The syllabus of the discipline

Information systems and Internet technologies

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Field name	Detailed content, comments
Name of the faculty	Faculty of Infocommunications
Level of higher education	First (bachelor'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	Information systems and Internet technologies
Number of ECTS credits	4
Discipline structure (distribution by types and hours of study)	28 hours - 14 lectures, 8 hours - 4 practical classes, 20 hours - 5 laboratory classes, 8 hours - 4 consultations, 56 hours - homework, **type of control**: credit
Schedule (terms) of studying the discipline	3rd year, IV semester
Prerequisites for studying the discipline	Basic knowledge of the disciplines "IP-telephony", WEB-programming
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: effectively use the hardware and software used to construction and operation of computer networks; use tools that support operation and use of the World Wide Web, e-mail, FTP transmission systems, IP telephony; make effective use of tools that allow you to create Web pages and Web sites. effectively use the tools of HTML, CSS, JS, XML.
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 acquaint students with information systems and capabilities of modern hardware and software that support the operation and use of global computer networks.

To do this, we study modern hardware and software used in the WWW, e-mail, IP - telephony, and other components of the Internet. The principles and means of software development that provide transmission and processing of information in communication networks are studied.

Content

Content module 1. Introduction.
Topic 1. The concept of information system and its structure.
Content module 2. Hardware and software Internet.
Topic 1. Internet services. TCP / IP protocol stack.
Topic 2. Addressing in IP-networks.
Topic 3. Methods of Internet access.
Content module 3. Methods and tools for building WEB-sites.
Topic 1. HTML language.
Topic 2 Using the CSS language.
Topic 3 Basics JS.
Topic 4 Location and maintenance of WEB-sites.
Content module 4. Internet technologies for creating global networks
Topic 1. WEB - servers. HTTP server.
Topic 2. Creating FTTP-servers.
Topic 3. E-mail
Topic 4. Creating Internet networks.
Content module 5. Development of Internet technologies.
Topic 1. Prospects for the development of Internet technologies.

Learning outcomes of higher education

As a result of studying the discipline, students must:

know:

- hardware and software used in the construction and operation of NAP;
- hardware and software used in the construction and operation of a computer network;
- hardware and software that support the operation and use of the World Wide Web, email, FTP data transmission systems, IP-telephony;
- means and methods of creating Web-pages and sites;
- technologies of using HTML, CSS, JS languages.

Students should also be familiar with the prospects for the development of network hardware and software.

be able:

- effectively use hardware and software tools used to build and operate computer networks;
- use tools that support the operation and use of the World Wide Web, e-mail, transmission

systems over FTP, IP-telephony;
- effectively use tools that allow you to create Web-pages and Web-sites;
- effectively use HTML, CSS, JS, XML languages.

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

To assess the work of a student during the semester, the final rating score Q_{sem} is calculated as the sum of marks for different types of classes and control activities.

Type of lesson / control measure	Rating
Lb № 1, 2, 3	(10…16,6)×3 = 30…50
Checkpoint **1**	**30…50**
Lb № 4, 5	(10…16,6)×2 = 20…34
Control testing 1	10…16
Checkpoint **2**	**30…50**
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.

Well, 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**		
64-73	**D**	satisfactorily	
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. Ynformatsyonnye systemy / Petrov V. N. — SPb.: Pyter, 2003. — 688 s
2. Terekhov, V.N. Chernyshov. – Tam- bov : Yzd-vo Tamb. hos. tekhn. un-ta, 2009. – 128 s. – 150 экz.
3. Samsonov V.V., Yerokhin F.Ie. Metody ta zasoby Internet tekhnolohii Kh.: Smit, 2008, 264s.- 004.7(7)- 200 prymirnykiv.
4. Yerokhin F.Ie., Samsonov V.V. . Metody ta zasoby Internet tekhnolohii Kh.: Smit, 2006, 264s.- 004.7(7)- 250 prymirnykiv.
5. Karpukhyn A.V. y dr. Internet tekhnolohyy. Uchebnoe posobye – Kh: Smit, 2003, 303s.- 681.3(07) k26,- 122 prymirnykia.
6. Khramtsov P.B.y dr Osnovy WEB -tekhnolohyy – M.: YUYT, 2003,512s.
7. Bohomolov O.B. WEB – konstruyrovanye na HTML. – M Bynom, 2008, 192s.
8. Morryson M. HTML y XML. Bystro y effektyvno.- SPb.:Pyter, 2005, 303s

Supporting literature

1. Norenkov Y.P., Trudonoshyn V.A. Telekommunykatsyonnye tekhnolohyy y sety.- M.: MHTU, 2000, 248 s. – 681,324(07) N82 – 10 prymirnykiv.
2. Voroiskyi F.S. Ynformatyka. Novyi systymatezyrovannyi slovar- spravochnyk. – M.: Lyberyia, 2001, 536s.- 21 prymirnykiv.

Methodical instructions for different types of classes

1. Konspekt lektsii z kursu «Internet tekhnolohii» dlia studentiv usikh form navchannia napriamu 6.050903 – Telekomunikatsii ” –Kh.: KhNURE, 2013 Elektronnyi variant.
2. Robocha prohrama, Metodychni vkazivky ta kontrolni zavdannia z vyvchennia dystsypliny «Internet tekhnolohii» dlia studentiv zaochnoiformy navchannia napriamu 6.050903 – Telekomunikatsii Kh.: KhNURE, 2008.
3. Metodychni vkazivky do laboratornykh robit ta praktychnykh zaniat z dystsypliny «Internet tekhnolohii dlia studentiv usikh form navchannia napriamu 6.050903 – Telekomunikatsii Kh.: KhNURE, 2008.

Information support

1. Software Denwer
2. Software NetCracker