

<b>Subject name:</b> Enterprise Networking Security Automation (CIS3)		<b>NEPTUN-code:</b> ATKCI3KBNE	<b>Weekly hours:</b> full time course 2 lectures+0 seminar+2 lab
<b>Credit:</b> 4 <b>Requirement:</b> mid-year degree		<b>Prerequisites:</b> no	
<b>Lecturer:</b> dr. Nagy Rezső	<b>Position:</b> assoc.prof.	<b>Institute name:</b> Óbuda University Alba Regia Technical Faculty	
<b>Way of assesment:</b> Online chapter assessments, PT skills assessments and Final Exam (min. 80%).			
<b>Subject description</b>			
<p>Large enterprises depend heavily on the smooth operation of their network infrastructures. This is why networking professionals are vital to every organization and those with networking skills can land a great job and set their sights on a rewarding career! This third course in the 3-course CIS series describes the architectures and considerations related to designing, securing, operating, and troubleshooting enterprise networks. It covers wide area network (WAN) technologies and quality of service (QoS) mechanisms used for secure remote access along with the introduction of software-defined networking, virtualization, and automation concepts that support the digitalization of networks.</p> <p>Topics:</p> <ol style="list-style-type: none"> <li>1. Emerging Network Technologies</li> <li>2. Network Security</li> <li>3. OSPF Concepts</li> <li>4. OSPF Configuration</li> <li>5. WAN Concepts</li> <li>6. Optimize and Monitor Networks</li> <li>7. Troubleshoot Networks</li> <li>8. QoS Concepts</li> <li>9. Network Virtualization</li> <li>10. Network Automation</li> <li>11. Case Study 1.</li> <li>12. Case Study 2.</li> <li>13. Final Exam</li> <li>14. Improvement</li> </ol>			
<b>Competencies</b>			
<ul style="list-style-type: none"> <li>- Work with routers and switches using OSPF in point-to-point and multiaccess networks.</li> <li>- Mitigate threats and enhance network security using access control lists and security best practices.</li> <li>- Develop critical thinking and problem-solving skills using real equipment and Cisco Packet Tracer.</li> <li>- Understand virtualization, SDN, and how APIs and configuration management tools enable network automation.</li> </ul>			
<b>Bibliography:</b>			
online material			