

<b>Course title:</b>	<b>Internet technologies</b>
----------------------	------------------------------

Course code	Course status	Semester	Number of ECTS credits	Lecture hours
132005243	Mandatory	V	6	3+0+1

<b>Study program:</b> Basic applied studies, ELECTRICAL ENGINEERING, study program: Computer engineering (studies last for 6 semesters, 180 ECTS credits).	
<b>Prerequisites:</b> No prerequisites required.	
<b>Course aims:</b> Students are introduced with architecture, technologies, standards and Internet services. Students will learn about TCP/IP functioning principles, they will master basic techniques for computer and computer networks connecting to Internet, they will learn the principles of functioning and establishing basic Internet services (email, web, ftp,...), the problems arising with Internet connections, the way to protect the connection and the future of the Internet technology development.	
<b>Teacher(s) and assistant(s):</b> Ph.D. Božo Krstajić, assistant professor – teacher, Dipl. ing. Radosav Puzović – assistant.	
<b>Teaching method:</b> Lectures and laboratory exercises performed in computer classroom or laboratory. Studying and doing home exercises. Consultations.	
<b>Course synopsis:</b>	
Preliminary weeks  I week  II week III week IV week V week VI week VII week VIII week IX week  X week XI week XII week XIII week  XIV week XV week XVI week  Final week XVIII-XXI week	Preparation and semester enrolment.  Introduction in IT: concept, origin, history, infrastructure, RFC, service and development. IT in Montenegro. Computer networks and networking technologies as an Internet infrastructure (LAN and WAN). Network devices. Basic standards (OSI and TCP/IP) as necessary IT elements. Internetworking or internet architecture. Internet packet routing principles. TCP/IP internet addressing. Name and address resolution. <b>First test</b> <b>Free week</b> I and II layer TCP/IP protocols and theirs functioning principles (ARP, RARP, IP, ICMP, DHCP, RIP, ..) III and IV layer TCP/IP protocols and theirs functioning principles (TCP, UDP, HTTP, SMTP, POP, IMAP, FTP, DNS,..). Internetworking of the corporate networks through the Internet (VPN, VPDN, MPLS, IPSec,...). Internet access with private addresses (NAT, NAPT, PAT). Server-client internet service model. Technology and establishing of basic Internet services: www and email, ftp, telnet, ... Technology and establishing of basic Internet services: dns, dhcp, snmp, VoIP, audio and video conferences. <b>Second test</b> Privacy protection of computer and networks connected to Internet (Firewall, AVP,...) Internet providing. Internet as business environment and globalization instrument. Trends in the future.  <b>Final exam</b> Administrative procedures. Additional lessons, correction of the final exam and administrative procedures.
<b>STUDENT WORKLOAD</b>	
<u>per week</u>  <b>6 credits x 40/30 = 8 hours</b>  <b>Working hours structure:</b> <b>3</b> hours for teaching <b>1</b> hour for laboratory exercises <b>4</b> hours for individual work, including consultations.	<u>per semester</u>  <b>Teaching and the final exam: (8 h) x 16 = 128 h</b> <b>Necessary preparation</b> (before semester): 2 x (8 h) = 16 h <b>Total work hours for the course: 6 x 30 hours = 180 hours</b> <b>Additional hours</b> for preparing correction of the final exam, including the exam taking: up to <b>36</b> hours (the rest of the time from the first two items, up to the total work hours for the course, 180 hours). <b>Work hours structure:</b> 128 h (lectures) + 16 h (preparation) + 36 hours (additional work)
Lessons attendance is mandatory for students, as well as doing home exercises and mini tests, laboratory exercises and both tests.	
<b>Literature:</b> Douglas E. Comer, Internetworking with TCP/IP, Prentice Hall, 2002. Božo Krstajić, Internet tehnologije, electronic form of the lectures are on the site <a href="http://www.os.cg.ac.yu">www.os.cg.ac.yu</a> , 2005.	
<b>The forms of knowledge testing and grading:</b>	
<ul style="list-style-type: none"> <li>- Mini tests, home exercises and laboratory exercises carry <b>10</b> points total.</li> <li>- Each test carries <b>20</b> points (<b>40</b> points total).</li> <li>- Final exam carries <b>50</b> points.</li> </ul>	
<b>Special remarks for the course:</b> The teaching is organized for student groups of about 40 students, and number of students at the laboratory exercises is defined according to the places in the computer classroom.	
<b>Teacher(s) who provided the information:</b> Ph.D. Božo Krstajić, assistant prof.	
<b>Remark:</b>	