

Module (Course Syllabus) Catalogue

2024-2025

College/ Institute	Khabat Technical Institute	
Department	Medicinal Plants Production - Evening	
Module Name	Seed Science	
Module Code	SES303	
Degree	Technical Diploma <input checked="" type="checkbox"/>	Bachelor <input type="checkbox"/> High Diploma <input type="checkbox"/> Master <input type="checkbox"/> PhD <input type="checkbox"/>
Semester	Third	
Qualification	Master	
Scientific Title	Assist Professor	
ECTS (Credits)	6	
Module type	Prerequisite <input type="checkbox"/> Core <input checked="" type="checkbox"/>	Assist. <input type="checkbox"/>
Weekly hours		
Weekly hours (Theory)	(1) hr Class	(2) Total hrs Workload
Weekly hours (Practical)	(3) hr Class	(4.5) Total hrs Workload
Number of Weeks	12	
Lecturer (Theory)	Bilal Ibrahim Muhammed	
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Lecturer (Practical)	Bilal Ibrahim Muhammed Zhyan Hamed Ahmed	
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Course Book

Course Description	The student will investigate the fundamental concepts of seed science from an approach and participate in a laboratory, storage, and field that demonstrate this study. The course is for students studying agriculture.
Course objectives	<ul style="list-style-type: none"> <input type="checkbox"/> To impart basic knowledge of seed development and its structures. <input type="checkbox"/> To appraise students with its relevance to production of quality seed.
Student's obligation	<p>Students are asked to do mandatory the following duties during the 12 weeks of the semester:</p> <ol style="list-style-type: none"> 1- Quiz. 2- Weekly practical report. 3- Homework. 4- Seminars. 5- Semester report. 6- Lab. activity.
Required Learning Materials	Computer, PowerPoint, Data show, white board, field and laboratory
Specific learning outcome:	<ol style="list-style-type: none"> 1. Learn the meaning of seed, its structure, development and maturation and their importance in crop production 2. students will acquire knowledge and basic principles related to quality seed production of varieties and hybrids in agricultural and horticultural crops 3. To promulgate knowledge about mechanism involved in dormancy and stress management for quality seed production 4. To initiate basic methods and principle related to seed quality testing and seed standards 5. To disseminate the knowledge on seed laws related to quality control. 6. To set forth basic knowledge on various processing operations and principals involved in successful seed storage.

Course References:

- 1- Shirley Doy, Seed Science and Technology, 2017 White Word Publications.
- 2- Nema, N.P. 1986. Principles of Seed Certification and Testing. Allied Publishers, New Delhi.
- 3- Agarwal, R.L. 1997. Seed Technology. Oxford & IBH, New Delhi.
- 4- Copland, L.O. & McDonald, M.B. 1996. Principles of Seed Science and Technology. Kluwer Academic Publishers, New York.
- 5- McDonald, M.B. & Copeland, L.O. 1997. Seed Production: Principles and Practices. Chapman & Hall, New York.

Course topics (Theory)	Week	Learning Outcome
Introduction to seed science	1	
Principles of Seed Production	2	
Seed Quality Control	3	
Seed Industries	4	
Seed Priming	5	
Seed Processing	6	
Seed Production Techniques	7	
Seed classes	8	

Seed demand forecasting and planning for certified	9	
seed certification	10	
Seed viability	11	
Seed production	12	
Practical Topics	Week	Learning Outcome
Seed development	1	
Hybrid seed production	2	
Seed Physiology	3	
Seed vigor	4	
Seed Quality testing	5	
Seed priming (practice test in laboratory)	6	
Seed Storage	7	
Seed drying	8	
Seed Cleaning	9	
Seed marketing	10	
Seed production in monocot	11	
Seed production in dicot	12	

Questions Example Design

Q1/ Define the Seed priming, testing and drying.

Q2/ What are the steps of planning for seed certified?

Q3/ Write the different between sexual and asexual hybrid seed production.

Q4/ Why is it important to know the seed quality testing?

Q5/ Write the classification of seed production.

Extra notes:

External Evaluator: