**DESCRIPTION OF A STUDY COURSE – SYLLABUS**

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| **Title of a course** | **Probability and statistics** | | | | |
| **Study programme** | **Professional undergraduate study Occupational Safety** | | | | |
| **Status of a course** | Obligatory | | | | |
| **Year of study** | 2. | **Semester** | W | **ECTS credits** | 6 |
| **Teaching plan**  **(L + E + S+ Pr)** | 2L+2E | | | | |
| **Goals of a course** | | | | | |
| Acquire the theoretical and practical knowledge required to perform statistical data analysis and to interpret the results obtained. | | | | | |
| **Conditions for enrolling course** | | | | | |
| No conditions | | | | | |
| **Expected learning outcomes on a level of a course** | | | | | |
| 1. Utvrditi karakteristike promatranih pojava primjenom metoda deskriptivne statistike. 2. Razlikovati osnovne principe kombinatorike i vjerojatnosti na konkretnom primjeru. 3. Interpretirati vrijednosti izračunatih pokazatelja inferencijalne statistike. 4. Utvrditi korelaciju i regresiju između dvije promatrane pojave. 5. Provesti statističku analizu prikupljenih podataka i interpretirati dobivene rezultate. 6. Determine the characteristics of observed phenomena using descriptive statistics methods. 7. Distinguish the basic principles of combinatorics and probability on a concrete example. 8. Determine the characteristics of the observed phenomena on the basis of calculated indicators of inferential statistics. 9. Determine correlation and regression between observed variables.   Conduct a statistical analysis of collected data and interpret the obtained results | | | | | |
| **Content of a course** | | | | | |
| Descriptive statistics: Statistic set. Arranging data. Numerical indicators of a central tendency for dispersion and shaping.  Fundamentals of combinations: permutations, combinations and variations.  Probability: Definition of probability. Probability of union and intersection. Conditional probability and independence of events. The law of total probability and the Bays theorem. Geometric probability.  Random variables: Discreet and continuous random variables. Expectations and variations. Binomial, Poisson, normal and gamma dispersion. χ2-test.  Inferential statistics: Sample and parameters of the sample and of the root set. Central limit theorem. Intervals of reliance  Correlation and regressive analysis: Method of minimal quadrants. Linear correlation and regression. | | | | | |
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