**DESCRIPTION OF A STUDY COURSE – SYLLABUS**

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| **Title of a course** | **Geographic Information Systems** | | | | |
| **Study programme** | **Professional undergraduate study Telematics** | | | | |
| **Status of a course** | Obligatory | | | | |
| **Year of study** | 3 | **Semester** | W | **ECTS credits** | 5 |
| **Goals of a course** | | | | | |
| Adopt basic concepts related to geographic information systems, which include modelling of entities and real-world phenomena with vector and raster types of data, understanding of coordinate systems and projections, basics of cartography and basic techniques of spatial analysis. | | | | | |
| **Conditions for enrolling course** | | | | | |
| No conditions | | | | | |
| **Learning outcomes on a level of a study programme which includes course** | | | | | |
| Outcome 5: Use computer principles and methods related to programming languages, databases, and operating systems.  Outcome 6: Design and implement desktop, web and mobile computer applications and computer programs for microcomputers and microcontrollers, with or without a database.  Outcome 10: Analyse and implement an information system in the field of telematics.  Outcome 11: Design and develop solutions for components, circuits and software for application in signal processing and telecommunications, with the preparation of supporting project documentation.  Outcome 12: Design and develop solutions for components, circuits and software for application in computer networks and information systems, with the preparation of supporting project documentation.  Outcome 15: Participate in teamwork and independently present professional content in written and spoken form in Croatian and English. | | | | | |
| **Expected learning outcomes on a level of a course** | | | | | |
| 1. Explain and apply the types and models of data used to describe real geospatial entities 2. Explain and apply the basic principles of cartography to create maps in GIS 3. Define and apply basic spatial analysis concepts and techniques 4. Explain the manners and collect and prepare geospatial and other data for GIS tool processing 5. Create documentation and present results of spatial analysis | | | | | |
| **Content of a course** | | | | | |
| GIS basic functions. Data compilation. Standards. Attributes. Layer attribute table. Symbol Attributes. Determination of geographical position. Co-ordinate systems. Cartographic projections. Main structures of geographical data. Vector data. Screen data. Geographical data base. Meta data. Georeference. Arranging spatial and attribute data. Data search. Spatial analysis. Presenting data. | | | | | |