Incoming student mobility

Name of UNIOS University Unit: Department of Chemistry

COURSES OFFERED IN FOREIGN LANGUAGE
FOR ERASMUS+ INDIVIDUAL INCOMING STUDENTS

Department or Chair within the UNIOS Unit	Department of Chemistry

Study program	University graduate study program of Chemistry (research programme and teaching programme)

Study level	Graduate

Course title	**Radiochemistry and Radiation Chemistry**
Course code (if any)	KD2209
Language of instruction	English
Brief course description	Ionizing radiation - what is it and what does it have to do with chemistry? Why and how harmful is it to human health? What are the useful applications? Students will be introduced to the types, origins and sources of radiation. The structure of the atomic nucleus, isotopes, radioactivity, modes and kinetics of radioactive decay. Which radioactive isotopes are natural and which are artificially created and in what way (nuclear machines, accelerators/particle accelerators, reactors). How and when a nuclear reaction occurs. On the principles of radiation measurement, which instruments and in which units the results are expressed. How radiation and the material exposed interact. What is radiolysis, how are radicals formed, what are their properties and what chemical changes do they cause. What are antioxidants and how do they work. Where radionuclides and ionizing radiation are applied (chemistry, medicine, industry). Peculiarities of techniques and methods of work in radiochemistry and radiation chemistry. The principles of a modern approach to protection and control against the harmful effects of ionizing radiation will be explained.
Course entry requirements (Preceding courses)	-
Form of teaching	Lectures and seminar
Form of assessment	Seminar work and exam

Number of ECTS	5
Class hours per week	2 (lectures) + 1 (seminars)
Minimum number of students	-
Period of realization	Winter semester/Summer semester
Lecturer	Brunislav Matasović