

## Module (Course Syllabus) Catalogue 2023-2024

College/ Institute	Khabat Technical Institute	
Department	Medicinal Plants Production - Evening	
Module Name	Medicinal and Aromatic Plants	
Module Code	MAP404	
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	Second	
Qualification	Master	
Scientific Title	Lecturer	
ECTS (Credits)	7	
Module type	Prerequisite <input type="checkbox"/> Core <input checked="" type="checkbox"/>	Assist. <input type="checkbox"/>
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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# Course Book

<b>Course Description</b>	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.
<b>Course objectives</b>	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.
<b>Student's obligation</b>	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.
<b>Required Learning Materials</b>	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.
<b>Specific learning outcome:</b>	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 and Other 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)

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

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

## 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: