

**Faculty of International Economics and Administration**  
**Department: Informatics**  
**Professional area: Informatics and Computer Studies**  
**Major: WEB Design**  
**Educational – and - qualification Degree: Master**

## **COURSE DESCRIPTION**

1. Course unit title: **Web Technologies**
2. Course unit code: **INF 2220**
3. Type of course unit: compulsory
4. Level of course unit: Master
5. Year of study: first
6. Semester: first
7. Number of ECTS credits allocated: 4,5
8. Name of lecturer: Prof. Dr. Tech. Sc. T. Stoilov
9. Learning outcomes of the course unit – obtained knowledge, skills, competences (objectives) – defined by the information materials provided.  
The course studies data transmission technologies used in Web-based computer systems. Studies focus on technologies applied in building local and global networks. Technological solutions for wired and wireless networks are presented. Students study systematic services for expansion of address space on the Internet, as well as information services for substituting an Internet address by a name.
10. Mode of delivery: face-to-face
11. Prerequisites and co-requisites: Students need to have preliminary knowledge of the main communications protocols comprising the TCP/IP protocol suite, applied in the global network. The course aims to integrate students' knowledge of the hardware part of computer systems with the way communication tools function in the Web environment.
12. Course contents (annotation)  
The course aims to provide students with knowledge of technologies and systematic engineering solutions applied in the building of Web-based computer and information systems. It provides fundamental knowledge of the ways data is transferred, modulated and multiplexed, of systematic technological solutions to its coding. The two main transmission media are studied: wired and wireless systems. Students look at standards applied when creating local and global networks. The course also outlines the architecture of messages, which is a factor determining the way of building virtual networks, cellular structure radio networks and radio networks connecting systems and devices via the Bluetooth technology. It also includes important system information services such as the DNS name service and the Internet address service (NAT).
13. Recommended or required reading
  1. Rifaat Dayem. Mobile data& Wireless LAN technologies. Prentice Hall, NJ, 1997.
  2. Gary Miller. Modern Electronic Communication. Sixth Ed. Prentice Hall, NJ, 1999.
  3. Tanenbaum A., Computer Networks. Fourth Edition. Prentice Hall, 2002.
  4. U.Black. Advanced Internet Technologies. Prentice Hall, NJ, 1999.
14. Planned learning activities and teaching methods: Lectures (*30 hours*) – the main course topics are covered – the structure of the computer, the way its different components function, the coordination between the work of the various parts of the computer.
15. Assessment methods and criteria:  
Students take a written and a practical examination in order to successfully complete the course. The written examination involves providing detailed answers to two questions from

the synopsis within a time limit of one hour. The written examination score represents 60% of the student's final grade. In the practical examination students demonstrate how well they can work with and set computer configurations for different data transmission regimes. The practical examination score represents 40% of the student's final grade.

16. Language of instruction: Bulgarian

17. Work placement: During the practical sessions students do tasks which involve configuring work regimes of computing devices in a Web environment. They also set work regimes of wired and radio networks.