

The syllabus of the discipline

UNIX platforms in infocommunications

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Field name	Детальний контент, коментарі
Name of the faculty	Faculty of Infocommunications
Level of higher education	Second (master's)
Code and name of the specialty	172 Telecommunications and radio engineering
Type and name of educational program	EPP "Information and Network Engineering"
Name of the discipline	Unix-platforms in infocommunications
Number of ECTS credits	3
Discipline structure (distribution by types and hours of study)	14 hours - 7 lectures, 16 hours - 4 laboratory classes, 6 hours - 3 consultations, 54 hours - homework, type of control: credit
Schedule (terms) of studying the discipline	1st year, first semester
Prerequisites for studying the discipline	Students should study the discipline "Network Operating Systems" for a systematic understanding of the main features of operating systems of network equipment and servers.
Competences, knowledge, skills, understanding, which is acquired by the applicant in higher education in the learning process	The discipline is used to form the following competencies: FC-7. Ability to demonstrate and use fundamental knowledge of the principles of construction of modern information communication networks, information transformation and storage systems, promising areas of their development. FC-8. Ability to demonstrate and use knowledge of modern computer and information technologies and tools of engineering and research, calculations, data processing and analysis, evaluation of systems efficiency and methods of quality assessment, modeling and optimization of communication information networks. FC-11. Ability to use standard and develop their own software products, focused on solving problems of design, calculation and ensuring the efficient operation of information networks and components of their infrastructure. FC-12. Ability to analyze, develop and improve scientific, design, technological, metrological and organizational and management documentation. FC-14. Ability to assess problem situations and shortcomings in the design, installation, configuration, operation and operation of

	information networks, to formulate proposals for solving problems and eliminating shortcomings.
The quality of the educational process	Educational-methodical and material-technical resource provision of the educational program, within the framework of which the discipline is studied, meets the licensing requirements and accreditation conditions of the educational activity of the university. Annual monitoring and revision of the curriculum of the discipline in accordance with the requirements and recommendations of the Ministry of Education and Science, state certification of acquired competencies of graduates, standards of cooperation with employers to ensure a competitive level of training. Adherence to the principles of academic integrity (https://lib.nure.ua/plagiat). Contains public information on the requirements, competencies, level of education within the current educational program.

Description and content of the discipline

The purpose of the discipline is to acquire knowledge in the field of organization and operation of modern UNIX-like operating systems, to acquire practical skills and administration of operating systems of the UNIX family.

Content

Content module 1. Basic concepts and structural elements

Topic 1. Introduction. Basic concepts

Topic 2. Users and groups

Topic 3. Files and directories

Topic 4. UNIX file systems

Topic 5. Process management

Topic 6. Command interpreter

Topic 7. Basic utilities

Learning outcomes of higher education

As a result of studying the discipline, students must:

know: the main features of working with UNIX-like operating systems and administration procedures - user management, file systems, system boot and execution levels, basics of process and task management, network utilities;

be able to: use and administer UNIX-like operating systems, use basic system calls and basic commands to operate and configure the network; confidently work with the UNIX command line interface, manage processes in the background and interactive modes; optimize file and process management tasks by writing scripts in bash;

configure, compile, and install software packages, as well as compose make scripts to perform these tasks;

to own (list of competencies): PRN2. Be able to use modern software to manage information networks at all levels of the hierarchical model. PRN7. Be able to use modern hardware and software to deploy and support the work of mobile networks of different generations. PRN8. Be able to ensure reliable continuous operation of network infrastructure and software applications. PRN10. Be able to develop and use different platforms for providing information services.

Assessment system according to each task for passing the test / exam

To evaluate the student's work during the semester, the final rating is calculated as the sum of grades for different types of classes and grades for control activities.

Each lecture is evaluated in 2 points (1 point for attendance, 1 point for activity). Each laboratory work is evaluated in a maximum of 14 points (2 points for attendance, 2 points for training, 10 points for defense). Home control work DKR - 30 points. The maximum rating during the semester is 100 points.

