**DESCRIPTION OF A STUDY COURSE – SYLLABUS**

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| **Title of a course** | **Theory of combustion and fire-extinguishing** | | | | |
| **Study programme** | **Professional undergraduate study Occupational Safety** | | | | |
| **Status of a course** | Obligatory | | | | |
| **Year of study** | 1. | **Semester** | W | **ECTS credits** | 5 |
| **Teaching plan**  **(L + E + S+ Pr)** | 2+2+0+0 | | | | |
| **Goals of a course** | | | | | |
| To acquaint students with legislation in the field of fire protection, theory of combustion, equations of combustion, diagrams of development of fire, calculation of fire risk, theory of extinguishing. | | | | | |
| **Conditions for enrolling course** | | | | | |
| No conditions | | | | | |
| **Expected learning outcomes on a level of a course** | | | | | |
| 1. Analizirati osnovne elemente u teoriji gorenja 2. Analizirati osnovne elemente u teoriji gašenja 3. Primijeniti jednadžbe izgaranja 4. Utvrditi osnove gašenja požara i sredstva za gašenje 5. Describe the basics of burning theory, 6. Analyse combustion equations, 7. Analyse fire development diagrams, 8. Calculate fire risk,   Identify the basics of fire-extinguishing theory, fire categories and fire-extinguishing agents | | | | | |
| **Content of a course** | | | | | |
| Physical and chemical fundamentals of combustion process: Definition of combustion, conditions needed for combustion, thermodynamics, kinetic of combustion process, limits of explosiveness, fire hazards and methods of prevention, categorization of inflammables and partial and full combustion products. Quantity of reactors and products of combustion as to their volume and mass. Zones of hazard, storing and decanting of inflammable liquids and gasses. Hazard assessment. Physical and chemical fundamentals of fire-extinguishing process: Definition and conditions needed for fire extinguishing. Assessing the needed quantity of fire-extinguishers. Mobile, partially mobile and fixed systems of fire extinguishing; fire alarm systems in chemical plants. Legislative regulations. | | | | | |
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