Functional Foods and Nutraceuticals

Course Code	Title of Course	Credit Hours
HND-220	Functional Foods And Nutraceuticals	2(2-0)

Learning Outcomes:

Students will be able to:

- Analyze the impact of functional foods on nutrition and their role in addressing various health conditions, including obesity, diabetes, and cardiovascular diseases.
- Identify and describe key functional ingredients and bioactive molecules found in functional foods, such as isoflavones, polyphenols, dietary fiber, and omega-3 fatty acids.
- Examine the sources of functional foods from different food groups, including cereals, dairy, meat, fruits, and vegetables
- Understand the guidelines and safety assessments associated with functional foods and nutraceuticals.

Course Contents:

Functional foods and nutraceuticals: past, present, future and health claims; Functional foods and their impact on nutrition and health obesity, diabetes, cardiovascular diseases, hypertension and cancer; Functional ingredients and bioactive molecules: Isoflavones, lycopene, polyphenols, dietary fiber, omega-3 & -6 fatty acids, conjugated linoleic acid, antioxidants, prebiotic and probiotic; Functional foods from different food groups: cereals, dairy, meat, fruits and vegetables; Regulatory systems governing the production and distribution of functional food - national and international; Standard and regulations of various agencies: FDA, EC, FAO/WHO, Health Canada; Guidelines for the assessment of functional foods; Marketing and regulatory issues; Conventional and emerging food processing technologies for functional food production; Toxicological and safety aspects of functional foods; Asian functional foods; Functional foods in international market and growth in Pakistan.

Suggested Readings

Textbook:

1. Wildman, R.E.C. 2020. Handbook of Nutraceuticals and Functional Foods, 3rd ed. CRC Press, Traylor & Francis Group, Boca Raton, New York, USA.

Reference Books:

1. FAO (Food and Agriculture Organization of the United Nations). 2007. Report on Functional Foods. Food and Agriculture Organization of the United Nations, Rome, Italy.
2. Shi, J., C.T. Ho and F. Shahidi. 2005. Asian Functional Foods. Marcel Dekker/CRC Press, New York, U.S.A.
3. Shi, J., G. Mazza and M.L. Maguer. 2002. Functional Foods: Biochemical and Processing Aspects, Vol. 2. CRC Press, Traylor & Francis Group, Boca Raton, New York, USA