



Course Specification

— (Bachelor)

Course Title: Nutraceuticals
Course Code: 522 PHG-2
Program: Pharmaceutical Sciences
Department: Pharmacognosy
College: Pharmacy
Institution: Najran University
Version: 1
Last Revision Date: 24 Dec. 2023

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A. General information about the course:

1. Course Identification

1. Credit hours: (2h (2+0))					
2. Course type					
A.	<input type="checkbox"/> University	<input type="checkbox"/> College	<input type="checkbox"/> Department	<input type="checkbox"/> Track	<input checked="" type="checkbox"/> Program
B.	<input type="checkbox"/> Required		<input checked="" type="checkbox"/> Elective		
3. Level/year at which this course is offered: (Level 9th/5th year)					
4. Course general Description:					
<p>Nutraceutical is a combination of the words "nutrition" and "pharmaceutical," and it refers to a meal or food product that allegedly has health advantages. A nutraceutical is a food product that has physiological benefits and aids in the maintenance of good health. They can be isolated, extracted, and purified from food or non-food sources and their derivatives. They can be made into dosage forms such as granules, tablets, powder, capsules, jelly/gel, liquid, semi-solid, etc. and sold in those forms, the need for nutraceuticals is growing by the day.</p>					
5. Pre-requirements for this course (if any):					
Pharmacognosy I and II					
6. Co-requisites for this course (if any):					
None					
7. Course Main Objective(s):					

This course is intended to provide hands-on experience with health foods, food ingredients, dietary supplements, and natural medications. This course is also aimed to equip individuals to improve health and reduce disease risk through prevention. Furthermore, Nutraceuticals and Functional Foods are rethinking the relationship between food, nutrition, and health in today's rapidly increasing food business. It contributes to demonstrating the benefits of functional foods in health promotion and lowering the risk of chronic diseases as a burgeoning field.

2. Teaching mode (mark all that apply)





No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	30	100
2	E-learning		
3	Hybrid <ul style="list-style-type: none"> Traditional classroom E-learning 		
4	Distance learning		

3. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	Lectures	30
2.	Laboratory/Studio	0
3.	Field	0
4.	Tutorial	0
5.	Others (Assignments and study)	0
Total		30

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

Code	Course Learning Outcomes	Code of PLOs aligned with program	Teaching Strategies	Assessment Methods
1.0	Knowledge and understanding			
1.1	Demonstrate an in-depth knowledge of the concepts of nutraceuticals and their role in health promotion and prevention of disease.	K2	Lectures	Written exams Assignments
2.0	Skills			
2.1	Integrate pharmaceutical sciences with the information obtained from nutraceuticals to provide accurate recommendations and creative solutions for complex problems related to patient treatment	S1	Lectures	Written exams Assignments
3.0	Values, autonomy, and responsibility			
3.1	Advocate patient rights to use the nutraceuticals safely and effectively in various situations	V2	Poster presentations and seminars	Observation card and presentation



C. Course Content

No	List of Topics	Contact Hours
1.	• Introduction to Nutraceuticals and Functional Foods	2
2.	• Food, Nutrients and their Health claims	2
3	• Active Ingredients and their Origin	3
4	• Extraction and Processing of active Ingredients	3
5	• Probiotics, Prebiotics and Synbiotic Role in Nutraceuticals	2
6	• Product development Using active ingredients	2
7	• Functional Foods and their role in Nutraceuticals	2
8	• Food Quality Assurance in Nutraceuticals	3
9	• Nutraceuticals and Disease control	3
10	• Laws and Regulation Standards in Nutraceutical Industries	2
11	• Nutrient Pigments: Carotenoids, Lycopene, Curcumin etc	2
12	• Active Biodynamic Principles in Plant extracts.	2
13	• Entrepreneurship Development in Nutraceutical Industry	2
Total		30

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Quiz-1	4 th week	5
2.	Midterm exam	8 th week	25
3.	Individual assignments	Weekly	5
4.	Quiz-2	12 th week	5
5.	Observation card	15 th week	5
6.	Presentation	16 th week	5
7.	Final exam	17 th week	50
Total			100

*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	Nutraceutical and Functional Food Components: Effects of Innovative Processing Techniques 2 nd edition (Charis M. Galankis)
Supportive References	Functional Foods, Nutraceuticals and Natural Products: Concepts and Applications (Dhiraj A. Vatter) Handbook of Nutraceuticals, Volume 1: Ingredients, Formulations, and Applications (Yashwant Pathak)
Electronic Materials	https://www.everand.com/book/635717675/Nutraceuticals-Sources-Processing-Methods-Properties-and-Applications
Other Learning Materials	

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	A Suitable lecture room equipped with data show, internet, and sufficient number of seats.
Technology equipment (projector, smart board, software)	1. Computer 2. Internet access 3. Data show
Other equipment (depending on the nature of the specialty)	

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Head of dept. Students	Direct Indirect: questionnaire
Effectiveness of Students assessment	Faculty Students	Direct Indirect: questionnaire
Quality of learning resources	Faculty Students	Direct Indirect: questionnaire
The extent to which CLOs have been achieved	Faculty members Students	Direct Indirect: questionnaire
Other		

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

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	PHARMACOGNOSY DEPARTMENT COUNCIL
REFERENCE NO.	14450612-0511-00010





DATE

25-12-2023

