Module (Course Syllabus) Catalogue

2024-2025

College/ Institute	**Khabat Technical Institute**	
Department	**Medicinal Plants Production - Evening**	
Module Name	**Medicinal and Aromatic Plants**	
Module Code	**MAP404**	
Degree	**Technical Diploma** ■ **Bachler** ☐ **High Diploma** ☐ **Master** ☐ **PhD** ☐	
Semester	**Second**	
Qualification	**Master**	
Scientific Title	**Assist. Prof.**	
ECTS (Credits)	**7**	
Module type	**Prerequisite** ☐ **Core** ■ **Assist.** ☐	
Weekly hours		
Weekly hours (Theory)	**(2) 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 Shwan Muhammed Baper	
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Websites	**https://epuit.net/cbook/portal/login.php**	

Course Book

Course Description	The student will investigate the basic concepts of medicinal plants from the theoretical curriculum and participate in... The course is intended for students studying agriculture.
Course objectives	Introduction to the basic course of chemical structural properties of medicinal plants, active substances, and states of matter, as well as introducing the student to the medicinal plants found in Kurdistan and how to use them.
Student's obligation	Students are asked to do mandatory the following duties during the 12 weeks of the semester: 1- Quiz. 2- Weekly practical report. 3- Homework. 4- Seminars. 5- Semester report. 6- Lab. activity.
Required Learning Materials	Several materials and instruments are required in learning this unit, including: 1-Chemicals (Salts, acids, bases and solvents). 2-pH meter. 3- EC meter. 4-Soxhlet.
Specific learning outcome:	1- In this course, students will learn about medicinal plants and plant products. 2- Students will be enabled to standardize and evaluate the quality of natural products of plant origin. 3- Students will learn techniques for extracting, separating and isolating plant components

Course References:	1- Blumert, M. and Liu, J., Jiaogulan — China's "Immortality" Herb, Torchlight Publishing, Inc., Badger, CA,1999. 2- Boik, J., Natural Compounds in Cancer Therapy — Promising Nontoxic Antitumor Agents from Plants andOther Natural Sources, Oregon Medical Press, Princeton, MN, 2001. (BO2). 3- Gelfand, M.The Traditional Medical Practitioner in Zimbabwe. Mambo Press, Gewru, Zimbabwe, 1985. (ZIM) 4- Lewis, W.H. and Elvin-Lewis, M., Medical Botany, John Wiley & Sons, New York, 1977. (LEL) 5- Perry, L.M., Medicinal Plants of East and Southeast Asia, MIT Press, Cambridge, MA, 1980. (LMP)

Course topics (Theory)	Week	Learning Outcome
History of medicinal plants	**1**	
Introduction to medicinal plants	**2**	
Classification of medicinal and aromatic plants	**3**	
Medicinal Uses and Health benefits	**4**	
Secondary metabolism of medicinal plants	**5**	
Functions of Secondary Metabolites in Plant	**6**	
Secretory Structures in Plants	**7**	
Medicinal plants of the Fabaceae family	**8**	
Medicinal plants of the Poaceae family	**9**	

Medicinal plants of the Solanaceae family	**10**	
Medicinal plants of the Asteraceae family	**11**	
Medicinal plants of the Cruciferae family	**12**	
Practical Topics	**Week**	**Learning Outcome**
Identification of medicinal plants	**1**	
Medicinal plants collection	**2**	
Medicinal plants drying	**3**	
Methods of Preparing Herbal Remedies	**4**	
Methods of extraction the active compounds	**5**	
Extraction by soxhlet apparatus	**6**	
Solvent extraction	**7**	
Oil Extraction	**8**	
Steam water extraction	**9**	
Essential oil extraction	**10**	
Alcohol Extraction	**11**	
Column Chromatography	**12**	

Questions Example Design

Q1/ Define the medicinal and aromatic plants.

Q2/ Write the scientific name, planting date and methods of planting for Black seed.

Q3/ Write the different between solvent and stem water extraction.

Q4/ Why is it important to know the chemical compound in plant?

Q5/ Write the classification medicinal plant families.

Extra notes:

External Evaluator: