Bialystok University of Technology									
Field of study	**Computer Science**							**Degree level and programme type**	**Engineer's degree full-time programme**
Specialization/ diploma path	**---**							**Study profile**	academic
Course name	**Linux Administration**							**Course code**	**FCS-00039**
								Course type	obligatory
Forms and number of hours of tuition	L	C	LC	P	SW	FW	S	**Semester**	2
	30				30			**No. of ECTS credits**	**6**

Entry requirements	
Course objectives	Provide basic knowledge of the installation, operation and administration of the GNU Linux systems. Course prepares for the exam: LPIC-1.
Course content	Lecture and specialist workshop: I. System Architecture 1. Determine and configure hardware settings 2. Boot the system 3. Change runlevels / boot targets and shutdown or reboot system II. Linux Installation and Package Management 1. Design hard disk layout 2. Install a boot manager 3. Manage shared libraries 4. Use Debian package management 5. Use RPM and YUM package management 6. Linux as a virtualization guest III. GNU and Unix Commands 1. Work on the command line 2. Process text streams using filters 3. Perform basic file management 4. Use streams, pipes and redirects 5. Create, monitor and kill processes 6. Modify process execution priorities 7. Search text files using regular expressions 8. Basic file editing IV. Devices, Linux Filesystems, Filesystem Hierarchy Standard 1. Create partitions and filesystems 2. Maintain the integrity of filesystems 3. Control mounting and unmounting of filesystems 4. Manage file permissions and ownership 5. Create and change hard and symbolic links 6. Find system files and place files in the correct location
Teaching methods	
Assessment method	Lecture - written test on Moodle platform Laboratory - exercise reports

Symbol of learning outcome	**Learning outcomes**	**Reference to the learning outcomes for the field of study**
LO1	knows the structure, properties and principles of GNU / Linux system, particularly the latest distributions	K_W03 K_W08
LO2	able to install the system and manage packages	K_U08
LO3	able to use a popular system utilities	K_U08
LO4	can manage devices	K_U08

Symbol of learning outcome	**Methods of assessing the learning outcomes**	**Type of tuition during which the outcome is assessed**
LO1	test	L
LO2	quizzes, practical tasks	Sw
LO3	quizzes, practical tasks	Sw
LO4	quizzes, practical tasks	Sw

Student workload (in hours)	**No. of hours**
1 - Attendance at lectures - 15X2	30
2 - Attendance at laboratories - 15X2	30
3 - Preparation for laboratories -	10
4 - System configuration - projects -	65
5 - Participation in student-teacher sessions -	5
6 - Preparation for the exam -	10
TOTAL:	**150**

Quantitative indicators	**HOURS**	**No. of ECTS credits**
Student workload – activities that require direct teacher participation	65 (1)+(2)+(5)	2.6
Student workload – practical activities	105 (2)+(3)+(4)	4.2

Basic references	1. LPIC-1 materials: https://learning.lpi.org/. 2. System User Guide - GNU Linux.
Supplementary references	1. Debian system documentation - http://www.debian.org/doc. 2. Fedora system documentation - http://docs.fedoraproject.org. 3. SuSe system documentation - http://en.opensuse.org/Documentation.
Organisational unit conducting the course	Department of Information Systems and Computer Networks — **Date of issuing the programme**
Author of the programme	dr inż. Andrzej Chmielewski — Feb. 17, 2022

L – lecture, C – classes, LC – laboratory classes, P – project, SW – specialization workshop, FW – field work,S – seminar