FACULTY OF ENGINEERING
STUDY COURSE DESCRIPTION

Course Title:	**Linux server administration**
Course code (VAIS):	**InfT**
Study programme:	**Information Technologies**

Level of Study programme:	☒ 1st level professional higher education
	☒ Professional Bachelor
	☐ Professional Master
	☐ PhD level

Type of Study programme:	☒ Compulsory course (Part A)
	☐ Professional specialization courses (Part B, compulsory)
	☐ Professional specialization optional courses (Part B, optional)
	☐ Elective courses (Part C)

Course Workload:	**Credits**	**ECTS**	**Academic hours**	**Contact hours**	**Independent work hours**
	2	3	80	32	48

Course Author/ Tutor:	**Arnis Cirulis**
	Assoc. Prof., Dr.sc.ing.
	arnis@va.lv
	Consultation: according to the schedule for each semester

Course Form:	Full time
Study year, semester:	2nd year, 1st semester
Language:	Latvian, English
Prerequisites for the Course:	Data transmission networks I and II.

Course Summary:	The aim of this course is to introduce students with Linux distributions, open source projects and licensing conditions. Course is based on Linux systems administration scenarios for enterprises IT infrastructure, covering preparation and maintenance tasks of different servers. At the end of this course successful candidates have knowledge and unaided practical skills in administration of Linux systems, to configure and troubleshoot file servers, print servers, web servers, domain controllers. Students are able to implement virtualization solutions.

Assessment:	Examination

Requirements for Credits:	1. Passed each lecture's practical activity 2. Passed online tests for each chapter 3. Online test. Evaluation in 10-point system (30% weight of final score). 4. Practical exam tasks and scenarios. Evaluation in 10-point system (70% weight of final score).

Abiding by the Academic Ethics	Students must abide by the academic and research ethics, Vidzeme University of Applied Sciences Ethics Regulations, incl.: − study papers must be independently developed; − the study work should reference all statements, ideas and data used that have been authored by someone else; − appropriate data acquisition methods should be used in the acquisition of data, the research ethics must be respected, empirical data must be collected independently and cannot be distorted or falsified; − the examination must be carried out by the student independently, without the use of supporting materials and/or consultations with other students, unless the lecturer states otherwise. In the event of non-compliance with the academic and research ethics, punishment is imposed in accordance with the ViA Ethics Regulations and the study course must be re-taken, unless the punishment is extramarital.

		Learning Outcomes	The evaluation methods and criteria
Learning Outcomes; the evaluation methods and criteria			
		Knowledge	
		Knowledge on Linux distributions and server use cases.	Online test.
		Knowledge on open source projects and licensing principles.	Online test.
		Knowledge on remote server administration and monitoring.	Online test.
		Knowledge on server installation and configuration tools.	Online test.
		Skills	
		Skills to configure and prepare servers running various Linux distributions.	Evaluation of prepared virtual private servers' configuration and functionality.
		Skills to prepare virtual private servers and administer them remotely.	Evaluation of prepared virtual private servers' configuration and functionality.
		Skills to use command line interface and to edit configuration files, starting and restarting services. Preparation of automation scripts.	Evaluation of prepared virtual private servers' configuration and functionality.
		Skills to use graphical user interface and web based configuration end setup tools..	Evaluation of prepared virtual private servers' configuration and functionality.
		Competency	
		Use correct network server terminology.	Individual examination of practical skills during implementation of specific scenario.
		Independently prepare necessary components for network servers.	Individual examination of practical skills during implementation of specific scenario.
		Solve basic problems for network servers, perform diagnostics and debugging tasks.	Individual examination of practical skills during implementation of specific scenario.
Course Compulsory literature:	1. NDG Linux Essentials by Cisco Networking Academy in collaboration with NDG, online interactive course materials, 2018		
Course additional literature:	1. SUSE Linux Enterprise Server 11 Administration Manual 3101, Authorized Courseware - Novell Training Services, USA, 2009. 2. Evi Nemeth, Garth Snyder. UNIX and Linux System Administration Handbook 4th ed. (2011), Upper Saddle River, NJ Prentice Hall. 3. Christopher Negus. Linux Bible. (2005), Wiley Publishing, 802 lpp.		
Course confirmation date:			
Date of course description update:			

Study Course Plan:

Date	Theme	Academic hours		Study Form
		Contact hours	Independent work hours	
	Introduction to Linux. Open Source Applications and Licenses.	4	6	Theoretical lecture. Practical activity. Online test. Skills challenging workshop.
	Using Linux. Command Line Skills.	4	6	Theoretical lecture. Practical activity. Online test. Skills challenging workshop.
	Getting Help. Working with Files and Directories.	4	6	Theoretical lecture. Practical activity. Online test. Skills challenging workshop.
	Archiving and Compression. Pipes, Redirection, and REGEX.	4	6	Theoretical lecture. Practical activity. Online test. Skills challenging workshop.
	Basic Scripting. Understanding Computer Hardware.	4	6	Theoretical lecture. Practical activity. Online test. Skills challenging workshop.
	Managing Packages and Processes. Network Configuration. System and User Security.	4	6	Theoretical lecture. Practical activity. Online test. Skills challenging workshop.
	Create a new user. Ownership and Permissions. Securing Permissions, Links and File Locations.	4	6	Theoretical lecture. Practical activity. Online test. Skills challenging workshop.
	Final examination	4	6	Final examination with oral questions and practical activity.
	Hours total:	*32*	*48*	