Breeding	Lecture, explanation and examples	Daily Exam
10th Grade	2	Genetic improvement of blending plants Pollination.	Plant Breeding	Lecture, explanation and examples	Daily Exam
11th Grade	2	Genetic enhancement supplement for blending plants Pollination.	Plant Breeding	Lecture, explanation and examples	Daily Exam
12th Grade	2	Methods of breeding cropsfor.	Plant Breeding	Lecture, explanation and examples	Daily Exam
Thirteenth	2	Genetic improvement of plants by means of genetic engineering.	Plant Breeding	Lecture, explanation and examples	Daily Exam
Fourteenth	2	Parenting and genetic improvement using mutations	Plant Breeding	Lecture, explanation and examples	Daily Exam

Fifteenth		Education and genetic improvement to withstand environmental stress and pests.	Plant Breeding	Lecture, explanation and examples	Daily Exam
Practical Part					
Week	**Credits**	**Intended Learning Outcomes**	**Unit or Topic Name**	**Learning Method**	**Evaluation Method**
1	3	Identify the tools used in plant breeding experiments	Plant Breeding	Lecture, explanation and examples	Practical Examination and Report
2	3	Floral Biology of the plant	Plant Breeding	Lecture, explanation and examples	Practical Examination and Report
3	3	Modalities of Controlling Self-Pollination	Plant Breeding	Lecture, explanation and examples	Practical Examination and Report
4	3	Methods of isolation between plants during breeding program	Plant Breeding	Lecture, explanation and examples	Practical Examination and Report
5	3	Methods of castration in plants are autologous and mixed pollination	Plant Breeding	Lecture, explanation and examples	Practical Examination and Report
6	3	Self-Sexual Incompatibility and the Means to Overcome	Plant Breeding	Lecture, explanation and examples	Practical Examination and Report
7	3	Dividing plants according to the nature of pollination and estimating its percentage.	Plant Breeding	Lecture, explanation and examples	Practical Examination and Report
8	3	Mutations and their role in crop breeding	Plant Breeding	Lecture, explanation and examples	
9	3	The most important uses of multiplication in improving crops	Plant Breeding	Lecture, explanation and examples	Practical Examination and Report
10	3	Objectives and methods of raising and improving wheat plants	Plant Breeding	Lecture, explanation and examples	Practical Examination and Report

11	3	Objectives and methods of raising and improving barley	Plant Breeding	Lecture, explanation and examples	Practical Examination and Report
12	3	Objectives and methods of dusting and improving yellow corn	Plant Breeding	Lecture, explanation and examples	Practical Examination and Report
13	3	Objectives and methods of soil and improvement of feed collectors	Plant Breeding	Lecture, explanation and examples	Practical Examination and Report
14	3	Laboratory Training on Genetic Engineering Applications	Plant Breeding	Lecture, explanation and examples	Practical Examination and Report
15	3	Laboratory training on mutagenesis	Plant Breeding	Lecture, explanation and examples	

Course Evaluation	
EXAMINATIONS Monthly and daily exams with discussion questions within the lecture Degree of participation in questions related to the subject	
Learning and Teaching Resources;	
Required textbooks (methodology if any)	Bektash, Fadel 2006. Plant Breeding and Improvement. Faculty of Agriculture - University of Baghdad.
Key References (Sources)	
Recommended supporting books and references (scientific journals, reports	Iraqi academic scientific journals
E-References, Websites	Soil Science Society of America Library Genesis