Subject name: Introduction to Networks (CIS1)	***NEPTUN-code:*** ATKCI1KBNE	***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

In this course, students will learn how networks operate. This course introduces architectures, models, protocols, and networking elements – functions needed to support the operations and priorities of Fortune 500 companies to small innovative retailers. You'll even get the chance to build simple local area networks (LANs) yourself. You'll have a working knowledge of IP addressing schemes, foundational network security, and be able to perform basic configurations for routers and switches.

Topics:
1. Basic Network Connectivity and Communications
2. Protocols and Models
3. Building a Small Network
4. Securing a Small Network
5. Communicating Between Networks
6. Ethernet Concepts
7. Ethernet Switching
8. Network Layer
9. IP Addressing
10. Transport Layer
11. Network Application Communications
12. Case Study
13. Final Exam
14. Improvement

Competencies

- Build simple LANs, perform basic configurations for routers and switches, and implement IPv4 and IPv6 addressing schemes.
- Configure routers, switches, and end devices to provide access to local and remote network resources and to enable end-to-end connectivity between remote devices.
- Develop critical thinking and problem-solving skills using real equipment and Cisco Packet Tracer.
- Configure and troubleshoot connectivity a small network using security best practices

Bibliography:

online material