**DESCRIPTION OF A STUDY COURSE – SYLLABUS**

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| **Title of a course** | **Mobile Communication** | | | | |
| **Study programme** | **Professional undergraduate study Telematics** | | | | |
| **Status of a course** | Obligatory | | | | |
| **Year of study** | 2 | **Semester** | W | **ECTS credits** | 4 |
| **Goals of a course** | | | | | |
| Adopt the basic concepts needed to understand wireless and mobile communication, as well as the basic knowledge to select suitable antennas and an initial budget for a simpler wireless communication system. | | | | | |
| **Conditions for enrolling course** | | | | | |
| No conditions | | | | | |
| **Learning outcomes on a level of a study programme which includes course** | | | | | |
| Outcome 1: Explain the basic mathematical, physical and technical principles of operation of electrotechnical, electronic and computer elements and circuits, measuring devices and electrical machines used in telematics systems.  Outcome 2: Link mathematical methods, engineering principles and computer simulations from the signal and system theory with applications in telematics systems.  Outcome 7: Describe the development and implementation of communications systems, switching systems, and local and broadband networks.  Outcome 8: Design and implement communications and computer networks, as well as network services.  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 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 the basic concepts of wireless communication 2. Explain and calculate the basic parameters of a simpler wireless communication system 3. Explain basic antenna parameters and a radiation diagram 4. Explain and apply the basics of modulation techniques in mobile communications 5. Explain the basic elements and development of mobile communication systems | | | | | |
| **Content of a course** | | | | | |
| Introduction and development. Telecommunication systems: from digital radio to mobile multimedia: technical basis (strategy of approach, spectrum, standardization etc...). GSM, GPRS, HSCSD -UMTS / 3G - Wireless LANs, Wi-Fi. Satellite systems. Broadcast system. Support to mobile communication. Roaming-Mobil IP Network layer. Transport layer-Mobile portals -IMS I –Mtld. Market trends-assessment- assessment of market capacity. Regulations and licensing in the view of international agreement such as spectrum allocation, global circulation etc...; -activity and application; -parts of construction and finished products; -Charging & Billing; -security aspects. | | | | | |