

<b>Subject name:</b> Switching, Routing, and Wireless Essentials (CIS2)		<b>NEPTUN-code:</b> ATKCI2KBNE	<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>This course focuses on switching technologies and router operations that support small-to-medium business networks, including wireless local area networks (WLAN) and security concepts. You'll perform basic network configuration and troubleshooting, identify and mitigate LAN security threats, and configure and secure a basic WLAN.</p> <p>Topics:</p> <ol style="list-style-type: none"> <li>1. Available and Reliable Networks</li> <li>2. L2 Security and WLANs</li> <li>3. Redundant Networks</li> <li>4. Routing Concepts and Configuration</li> <li>5. Switching Concepts</li> <li>6. DHCPv4</li> <li>7. DHCPv6</li> <li>8. VLANs</li> <li>9. Inter-VLAN Routing</li> <li>10. Troubleshoot Static and Default Routes</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, switches and wireless devices to configure and troubleshoot VLANs, Wireless LANs and Inter-VLAN routing.</li> <li>- Configure and troubleshoot redundancy on a switched network using STP and EtherChannel.</li> <li>- Develop critical thinking and problem-solving skills using real equipment and Cisco Packet Tracer.</li> <li>- Explain how to support available and reliable networks using dynamic addressing and first-hop redundancy protocols.</li> </ul>			
<b>Bibliography:</b>			
online material			