UNIVERSITY OF MITROVICA "ISA BOLETINI"

Course Curriculum Model (Syllabus)

Fakulty:	Computer Sciences and Engineering	
Department:	Engineering Informatics Department	
Level:	B.Sc.	
Code of the course:	301-CSE	
Course:	Computer Networks	
Course Status:	Selective	
Semester:	Winter	
Number of hours per week:	2+2	
ECTS:	6	
Time / location:		
Year of studies:	III	
Lecturer:	Prof. Ass. Dr. Artan Rexhepi	
Assistent:		
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Content	Introduction to fundamentals of computer networking, network edge and core, packet-switched networks, protocol layers and service models, application layer: network applications, web and http, e-mail, DNS, peer to peer, video programming and socket programming, transport layer services, multi- and demultiplexing, data transfer, TCP and congestion control, data plane: network layer and routers, internet protocol and SDN, Routing algorithms, BGP, SDN, ICMP and SNMP, link layer, local area networks, wireless networks and mobile networks
Purpose	To provide students with modern knowledge of internet's architecture and protocols as primary vehicles for studying fundamental computer networking concepts, including concepts and protocols. Further, the course aims to provide the knowledge on the Internet's five-layer architecture: the application, transport, network, link, and physical layers.
Accessibility	Upon completion of this course students will: ● develop a practical, realistic understanding of computer networks ● understand the protocol layers and service models ● explain the application, transport, network and link layers ● illustrate the TCP congestion control ● understand the routing algorithms and protocols ● demonstrate wireless and mobile networks

Program	**weeks**	**Lecture**
	First week:	Introduction
	Second week:	Network edge and core, packet-switched networks
	***Third week*:**	Protocol Layers and Service Models
	Fourth week:	Application layer: network applications, web and http, e-mail
	Fifth week:	DNS, Peer to peer, video programming and socket programming
	***Sixth week*:**	Transport layer services, multi- and demultiplexing, data transfer
	Seventh week:	TCP and congestion control
	Eighth week:	Data plane: network layer and routers
	***Ninth week*:**	Internet protocol and SDN
	***Tenth week*:**	Routing algorithms, BGP
	***Eleventh week*:**	SDN, ICMP and SNMP
	Twelfth week:	Link layer
	***Thirteenth week*:**	Local Area Networks
	Fourteenth week:	Wireless Networks
	Fifteenth week :	Mobile Networks
Literature	**Principal literature:** James F. Kurose and Keith W. Ross: Computer Networking A Top-Down Approach (8th edition), 2017, Pearson **Recommended Literature:** Andrew S. Tanenbaum,David J. Wetherall: Computer Networks, 5th Edition, 2011, Pearson	
Teaching methodology	Lectures, numerical exercises, laboratory exercise, discussions and work in groups together with two seminary papers	

Contribution to student workload (which should correspond to student learning outcomes - 1 ECTS credit = 25 hours)

Activity	Hours	Days/weeks	Total
Lectures	3	15	45
Exercise sessions (with TA)	2	15	30
Practical work			
Office hours	0.17	6	1
Fieldwork			
Midterms, seminars	4	2	8
Homework	1	15	15
Self-study	2.5	15	37.5
Final exam preparation	7.5	1	7.5
Time spent in exams	2	2	4
Projects, presentations, etc	1	2	2
Total			150

Evaluation

Teaching methodology:
(according to the Statute and Regulation for studies of UMIB)

Tests / Colloquia	
Practical test during exercises	Practical test/Seminar work (30%) and participation (10%)
Seminary work	
Interpretation and presentation of artistic creativity and other works	
Final exam	Final exam 60%

Academic policies	**Essential instructions;** The regular presence of students during course lecturers and exercises is obligatory. All seminar works that need to be submitted in written form are to be provided in printed format. It is obligatory that the visual and the content aspect of the required works is fully respected. Additionally, it is mandatory that all work adhere fully to the language spelling rules and APA style for citing sources. **Further instructions:** The students are required to to prepare their seminar works on independent basis. There will be no tolerance for cases where the students have copy and paste materials written by someone else or from the Internet without detailed citation and source. All cases where the source is not cited, are treated as plagiarism and accordingly will be negatively assessed during the final evaluation of the student. **Ethics in teaching:** Active participation of students in lectures Participation in discussion and comments Mandatory independent work by utilizing alternative sources of information Respect for lecture time schedules and no usage of cellular phones during lectures or e Low tolerance for late arrivals and departures without valid reasons Distribution of slides and teaching materials by the lecturer. **Deadlines** The deadlines dor submission of seminars will be agreed in advance with students; Students are expected to deliver their work within the agreed submission deadline Failure to arrive at the time when the assignment is explained does not justify the student for not submitting the seminar work. In case of any travel or envisaged absence, the student has to submit in advance the assigned seminar work. The student is entitled to request a consultation with the lecturer whenever he/she deems it reasonable and necessary for the performance of his/her work.

Mitrovica

Course provider:

Prof. Ass. Dr. Artan Rexhepi
(Name Surname)

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(Signature)