Subject code	Credits
INF3024	6

Title

INTERNETO INFRASTRUKT   RA

Title in English

INTERNET INFRASTRUCTURE

Subject goal and annotation

The course introduces the main concepts of the Internet as infrastructure for developing, delivering, and using Information Systems (IS) and Multimedia services. The course aims to present a balanced view between the technological and the social aspects of the Internet as a %technology platform+ or infrastructure, between the supply and demand sides of Internet-based services and products.

Prerequisites

Undergraduate courses: Computer architecture and operating systems

Relationship between the learning outcomes of the Programme and learning outcomes of the subject

Learning outcomes of the Programme	Learning outcomes of the subject	Criteria for measuring the achievement of learning outcomes
3. Knowledge of basic and advanced computer science and its application.	Knowledge and understanding of the Internet as a super-structure for service design and deployment	Students understand and can characterize different components of the Internet as technology super-structure. Students understand principles according to which technologies and services of the Internet are associated to make a workable whole.
8. Perform interdisciplinary research and development in Internet systems area, apply results in practical applications.	Knowledge and understanding of the interoperability issues of the Internet technologies and services	Students can demonstrate systemic understanding of the concept of %interoperability+: technological, semantic, procession, and cognitive.
6. Knowledge of Internet and multimedia products development, their commercial and social impact. 10. Analysis, design and development of advanced Internet systems.	Knowledge of methods and principles for design and implementation of Internet services	Understanding the global and the local drivers for Internet (multimedia) service development. Understanding of past, current, and emerging (future) trends in Internet services. Understanding of the supply-side and demand-side technology development.
18. Critical analysis of Internet and multimedia projects context and their influence to business, culture and society.	Knowledge and understanding of different socio-technical context of Internet services use contexts and cases	Students can distinguish and describe different social, technical, economic, and political factors influencing the development and adoption of Internet-based IS and multimedia services
17. Personal development skills - planning	Working in team.	Students show ability to engage

of studies based on the personal needs and tendencies in industry. 19. Fast and efficient adaptation to the quickly changing cultural, economical and technological environment.	Presenting results.	in team work, with and without using ICT tools, deliver on the group assignments, present results to their colleagues and the lecturer.

Subject content

	Lecture topics and contents	Hours
1.	The concept and organizational principles of the Internet global network, its architecture, main concepts and definitions, application areas, and use cases.	4
2.	Internet as super-structure: technologies, services, unification principles	9
3.	Technology and services (non-)interoperability: causes and contexts	9
4.	The socio-technical context of Internet services (use cases)	9
5.	Internet services development and deployment: drivers, principles, trends	9
6.	Future perspectives for Internet technologies and servicesqdevelopment	5
	Total	**45**

Practical work contents

Three groups of practical problems. All problems should be presented and described.
1. Analysis of the Internet (multimedia) technologies and services: exploratory analysis, case studies.
2. Technology and services interoperability: exploratory analysis of causes for non-interoperability, use cases, use scenarios.
3. Internet technologiesq and servicesq design principles: the demand- and supply-side factors influencing the development of services and technologies.

Evaluation of study results

Final written exam (50%), mid-term written exam (15%), assessments of laboratory (practical) work (25%), individual work (10%)

Distribution of subject study hours

Lectures	45
Seminars and laboratory (practical) work	30
Preparation for the group work	15
Individual studies (including studies in groups, preparation for the mid-term and final exams)	66
Total	**156**

Recommended literature

No	Authors of publication and title	Number of copies available		
		in the Library of VMU	*in specialized publication collections at VMU*	*in other libraries*
Basic materials				
1.	Larry Press. Networked-based Applications. 2008. Creative Commons Attribution-Noncommercial-Share Alike 3.0 License.	http://bpastudio.csudh.edu/fac/lpress/471/networkapplications.htm		
2.	Ulric Gelinas, Steve Sutton, Jane Fedorowicz. Business Processes and Information Technology. 2008. Creative Commons Attribution-Noncommercial-Share Alike 3.0 License.	http://globaltext.terry.uga.edu/es/node/59		
3.	McKeown, P. Information technology and the networked economy. 2009. Creative	http://globaltext.terry.uga.edu/es/node/60		

	Commons Attribution-Noncommercial-Share Alike 3.0 License.	
Supplementary materials		
1.	R.Valteryt . Kompiuteri tinklai.	10

Subject prepared and coordinated by

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