



Course Specifications

Course Title:	Medicinal plants
Course Code:	201430-3
Program:	Bachelor in Botany
Department:	Biology
College:	Science
Institution:	Taif University

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A. Course Identification

1. Credit hours:3hr			
2. Course type			
a.	University <input type="checkbox"/>	College <input type="checkbox"/>	Department <input type="checkbox"/>
b.	Required <input checked="" type="checkbox"/>	Elective <input type="checkbox"/>	Others <input type="checkbox"/>
3. Level/year at which this course is offered: 7 th level / 4 th year			
4. Pre-requisites for this course (if any): Economic Botany 201318-3			
5. Co-requisites for this course (if any): None			

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	6hr/Week	100 %
2	Blended	-	-
3	E-learning	-	-
4	Distance learning	-	-
5	Other	-	-

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	Lecture	30
2	Laboratory/Studio	30
3	Tutorial	-
4	Others (specify)	-
	Total	60

B. Course Objectives and Learning Outcomes

1. Course Description:

The course includes historical introduction, factors affecting the production of medicinal plants, classification of medical plants, active constituents in plants, volatile oils, properties and its distribution in plants. The course focuses also on extraction the volatile oil, physical and chemical properties of volatile oil, alkaloids, properties and its distribution in plants, glycosides, properties and its distribution in plants, other active ingredients in plants, growth and production of several medicinal plants.

2. Course Main Objective:

This course aims to study the medicinal plants commonly grown in Saudi Arabia and its importance and which part (organ) of such plant contains the highest yield of active ingredients. Further, recognize the cultural and nutritional requirements for each crop and differentiate the different groups of active constituents such as alkaloid and glycosides extraction from medicinal plants

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	Knowledge and Understanding:	
1.2	Recognize the importance, classification and active ingredients of medicinal plants.	K2
1.3	Memorize the properties of different active constituents and their extraction methods	K3
2	Skills:	
2.1	Compare between the old and recent extraction methods showing the suitable one for each part.	S1
2.2	Summarize the production conditions, propagation, used part, active component and uses of several medicinal plants.	S2
3	Values:	
3.1	Appraise proper collaboration and use various electronic resources to achieve certain individual or group tasks.	V1

C. Course Content

No	List of Topics	Contact Hours
1	Chapter 1. Factors affecting the production of medicinal plants - Introduction - Importance of medicinal plants - Natural factors affecting medicinal plants production Artificial factors affecting medicinal plants production	3L + 3P
2	- Natural factors affecting medicinal plants production Artificial factors affecting medicinal plants production	3L + 3P
3	Chapter 2. Classification of medicinal plants - Alphabetical classification - Commercial classification	3L + 3P
4	- Taxonomical classification - Morphological classification - Pharmacological classification	3L + 3P
5	- Chemical classification Seasonal classification	3L + 3P
6	Chapter 3. Active constituents of medicinal plants: Volatile oils - Extraction methods - Physical properties - Chemical properties Adulteration of volatile oils	3L + 3P
7	Chapter 4. Alkaloids - Distribution in different plant organs - Properties of alkaloids - Classification of alkaloids Uses of alkaloids	3L + 3P
8	Chapter 5. Glycosides - Distribution in different plant organs - Properties of glycosides	3L + 3P

	- Classification of glycosides Uses of glycosides	
9	-Chapter 6. Growth and production of medicinal plants Growth and production of cumin, coriander, fennel, caraway, anise and black cumin.	3L + 3P
10	-Growth and production of mint, basil, rosemary, thymus, geranium, sweet marjoram. Growth and production of chamomile, roselle, datura, fenugreek, castor bean, liquorice and periwinkle	3L + 3P
Total		30L+30P

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Knowledge and Understanding:		
1.2	Recognize the importance, classification and active ingredients of medicinal plants.	Lectures	Mid-term and final written exam
1.3	Memorize the properties of different active constituents and their extraction methods	Brain storming Lectures	Mid-term and final written exam
2.0	Skills:		
2.1	Compare between the old and recent extraction methods showing the suitable one for each part.	Open discussion	Practical reports Activities evaluation
2.2	Summarize the production conditions, propagation, used part, active component and uses of several medicinal plants.	Collaborative learning	Practical exam Activities evaluation
3.0	Values:		
3.1	Appraise proper collaboration and use various electronic resources to achieve certain individual or group tasks.	Discovery learning	Activities evaluation

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Assignments and activities: 1- Written Assignment Power-point presentation	Variable	10
2	Mid-term Exam	8 th	20
3	Periodic Exam	12 th	10
4	Practical reports	Continuou s	15
5	Final Practical Exam	15 th	5
6	Final Exam	16 th	40

*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice :

6 hours per week for academic advice and consultations

Teaching staff is also available using Blackboard web site and Taif University “Edugate” System

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	Ramawat, Kishan Gopal, Mérillon, Jean-Michel (Eds.), 2008. Bioactive Molecules and Medicinal Plant. Springer, ISBN 978-3-540-74603-4. James A. Duke, 2002. - Handbook of Medicinal Herbs 2ed CRC Press. ISBN-13: 978-0849312847 ISBN-10: 0849312841. Joanne Barnes, 2007. Herbal Medicines 3ed. Pharmaceutical Press. ASIN: B01K3OPTQW
Essential References Materials	الشحات نصر أبو زيد. ١٩٨٨. النباتات العطرية ومنتجاتها الزراعية والدوائية. الدار العربية للنشر والتوزيع - القاهرة. فوزي طه قطب حسين. ١٩٨١. النباتات الطبية. زراعتها ومكوناتها. المريخ للنشر. الرياض
Electronic Materials	Blackboard website Website of Saudi digital Library
Other Learning Materials	Computer-based programs and professional software.

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	- Classrooms for 40 students\lecture. - Laboratory for 20 students\ lab activity
Technology Resources (AV, data show, Smart Board, software, etc.)	Data show
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	Provide laboratory supplies germination of seeds and examination of the various medicinal plants. Volatile oil extraction units Soxhlet extraction apparatus for fixed oil

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching - Written evaluation comments. - Small group discussion	Students	Direct Indirect
2. Other Strategies for Evaluation of Teaching	Staff members	

Evaluation Areas/Issues	Evaluators	Evaluation Methods
by the Instructor or by the Department - Colleagues open discussion - Asking one of my colleagues to attend my lectures to get a feedback on the teaching strategies and tactics		Direct Direct
3. Processes for Improvement of Teaching - Enhancing personalized learning. - Provide activities of sufficient variety and depth to allow different levels of learning to take place. - Differentiate by using various starting points and tasks for different ability levels. - Carefully plan realistic deadlines so that all students have a sense of achievement. - Continuously assess teaching groups and give feedback about their learning and their successes	Staff members	Direct
4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution) - Randomly selected exam papers will be graded by one of my colleagues.	Staff members	Direct

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	Biology Department
Reference No.	Committee number 14 - Academic Year 1442-1443H
Date	22\5\2022G – 21\10\1443H

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