



AMITY UNIVERSITY

— UTAR PRADESH —

L	T	P/S	SW/ FW	TOTAL CREDIT UNITS
4	-	-	-	04

Course Title: RECENT TRENDS IN FUNCTIONAL FOODS

Course Code:

Credit Units: 04

Course Objectives:

The students will be provided knowledge about the bio active components of the food and regulatory framework required. This course is designed to evaluate examples of scientific evidence supporting value-added functional foods or nutraceutical supplementation for disease prevention. The students will have the awareness about the latest trends in the field of functional foods.

Pre-requisites: Knowledge of nutrition in health problems

Student Learning Outcomes:

On completion of the course the student will be able to:

- To differentiate between different classes of Nutraceuticals
- To explain national and global regulatory aspects.
- To apply the knowledge of nutraceuticals and functional foods in food industries.
- To apply the knowledge of functional foods for establishing relation between health and disease.
- To integrate food science and human nutrition and provide strong background in functional foods for health.

Pedagogy for Course Delivery:

The course pedagogy will include lectures, discussion on applications of the topics covered.

Course Contents/Syllabus:

	Weightage (%)
Module I: Overview of Nutraceutical Industry	20%
<ul style="list-style-type: none"> • Organizational elements, classification of nutraceuticals, dietary supplements, fortified foods, functional foods and phytonutraceuticals. • Scope of the industry. • Indian and global Nutraceutical markets – status and prospects. • Regulatory aspects for nutraceuticals / functional foods including CODEX 	
Module II: Nutraceuticals of plant and animal origin	20%
<ul style="list-style-type: none"> • Phytonutraceuticals • Plant secondary metabolites, classification and sub-classification: Isoflavonoids, phytosterols, free radicals. • Myconutraceuticals • Concept of cosmoceuticals and aquaceuticals. • Animal metabolites - chitin, chitosan, glucosamine. 	
Module III: Microbial and algal nutraceuticals	20%
<ul style="list-style-type: none"> • Concept of prebiotics and probiotics - principle, mechanism, production and technology. • Synbiotics for maintaining good health. • Algal nutraceuticals • Algae as source of omega - 3 fatty acids, antioxidants 	
Module IV: Functional Food and Health	20%
<ul style="list-style-type: none"> • Rationale for use of Nutraceuticals • Role of Nutraceutical in management of Health • Nutraceuticals for diseases 	
Module V: Trends in Functional Foods	20%
<ul style="list-style-type: none"> ➤ Adverse effects and toxicity of nutraceuticals ➤ Nutrigenomics ➤ Recent advancements and techniques in the formulation and processing of functional foods. ➤ Consumer acceptance of functional foods: issues for future. 	

Assessment/ Examination Scheme:

Theory L/T (%)	Lab/Practical/Studio (%)	End Term Examination(%)
100	0	100

Assessment/ Examination Scheme:

	Continuous Assessment/ Internal Assessment				End Term Examination		Total
	CT	S/V/Q	HA	A	EE		TT
Theory Assessment							
Weightage (%)	10	08	07	05	70		100

Abbreviations:

CT – Class Test, S- Seminar, V- Viva, Q- Quiz, HA- Home Assignment, TT- Total Theory

Text & Référencés:

1. Brigelius-Flohé, J & Joost HG. 2006. Nutritional Genomics: Impact on Health and Disease. Wiley VCH.
2. Cupp J & Tracy TS. 2003. Dietary Supplements: Toxicology and Clinical Pharmacology. Humana Press.
3. Gibson GR & William CM. 2000. Functional Foods - Concept to Product.
4. Goldberg I. 1994. Functional Foods: Designer Foods, Pharma Foods.
5. Losso JN. 2007. Anti-angiogenic Functional and Medicinal Foods. CRC Press.
6. Manson P. 2001. Dietary Supplements. 2nd Ed. Pharmaceutical Press.
7. Campbell JE & Summers JL. 2004. Dietary Supplement Labeling Compliance.
8. Neeser JR & German BJ. 2004. Bioprocesses and Biotechnology for Nutraceuticals. Chapman & Hall.
9. Robert EC. 2006. Handbook of Nutraceuticals and Functional Foods. 2nd Ed. Wildman.
10. Shi J. (Ed.). 2006. Functional Food Ingredients and Nutraceuticals: Processing Technologies. CRC Press.
11. Webb GP. 2006. Dietary Supplements and Functional Foods. Blackwell Publ