**DESCRIPTION OF A STUDY COURSE – SYLLABUS**

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| **Title of a course** | **Safety measures in electric power exploitation** | | | | |
| **Study programme** | **Professional undergraduate study Occupational Safety** | | | | |
| **Status of a course** | Obligatory | | | | |
| **Year of study** | 1. | **Semester** | S | **ECTS credits** | 4 |
| **Teaching plan**  **(L + E + S+ Pr)** | 2+2+0+0 | | | | |
| **Goals of a course** | | | | | |
| Acquaintance and technical description of the dangers of electricity (electricity), technical safeguards applied in the design, production and construction phase of electrical plants, installations and devices, and organizational and technical safeguards for the safe use and safe operation of electrical installations, installations and devices, while respecting the levels of danger of electric shock to man at various sources of danger, technical regulations and standards, methods and procedures for safe operation, and the equipment and technical safeguards available. To enable students to independently perform the risk assessment of electricity and to determine the application of technical and organizational safety measures for electrical installations, installations and devices. | | | | | |
| **Conditions for enrolling course** | | | | | |
| No conditions | | | | | |
| **Expected learning outcomes on a level of a course** | | | | | |
| 1. Izračunati osnovne električne veličine u različitim električnim postrojenjima, razvodima i uređajima primijenjene elektrotehnike 2. Vrednovati određene parametre djelovanja električne energije na čovjeka 3. Modelirati i izračunati parametre svih vrsta odnosno izvora opasnosti od djelovanja električne energije na čovjeka 4. Dimenzionirati odabrane tehničke zaštitne mjere sigurnosti na niskonaponskim instalacijama i trošilima u fazi projektiranja i izgradnje 5. Dimenzionirati odabrane tehničke zaštitne mjere sigurnosti na visokonaponskim postrojenjima i vodovima u fazi projektiranja i izgradnje 6. Izraditi procjenu rizika i propisati primjenu pravila i mjera sigurnosti pri radovima na električnim postrojenjima, vodovima i instalacijama 7. Izraditi tehničke i organizacijske zahtjeve za sigurno izvođenje radova pod naponom na pojedinim vrstama električnih postrojenja u skladu s odabranom metodom 8. Uspostaviti sustav odgovarajuće opreme i učinkovite organizacije mjera oslobađanja iz strujnog kruga i prve pomoći unesrećenima od električne energije 9. Analyse electrical conditions in different electrical plants, distribution lines and devices. 10. Evaluate the effect of electricity on humans. 11. Explain the types and sources of dangers from electricity to humans. 12. Recommend technical safety precautions for low voltage installations and consumers at the design and construction stages. 13. Recommend technical safety precautions for high voltage plants and lines at the design and construction stages. 14. Recommend safety rules and measures when working on electrical plants, lines and installations. 15. Interpret technical and organizational requirements for safe live working.   Carry out measures of removal from the circuit and first aid measures for persons injured by electricity. | | | | | |
| **Content of a course** | | | | | |
| Introduction to safety measures in electric power exploitation. Fundamental concepts and principles of basic electrotechnics. Impact of electric power on human beings. Kinds of electric power hazards. Technical safety in constructing high and low voltage plants. Technical safety in creating overhead power lines and cable lines. Regulations and safety measures when working on electric power plants. Safety measures in electric transformer stations, regulating plants, power plants; safety measures when working at overhead power lines, cable lines, underground plants, low voltage plants. Work under voltage exposure in power plants. Technical and personal safety equipment, tools and safety equipment in power plants. Regulations (internal regulations and national laws) and organization of safety at work. Offering emergency medical assistance and liberating injured people from electrical circuits. | | | | | |
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