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| 1. | **Course title** | Computer Network Design |
| 2. | **Course code** | F18L3S063 |
| 3. | **Semester** | 8 |
| 4. | **Unit offering the course** | Faculty of Computer Science and Engineering |
| 5. | **ECTS** | 6 |
| 6. | **Goals of the study programme** | |
| | The aim of this course is to enable the student to work with large computer networks and provide collaborative work in different administrative regions, as well as to design different types of computer networks according to the needs of end users. | |
| 7. | **Contents of the study programme** | |
| | (1) Introduction of QoS. Needs. Converged Networks. Types of delay. QoS requests for different types of traffic. QoS policy. (1) QoS building blocks. Integrated and differentiated services. PHB. QoS mechanisms. (1) Classification and marking. Managing congestion. Avoiding congestion. (1) Traffic policies and shaping. Link Efficiency. (1) Autonomous systems and routing. RIP, EIGRP, OSPF. (1) Connecting to autonomous systems. BGP. (1) Network Design Methodologies. Network architecture of the business network. Structured network design. Life cycle of systemic development. (1) Steps in network design. Objectives and scope of the project. Contact with the client. (1) Technical goals. Scalability. Availability. Performance. Security. Management. Usability. (1) The characteristic of the existing network and traffic. Work Tools. Factors in network traffic. (1) Structuring and modulating the network. Design of campus networks and networks in data centers. Redundancy. Core design. Virtualized network environment. (1) Multicast traffic | |

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| | and protocols. (1) SLA. Creating and maintaining SLA. |