Type of lesson / control measure	Rating
Lk №1-7	$(1...2) \times 7 = 7...14$
Lb №1-4	$(10...14) \times 4 = 40...56$
DKR	13...30
Total for the semester	60...100

Qualitative evaluation criteria in the national scale and ECTS

Satisfactory, D, E (60-74). Show the required minimum of theoretical knowledge. Know the ways and methods of solving practical problems and be able to use them in practice.

Good, C (75-89). Firmly know a minimum of theoretical knowledge. Demonstrate the ability to solve a practical problem and justify all stages of the proposed solution.

Excellent, A, B (90-100). Show complete knowledge of basic and additional theoretical material. Unmistakably solve a practical problem, explain and justify the chosen method of solution.

Assessment scale: national and ECTS

The sum of points for all types of educational activities	ECTS assessment	Score on a national scale	
		for exam, course project (work), practice	for offset
90 – 100	A	perfectly	credited
82-89	B	fine	
74-81	C	satisfactorily	
64-73	D		
60-63	E		
35-59	FX	unsatisfactory with the possibility of reassembly	not credited with the possibility of re-assembly
0-34	F	unsatisfactory with mandatory re-examination	not credited with compulsory re-study of the discipline

Methodical support

Basic literature

1. Kolisnichenko D. N. Samouchitel Linux. Ustanovka, nastroyka, ispolzovanie / D. N. Kolisnichenko; pod red. M. V. Finkova. – 3-e izd., pererab. i dop. – SPb.: Nauka i tehnika, 2004. – 656 s.: il. – ISBN 5-94387-162-4.
2. Smit R. Setevyie sredstva Linux [Elektronniy resurs]: per. s angl. / R. Smit. – M.: Vilyams, 2003. – ISBN 5-8459-0426-9.
3. Solomenchuk V. G. Linux. Ekspress-kurs [Elektronniy resurs]/ V. G. Solomenchuk. – SPb.: BHV-Peterburg, 2006. – 288 s. – ISBN 5-94157-548-3.
4. Teynsli D. Linux i UNIX: programmirovaniye v shell [Elektronniy resurs]: Rukovodstvo razrabotchika: per. s angl. / D. Teynsli. – K.: Izdatelskaya gruppya BHV, 2001. – 464 s. – ISBN 966-552-085-7.

Supporting literature

5. Beluntsov V. Samouchitel polzovatelya Linux [Elektronniy resurs]/ V. Beluntsov. – M.: "DESS KOM", 2003. – 512 s. – ISBN 5-9365--033-0.
6. Gote R. Rukovodstvo po opepatsionnoy sisteme UNIX: pep. s angl./ R. Gote ; pod ped. M. I. Belyakova. – Moskva: Finansyi i statistika, 1985. – 232 s.
7. Dalhaymer K. Zapuskaem Linux [Elektronniy resurs]/ K. Dalhaymer, M. Uelsh. – 5-e izd. – SPb.: Simvol-Plyus, 2008. – 992 s. – ISBN 5-93286-100-2.

8. Kirh O. LINUX. Rukovodstvo administratora seti: per. s angl./ O. Kirh. – SPb.: Piter, 2000. – 368 s.: il. – ISBN 5-8046-0047-8.

9. Nemet E. Rukovodstvo administratora Linux [Elektronniy resurs]: per. s angl. / E. Nemet, G. Snayder, T. Heyn. – 2-e izdanie. – M.: Vilyams, 2007. – 1072 s. – ISBN 978-5-8459-I093-6.

Methodical instructions for different types of classes

10. Metodichni vkazivki do laboratornih robit z disciplini «UNIX-platformi v infokomunikaciyah», dlya studentiv usih form navchannya specialnosti 172 «Telekomunikaciyi ta radiotehnika», osvithnya programa «Telekomunikaciyi» [Elektronnij resurs]/ Uporyad.: V.O. Vlasova. – el. vidannya. – 57 s.