Course Unit Descriptor

Study Programme: Agricultural Egineering And Information Systems
Course Unit Title: Processing
Course Unit Code: 19.PTI024
Name of Lecturer(s): Milivoj Radojčin, Associate professor, Zoran Stamneković Assistant professor
Type and Level of Studies: Bachelor Degree
Course Status (compulsory/elective): Compulsory
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: 4
Prerequisites: None
Course Aims: Acquaintance of students with the specifics of theoretical and practical problems in the field of process engineering, in agro-industry, their systematization and the application of specific methods for solving them.
Learning Outcomes: Mastering professional and scientific methods of selection and use of process equipment, construction and exploitation of process plants, as well as solving specific problems in the field of process technology in agro-industry.
Syllabus: Mechanical processes and devices. Hydrodynamic processes and devices. Thermal processes and devices. Diffusion processes and devices. Thermodiffusion processes and devices. Heat and mass transfer devices. Devices and equipment for burning confiscations and waste. Devices and equipment for processing animal feed. Devices and equipment for preparing animal feed. Devices and equipment for product detoxification. Devices and equipment for extruding products. Devices and equipment for briquetting and pelletizing biomass. Devices and equipment for the distillation of essential oils from fruits. Devices and equipment for cold pressing of oil. Devices and equipment for the extraction of essential oils. Devices and equipment for biodiesel production. Devices and equipment for the production of biogas from waste materials. Devices and equipment for gas purification. Devices and equipment for water purification for technological application and waste water. Devices and equipment for separating the solid from the liquid phase. Devices and equipment for internal transport of products. Devices and equipment for the production of compost and substrate. Facilities with controlled climate (warehouses and cold stores). Devices and equipment for cooling products. Devices and equipment for measuring and packaging products. Application of integral organizational and technical measures in process systems in agro-industry in order to preserve the quality of processed products, increase environmental protection. Selection of process plants. Designing process systems for product finishing. Project technical documentation and measures to protect the living and working environment. Engineering process systems for product finishing. Costs in the exploitation of the system. Techno-economic analysis of investment justification. Conceptual solution. Projected task. Planning documentation. Investment and technical documentation. Construction site. Construction supervision. Test run. Technical reception. Quality of work and guarantee. Standards, regulations and norms.
Required Reading:

1. Rajput, R. K. ENGINEERING THERMODYNAMICS, College of Information Technology Patiala, New Delhi, India, 2007 p. 966

Weekly Contact Hours:	**Lectures:** 3	**Practical work:**3

Teaching Methods:

Methods of presentation, demonstration, simulation and illustration. Laboratory-experimental methods.

Knowledge Assessment (maximum of 100 points): 100

Pre-exam obligations	points	**Final exam**	points
Active class participation	9	written exam	(optional Test or written exam) 40
Test I, II, III and IV		oral exam	51
Preliminary exam(s)		…….	
Seminar(s)			

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