Course Specification
(Bachelor)

Course Title:	*Medicinal and Economic Plants*
Course Code:	*BIO1411*
Program:	*Bachelor of Science in Biology*
Department:	*Department of Biology*
College:	*Faculty of Science*
Institution:	*University of Tabuk*
Version:	***Course Specification Version Number***
Last Revision Date:	*September 2023*

Table of Contents

A. General information about the course:

1. Course Identification

1. Credit hours:					
3 Credit (2 theoretical + 1 practical) hours.					
2. Course type					
A.	☐University	☐ College	☒ Department	☐Track	☐Others
B.	☐ Required		☒ Elective		
3. Level/year at which this course is offered: (8th Level / 4th year)					
4. Course general Description:					
In this course, students will be provided with a fundamental understanding of interactions between plants and human culture. The course emphasizes historical and cultural botany, economic botany, and indigenous and modern medicinal plants. In addition, there will be a special emphasis on the history, economic importance, uses, botany and harvested processes of the most significant medicinal plants of Kingdom of Saudi Arabia.					
5. Pre-requirements for this course (if any)**:**					
General Botany 2 (BIO1301).					
6. Co-requirements for this course (if any)**:**					
None					
7. Course Main Objective(s):					
By the end of this course the students are expected to be able to: - Describe basic knowledge about plant structure, function, fundamentals of plant growth and physiology, and use of bio-active components of medicinal plants. - Summarize the extent of human-plant interactions in agriculture, society and the environment. - Formulate and interpret data on harvested processes of the most significant medicinal plants of Kingdom of Saudi Arabia. - Communicate, in written and oral forms, knowledge on plant science to solve fundamental issues.					

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	2	50%

No	Mode of Instruction	Contact Hours	Percentage
2	E-learning		
3	Hybrid • Traditional classroom • E-learning		
4	Distance learning		
5	**Others (Lab work)**	2	50%

3. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	**Lectures**	30
2.	**Laboratory/Studio**	30
3.	**Field**	
4.	**Tutorial**	
5.	**Others (specify)**	
Total		**60**

B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
1.0	**Knowledge and understanding**			
1.1	Describe the History of medicinal plants in KSA.	K1	-Lectures. -Class discussion. -Group discussion. -Case studies.	-Quizzes -Midterm examination. -Final examination. -Class discussion and participation. -Homework (Problem-solving).

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
1.2	List the important drug producing plants.	K2	-Lectures. -Class discussion. -Group discussion. -Homework assignments. -Case studies.	-Quizzes -Midterm examination. -Final examination. -Class discussion and participation. -Homework assignments.
1.3	Record the drugs derived from plants.	K1	-Lectures. -Class discussion. -Group discussion. -Homework assignments. -Case studies.	-Quizzes -Midterm examination. -Final examination. -Class discussion and participation. -Homework assignments.
2.0	**Skills**			
2.1	Explain the importance of medicinal and economic plants.	S1	-Lab work. -Class discussion. -Group discussion. -Brainstorming.	-Quizzes -reports -Final examination. -Class discussion and participation. -Homework (Problem-solving).
2.2	Develop student skill to understand the role of herbal and traditional medicine in the discovery of new drugs.	S2	-Lab work. -Class discussion. -Group discussion. -Brainstorming.	-Quizzes -reports -Final examination. -Class discussion and participation.

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
				-Homework (Problem-solving).
2.3	Demonstrate the ability of students to use of the computer for following up the latest in medicinal plants and novel drug discovery.	S3	-Lab work. -Class discussion. -Group discussion. -Brainstorming. -Field trip.	-Quizzes -reports -Final examination. -Class discussion and participation. -Homework (Problem-solving).
3.0	**Values, autonomy, and responsibility**			
3.1	Demonstrate the work independently and as part of a team to conduct projects related to medicinal and economic plants.	V1	-Self-learning. -Lab work -Class discussion. -Group discussion. -Individual or group presentation,	-Class discussion and participation. -Homework (Problem-solving).

C. Course Content

No	List of Topics	Contact Hours
1.	Introduction to Medicinal plants in Ancient tradition.	2
2.	Significance and classification of medicinal and economic plants.	2
3.	Botanical aspects of medicinal and economic plants.	2
4.	Chemical diversity of medicinal plants.	2
5	Applications of extracting methods and techniques.	2
6.	Medicinal and economic plants: how do they adapt to the environment?	2
7.	Conservation of wild medicinal and economic plants and their habitat.	2
8.	Cultivation and breeding of medicinal and economic plants.	2
9.	Challenges in cultivation and breeding of medicinal and economic plants.	2
10.	Sustainable fertilization in medicinal and economic plants.	2

11.	Sustainable weed, disease and pest management in medicinal and economic plants.	2
12.	Medicinal and economic plants in Saudi Arabia (part 1).	2
13.	Medicinal and economic plants in Saudi Arabia (part 2).	2
14.	Medicinal and economic plant conservation strategies for Primary-Healthcare at local and global levels.	2
15.	Medicinal plant from Quran, Psychoactive drugs: drugs addiction and social issues.	2
Total		**30**

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Class Participation	During whole teaching period	5
2.	Homework (Problem-solving)	3 to 13	5
3.	Short Exams (Quizzes)	During whole teaching period	5
4.	Midterm Theoretical Examination	8-9	20
4.	Reports (For Practical)	During whole teaching period	10
5.	Final Practical Examination	15	15
6.	Final Theoretical Examination	17	40

*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.).

E. Learning Resources and Facilities

1. References and Learning Resources

Essential References	- Medicinal Plants Biodiversity and Drugs: Editors: M. K. Rai, Geoffrey A. Cordell, Jose L. Martinez, Mariela Marinoff, Luca Rastrelli (Science Publishers) July 3, 2012 Hardback - ISBN 9781578087938.

	- Medicinal Plants: Classification, Biosynthesis and Pharmacology: Editors: Alejandro Varela, Jasiah Ibanez (Nova Science Publishers, New York), 2009.
Supportive References	- Greco-Arab and Islamic Herbal Medicine: Traditional System, Ethics, Safety, Efficacy, and Regulatory Issues; Authors: Bashar Saad, Omar Said; John Wiley & Sons. - Handbook of Arabian Medicinal Plants: Author: Shahina A. Ghazan far CRC Press INC, 1994. - Bedouin Ethnobotany: Plant Concepts and Usesin a Desert Pa storal World, Author: James P. Mandaville, University of Arizona Press.
Electronic Materials	- Saudi Digital Library
Other Learning Materials	- http://instructors.coursesmart.com

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	- Well-equipped classrooms and laboratories that accommodate a sufficient number of students.
Technology equipment (projector, smart board, software)	- DataShow, smart board, software.
Other equipment (depending on the nature of the specialty)	- Laboratories equipped with three tables and water sources, microscopes and plant samples.

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	- Students. - Faculty members.	Indirect & direct: - Questionnaires. - Meetings.
Effectiveness of Students assessment	- Quality and development committee. - Department chair.	- Course report. - Program annual report.
Quality of learning resources	- Plan and program committee. - Students. - Staff members.	Indirect & direct: - Questionnaires. - Meetings. - Reports.
The extent to which CLOs have been achieved	- Quality and development committee.	Indirect & direct: - Questionnaires. - Meetings.

Assessment Areas/Issues	Assessor	Assessment Methods
	- Peer Reviewer. - Program leaders	- Reports.
Other		

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

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	PROGRAMS AND STUDY PLANS COMMITTEE
REFERENCE NO.	
DATE	SEPTEMBER 2023