

16FT308 NUTRACEUTICALS AND FUNCTIONAL FOODS

Hours Per Week :

L	T	P	C
3	1	-	4

Total Hours :

L	T	P	WA/RA	SSH/HS	CS	SA	S	BS
45	15	-	5	40	-	-	5	5



Course Description and Objectives:

This course deals with the functional foods and nutraceuticals (FFN) products and their bioavailability and health benefits. The objective of the course is to impart knowledge to students on basics of functional foods and nutraceuticals, their significance, regulatory standards and role in disease prevention.

Course Outcomes:

The student will be able to:

- define functional foods and nutraceuticals.
- understand the chemistry and physiological effects of FFN.
- understand the role of selected FFN in health promotion and disease prevention and treatment.
- discuss the regulations with respect to functional foods and Nutraceuticals.

SKILLS:

- ✓ *Identify the bioactivities of the main functional ingredients and their health benefits, sources and safety issues.*
- ✓ *proficiency in formulation, delivery and regulatory compliance related to FFN products.*

ACTIVITIES:

- *Report on bioactive compounds and their functional role.*
- *Report on global market policy and regulatory aspects for FFN.*

UNIT - 1**L-9, T-3**

GENERAL INTRODUCTION: Defining nutraceuticals and functional foods, Nature, Type and scope of nutraceutical and functional foods. Nutraceutical and functional food applications and their health benefits, Nutraceutical compounds and their classification based on chemical and biochemical nature with suitable and relevant descriptions.

UNIT - 2**L-9, T-3**

NUTRACEUTICALS FOR SPECIFIC DISEASE: Cancer, Heart disease, Stress, Osteoarthritis and Hypertension. Antioxidants and other phytochemicals (Isoflavones and Lycopenes), Their role as nutraceuticals and functional foods, Dietary fibers and complex carbohydrates as functional food ingredients.

UNIT - 3**L-9, T-3**

FUNCTIONAL ROLE OF FOOD COMPONENTS: Protein as a functional food ingredient, Probiotic foods and their functional role, Herbs as functional, Health promoting activity of common herbs

UNIT - 4**L-9, T-3**

FUNCTIONAL FOODS: Cereal products as functional foods-oats, wheat bran, rice bran etc. Functional vegetables products, Oil seeds and sea foods. Coffee, Tea and other beverages as functional foods/drinks and their protective effects

UNIT - 5**L-9, T-3**

STORAGE AND STANDARDS: Effects of processing, storage and interactions of various environmental factors on the potentials of such foods Marketing and regulatory issues for functional foods and nutraceuticals, Recent development and advances in the areas of nutraceutical and functional foods.

TEXT BOOKS:

1. J. Brigelius, and H. G. Joost, "Nutritional Genomics: Impact on Health and Disease", 3rd edition, Wiley, 2006.
2. J. Cupp and T. S. Tracy, "Dietary Supplements: Toxicology and Clinical Pharmacology", 1st edition, Humana Press, 2003.

REFERENCE BOOKS:

1. G. R. Gibson and C. M. William, "Functional Foods - Concept to Product." 1st edition, CRC Press, 2000.
2. I. Goldberg, "Functional Foods: Designer foods, Pharma foods, nutraceuticals", 1st edition, Springer, 1994.
3. J. N. Losso, "Angi-angiogenic Functional and Medicinal Foods", 3rd edition, CRC Press, 2007.
4. P. Manson, "Dietary Supplements", 4th edition, Pharmaceutical Press, 2001.