Subject name: Switching, Routing, and Wireless Essentials (CIS2)		*NEPTUN-code:* ATKCI2KBNE	*Weekly hours:* full time course 2 lectures+0 seminar+2 lab
Credit: 4 *Requirement:* mid-year degree		*Prerequisits:* no	
Lecturer: dr. Nagy Rezső	*Position:* assoc.prof.	*Institute name:* Óbuda University Alba Regia Technical Faculty	

Way of assesment:
Online chapter assessments, PT skills assessments and Final Exam (min. 80%).

Subject description

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.

Topics:
1. Available and Reliable Networks
2. L2 Security and WLANs
3. Redundant Networks
4. Routing Concepts and Configuration
5. Switching Concepts
6. DHCPv4
7. DHCPv6
8. VLANs
9. Inter-VLAN Routing
10.Troubleshoot Static and Default Routes
11. Case Study 1.
12. Case Study 2.
13. Final Exam
14. Improvement

Competencies

- Work with routers, switches and wireless devices to configure and troubleshoot VLANs, Wireless LANs and Inter-VLAN routing.
- Configure and troubleshoot redundancy on a switched network using STP and EtherChannel.
- Develop critical thinking and problem-solving skills using real equipment and Cisco Packet Tracer.
- Explain how to support available and reliable networks using dynamic addressing and first-hop redundancy protocols.

Bibliography:

online material