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| **UNIVERSITY OF NIŠ** | | | | | | |
| **Course Unit Descriptor** | | **Faculty** | | | Faculty of Occupational Safety in Niš | |
| **GENERAL INFORMATION** | | | | | | |
| Study program | | | | Fire Protection Engineering | | |
| Study Module (if applicable) | | | | / | | |
| Course title | | | | Ignition and Combustion Theory | | |
| Level of study | | | | ☐Bachelor ☒ Master’s ☐ Doctoral | | |
| Type of course | | | | ☒ Obligatory ☐ Elective | | |
| Semester | | | | ☒ Autumn ☐Spring | | |
| Year of study | | | | Year: I | | |
| Number of ECTS allocated | | | | 5 | | |
| Name of lecturer/lecturers | | | | Emina Mihajlović | | |
| Teaching mode | | | | ☒ Lectures ☐Group tutorials ☐ Individual tutorials  ☐Laboratory work ☐ Project work ☐ Seminar  ☐Distance learning ☐ Blended learning ☐ Other | | |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** | | | | | | |
| *Forming a basis for engineering calculation of the combustion process, which pertains to stoichiometric and thermo‐dynamic problems, formation of flame front, its speed, and ignition sources.* | | | | | | |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** | | | | | | |
| Physicochemical foundations of the combustion process. Definition of, and conditions required for, combustion. Thermal dynamics of the combustion process. Combustion kinetics. Self‐flammability. Complete and incomplete combustion. Gas fuel combustion. Physicochemical properties of gas fuels. Combustion conditions. Explosiveness limits, hazards from explosions and safety measures. Liquid fuel combustion. Physicochemical properties of liquid fuels, combustion temperature, combustion products. Solid fuel combustion. Physicochemical properties of solid fuels. Effect of composition and particle size on the combustion process. Definition of the term dust, types of dust, causes of dust explosion. Dust self‐flammability. Waste incineration. Incineration procedures. Environmentally significant elements for consideration. Relevant factors in waste incineration technology. | | | | | | |
| **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** | **10** | | **Written examination** | | | **40** |
| **Practical teaching** | **20** | | **Oral examination** | | |  |
| **Teaching colloquia** | **30** | | **OVERALL SUM** | | | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** | | | | | | |