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|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty**  | Faculty of Science and MathematicsDepartment of Chemistry |
| **GENERAL INFORMATION** |
| Study program  | **Applied chemistry** |
| Study Module (if applicable) | Environmental chemistry |
| Course title | Forensic chemistry |
| Level of study | ☐ Bachelor ⊗ Master’s ☐ Doctoral |
| Type of course | ☐ Obligatory ⊗ Elective |
| Semester  | ☐ Autumn ⊗ Spring |
| Year of study  | second |
| Number of ECTS allocated | 5 |
| Name of lecturer/lecturers | Niko Radulović |
| Teaching mode |  ⊗ Lectures ☐Group tutorials ☐ Individual tutorials ⊗ Laboratory work ☐ Project work ☐ Seminar ☐Distance learning ☐ Blended learning ☐ Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| This course approaches the challenges, methods and analyses of forensic science from a fundamental, chemical perspective. Topics include drug analysis, arson investigation, questioned document analysis, and the analysis of paint and gunshot residue samples. The course helps the student to develop approaches to understanding, correctly using and further developing current chemical tools that are used in the Forensic Sciences. |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| The course should familiarize the student with the methodologies involved in analyzing forensic samples, provide a background in statistical analysis of data, and allow students to assess forensic methodologies utilized in the popular media. Students will be able to understand how spectroscopic and analytical methods are used to analyze forensic samples, determine the accuracy and reproducibility of methods studied in this course, and learn the strengths and weaknesses of the methods studied in this course. Lecture topics include: Crime Lab Services – from local labs to the FBI; Handling Physical Evidence; Identification of evidence using microscopy – The example of hair analysis; Chemistry and Dying of Fibers; Paints and Plastics – Spectroscopic Methods; Presumptive Methods for Drug Identification – Spot Tests; Conclusive Methods for Drug Identification; Arson Investigation – Characterization of hydrocarbon mixtures; Chemistry and Firearms; Questioned Document Examination; Artificial Aging – Is this signature a week or a decade old?; Applications of Chemistry and Physics in the Analysis of Blood Samples; Inorganic Systems as Evidence – Glass, Soil; Chemistry of Fingerprint Collection. |
| **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** | **50** |
| **Practical teaching** | **30** | **Oral examination** | **/** |
| **Teaching colloquia** | **15** | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |