UNIVERSITY OF NIŠ

Course Unit Descriptor	Faculty	Faculty of Mechanical Engineering

GENERAL INFORMATION	
Study Program	Mechanical Engineering
Study Module (if applicable)	-
Course Title	Basic of Process Engineering
Level of Study	☒Bachelor ☐ Master's ☐ Doctoral
Type of Course	☐Obligatory ☒Elective
Semester	☒ Autumn Spring
Year of Study	III
Number of ECTS Allocated	6
Name of Lecturer/Lecturers	Assoc.Prof. Gordana Stefanovic
Teaching Mode	☒ Lectures ☐ Group tutorials ☐ Individual tutorials ☒ Laboratory work ☒ Project work ☒ Seminar ☐ Distance learning ☐ Blended learning ☐ Other

Purpose and Overview (max. 5 sentences)

Introducing students to the basics of chemical reactions and chemical reactors in process and other industries.

Syllabus (brief outline and summary of topics, max. 10 sentences)

1) Chemical reactions, Material balance of chemical reactions, 2) Application of laws of thermodynamics to the chemical reactions, 3) Chemical equilibrium, The dependence of chemical equilibrium constant on the temperature, 4) Chemical kinetics, Molecularity of reactions, Order of chemical reactions. Dependence of the reaction rate constant on the temperature. 5) Chemical thermodynamics, Enthalpy and entropy of reactions, Gibbs energy, 6) Thermodynamic, kinetic and stoichiometric base of biochemical reactions, 8) Elements of chemical reactor design and operation.

Language of Instruction

☒Serbian (complete course) English (complete course) ☐ Other _____ (complete course)

☐Serbian with English mentoring ☐Serbian with other mentoring _____

Assessment Methods and Criteria

Pre exam Duties	Points	Final Exam	Points
Activity During Lectures	5	Written Examination	Max. 40 (depending on Teaching Colloquia)

Practical Teaching	**15**	**Oral Examination**	**40**
Teaching Colloquia	**40**	**Overall Sum**	**100**
***Final examination mark is formed in accordance with the Institutional documents**			