Subject program „I800 Operating Systems”

Year: 2016/2017 Status: Active

Subject language	English
Creditpoints	6 ECTS
Grading method	Exam
Academicians	Katrin Loodus, Edmund Laugasson

General

Aim of the subject: The aim of this course is to introduce the basics of operating systems and IT system life cycle from the viewpoint of the IT system administrator of operating systems. This subject provides hands-on skills needed to complete other field specific subjects in the curriculum.

Learning outcomes	
1.Outcome	A student who has completed the subject is able to perform the most common administrative tasks (user management, software management, disk usage, process management) in at least one of the most popular operating system on a server.
grade „Sufficient(1)”	The student is able to add, modify, delete users of the operating system. The learner is able to install and uninstall various software. The learner is able to manage files (create, delete, modify, determine permissions). The learner is able to create processes (stop, kill) and manage flows. The learner is able to create disk partitions and swap space and configure the operating system using the established areas.
grade „Satisfactory(2)”	The student is able to perform the operations required on the levels three and four with minor mistakes. The learner is also able to perform the operations provided in the previous levels.
grade „Good(3)”	The student is able to find the locations of configuration files/databases and interpret the information found there. The learner is also able to perform the operations provided in the previous levels.

Learning outcomes	
grade „Very good(4)”	The student is able to carry out more complicated operations with software management and file systems, using search from files and among file meta data. The learner is able to change the user's environment (aliases, functions, environment variables). The learner is also able to perform the operations provided in the previous levels.
grade „Excellent(5)”	The student is able to solve various problems with users, disks, processes and software management. The learner is also able to perform the operations provided in the previous levels.
2.Outcome	A student who has completed the subject understands and is able to explain orally the basic concepts of operating systems and its security aspects.
grade „Sufficient(1)”	The student explains the different basic concepts, operating system subsystems and their inter-relationships.
grade „Satisfactory(2)”	The learner is able to explain the basic concepts superficially.
grade „Good(3)”	The student does not know how to explain one of the required topics.
grade „Very good(4)”	The student's response is generally consistent with level "five", but contains minor errors.
grade „Excellent(5)”	The learner is able to answer all the exam questions without substantive errors.
3.Outcome	The student is able to document an operating system's service from an IT systems administrator's viewpoint.
grade „Sufficient(1)”	The learner is able to create system's service documentation that meets the requirements given in the lecture.
grade „Satisfactory(2)”	Based on the documentation, the service can be installed and managed, but the text has technical/editorial errors.
grade „Good(3)”	Documentation meets level "four", but contains substantive errors and cannot be completely used to reproduce the same state.
grade „Very good(4)”	Documentation meets a level "five", but contains minor errors.
grade „Excellent(5)”	Based on the documentation a service can be installed and managed. The documentation provides an up-to-date overview and is technically and editorially correct.

Subject program parts

default

Changer confirm	Katrin Loodus 09.03.2016
Reviewer confirm	Katrin Loodus 11.03.2016
Administrator confirm	Merike Spitsõn 18.03.2016

Study in different study forms

Study form	Lecture	Practise	Seminar	Exam	Homework	Internet study
All study forms	32.0				92.0	

Description of independent work, the schedule

1) Working through compulsory literature – 16h;
2) preparing an article in viki environment - 32 h;
3) working through lecture materials - 32 h;
4) revision for the practical test 4h;
5) revision for the exam - 8 h.

Additional literature (T)

LPIC W. Smith - LPIC-1 Linux Professional Institute Certification Study Guide

Assessment methods
For each learning outcome there must be a minimum threshold achieved. Student's skills are

evaluated based on the results archived in defending the practical laboratory work and with practical part of the test and exam. Assessment of theoretical understanding of the subject takes place within the oral part of the exam.

Learning outcome:
The student who has completed the subject is able to perform the most common administrative tasks (user management, software installation, disk usage, process management) in at least one of the most popular operating system on a server.
Evaluation of the learning outcome takes place in the form of defending the laboratory work on the minimum level of the framework used above. Assessment of framework levels 2-3 takeplace during a practical test and the assessment of the levels 4-5 take place during the practical
part of the examination.
The learning outcome gives 60% of the final grade (exam 20%, test 15%, defending of laboratory work 25%).

Learning outcome:
The learner who has completed the subject understands and is able to explain the basic concepts of operating systems and its security aspects.
Evaluation of the learning outcome takes place during the oral exam.
The outcome will give 20% of the final grade.
Learning outcome:
The student is able to document an operating system service from an IT systems administrator's viewpoint.
Evaluation of the learning outcome is based on a written viki format article on the subject related topic which has been previously confirmed with the lecturer. Evaluation takes place in

accordance with the requirements provided in the documentation lecture.
The learning outcome accounts for 20% of the final grade.

Further information on the subject
Practical lessons have to be held in a computer class during the whole semester.
Time period to carry out the examination is a minimum of six hours (in case of a maximum of 24 students) in duration and if there are more students that 24, additional 6 hours are added for the added 24 students.

Subject program

Nr	Activity	Hours	Literature	Academicians
1.	Introduction to subject; introduction to operating system's definitions.	4		Katrin Loodus
2.	Operating with the basic tasks on a server based on GNU Linux command line.	40	T - [LPIC]	Katrin Loodus

3.	Operating system's documentation	2		Katrin Loodus
4.	Operating system's security	2		Katrin Loodus
5.	Operating system's monitoring	2		Katrin Loodus
6.	Operating system's recovery and backup	2		Katrin Loodus
7.	Storage techonolgies	2		Katrin Loodus
8.	Optional topics	2		Katrin Loodus
9.	Tests and demonstration of practical skills with command line.	8		Katrin Loodus