I076	**Linux operating system**	L	P	S	ECTS
		1	1	0	3

Course objectives. Introduce students with Linux operating system and its architecture. Students will learn about the main components of an operating system and how to perform critical tasks like managing software and users, and configuring hardware. In the course, the following will be explained in detail: Init, process, users, groups, roles, I/O redirections, vi/vim editor. Terminal commands, like top, vmstat, iostat, will be covered in details.

Prerequisites. Bachelor in Computer Science.

Course content.

1. Introduction. Linux user interface.
2. Architecture of UNIX/Linux operating system.
3. Virtual machine (VM). Installation of Linux (ISO, IMG).
4. Linux file system. File system hierarchy. Boot processes. File system commands.
5. Graphical user interface (GUI)
6. Command line interface – CLI. Types of shells. Bash shell. Writing scripts.
7. Users and groups administration. Types of users and roles. Users commands.
8. Unix/Linux processes. Types of processes. Processes attributes and process management. Init system.

LEARNING OUTCOMES

No.	LEARNING OUTCOMES
	Understanding od Unix/Linux architecture.
	Being able to install Linux.
	Advanced usage of filesystem commands.
	Using Linux through GUI and CLI.
	Understanding the shells in Linux with the emphasis on Bash. Writing scripts in Bash.
	Manipulating with users and groups through terminal commands.
	Understanding Unix/Linux processes and its types, and how to manipulate with processes.

RELATING THE LEARNING OUTCOMES, ORGANIZATION OF THE EDUCATIONAL PROCESS AND ASSESSMENT OF THE LEARNING OUTCOMES

TEACHING ACTIVITY	ECTS	LEARNING OUTCOME **	STUDENT ACTIVITY*	EVALUATION METHOD	POINTS	
					min	max
Attending lectures and exercises	0.5	1-7	Lecture attendance, discussion, teams work, independent work on given tasks and short written exams	Attendance lists, tracking activities, closed form exercises	0	4

Homework assignments	0.5	1-7	Independent work on given problems	Evaluation	0	4
Written exam (Mid-terms)	1	1-8	Preparing for written exam	Evaluation	25	46
Final exam	1	1-8	Revision	Oral exam	25	46
TOTAL	3				50	100

Teaching methods and student assessment. Lectures and exercises are obligatory. The exam consists of a written and an oral part. Upon completion of the course, students can take the exam. Successful midterm exam scores replace the written exam. Exercises are both auditory and laboratory. Laboratory exercises include the usage of computers. Students can improve their grades by writing homework assignments and seminars.

Can the course be taught in English: Yes

Basic literature:

1. C. Negus, Linux Bible (9th Edition), Wiley, 2015.

Recommended literature:

1. B. Ward, How Linux Works: What Every Superuser Should Know (2nd Edition), No Starch Press, Inc. 2015.