

### **Functional foods and nutraceuticals**

<b>Course No.</b>	<b>Title of Course</b>	<b>Credit Hours</b>
HND-312	Functional foods and nutraceuticals	3(3-0)

#### **Learning Outcomes:**

- To find out sources of functional foods & nutraceuticals and their impact on nutrition and health
- To familiarize with the standards and regulations used globally regarding regulatory issues and usage of functional foods
- To assess international trade and marketability of functional foods

#### **Theory:**

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:**

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.
4. Wildman, R.E.C. 2006. Handbook of Nutraceuticals and Functional Foods, 2<sup>nd</sup> ed. CRC Press, Traylor & Francis Group, Boca Raton, New York, USA.

