

Study Programme: Pharmaceutical Engineering		
Course Unit Title: Chemistry and technology of dietary supplements		
Course Unit Code: DFI09		
Name of Lecturer(s): Assoc. Prof. Senka S. Vidovic, PhD		
Type and Level of Studies: Master Academic Degree		
Course Status (compulsory/elective): Elective		
Semester (winter/summer): Winter		
Language of instruction: English		
Mode of course unit delivery (face-to-face/distance learning): Face-to-face		
Number of ECTS Allocated: 7		
Prerequisites: None		
Course Aims: Acquisition of scientific and academic knowledge and skills in the field of dietary supplements. Introduction to the chemical structure of constituents of dietary supplements, activities of dietary supplements, the production process of dietary supplements in the pharmaceutical industry and their application. Introducing students to valid rules in the field of dietary supplements.		
Learning Outcomes: Students become qualified for production of existing dietary supplements and creation of new forms of dietary supplements in the pharmaceutical industry.		
Syllabus: <i>Theory</i> Definition of dietary supplements and their classification. Recommended daily dose. Forms of dietary supplements. Chemistry and technology of dietary supplements based on minerals. Chemistry and technology of vitamin dietary supplements. Dietary supplements based on medicinal herbs. Dietary supplements based on mushrooms. Chemistry and technology of dietary supplements based on oils. Coenzyme Q10, α -lipoic acid and dietary supplements based on bee products. Technology of dietary supplements in the form of tea. Dietary supplements for athletes. Presence of chemicals contaminants, allergens, and pesticides in dietary supplements. <i>Practice</i> Production of extracts (dry and liquid) and essential oils of selected herbal materials as active compounds of dietary supplements. Production of dietary supplements in liquid form. Production of dietary supplements in solid form. Seminar work on a certain topic.		
Required Reading: 1. Essentials of Human Nutrition, Third Edition, Edited by Jim Mann and a. Stewart Truswell, Oxford Press, New York, 2007 2. Dietary Supplements, Edited by Chi-Tang Ho, James E. Simon, Fereidon Shahidi and Yu Shao, Oxford Press, New York, 2008 3. Herbal Medicines, Third Edition, Joanne Barnes, Linda A. Anderson, David J. Philipson, Pharmaceutical Press, 2007.		
Weekly Contact Hours:	Lectures: 3	Practical work: 3

Teaching Methods:

Lectures and students group work, practical work

Knowledge Assessment (maximum of 100 points):

Pre-exam obligations	points	Final exam	points
Active class participation	5	written exam	
Practical work	15	oral exam	40
Preliminary exam(s)	20	
Seminar(s)	20		

The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.