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| **ISTANBUL SEHIR UNIVERSITY**  **College of Engineering and Natural Sciences (CENS)**  **Department of Computer Science and Engineering**  **2017 Fall Semester**  **SYLLABUS** | | | | | | | | | | | |
| **Course Code** | **Course Name** | | | **Course Type** | **Weekly Hours** | | | | **Credits** | **ECTS** | **Schedule** |
|  |  | | |  | T | | A | L |  |  |  |
| **EECS 475** | Computer Networks | | | Elective | 3 | | 0 | 0 | 3 | 5 | Thursday 9-12 AB4-4101 |
| **Prerequisite** | N/A | | | Prerequisite to | | | | | N/A | | |
| **Course Lecturer** | Mehmet Baysan | | | | | | | **Office Hours** | | Wednesday 1-4pm | |
| **E-mail** | mehmetbaysan@sehir.edu.tr | | **Phone** | | | x9736 | | **Room No** | | Ab4-4017 | |
| **Teaching Assistants and Office Hours** | ??? | | | | | | | | | | |
| **Course Objectives** |  Using the Internet as a vehicle, this course introduces the underlying concepts and principles of modern computer networks with emphasis on protocols, architectures, and implementation issues.   Students will explore layering in computer networks and understand different protocol stacks (OSI and TCP/IP).   Students will be trained on functions and protocols within a layer, understand how layers fit together and finally understand how the Internet works. | | | | | | | | | | |
| **Textbooks** | 1 | James F. Kurose and Keith W. Ross, "Computer Networking: A Top-Down Approach", Pearson, 6th edition. | | | | | | | | | |
|  |  |  | | | | | | | | | |
| **Learning Outcomes** | 1 | Independently understand basic computer network technology. | | | | | | | | | |
|  | 2 | Identify the different types of network devices and their functions within a network. | | | | | | | | | |
|  | 3 | Identify the different types of network topologies and protocols. | | | | | | | | | |
|  | 4 | Enumerate the layers of the OSI model and TCP/IP. | | | | | | | | | |
|  | 5 | Understand and building the skills of subnetting and routing mechanisms. | | | | | | | | | |
|  | 6 | Familiarity with the basic protocols of computer networks, and how they can be used  to assist in network design and implementation. | | | | | | | | | |
| **Teaching Methods** | Interactive in-class lectures. | | | | | | | | | | |
| **WEEK** | **Work required for that week** | | | | | | | | | | **Textbook Chapter No** |
| Week 1 | Internet Architecture | | | | | | | | | | 1.1-1.3 |
| Week 2 | Network Concepts and Security | | | | | | | | | | 1.4-1.7 |
| Week 3 | Web, HTTP, FTP | | | | | | | | | | 2.1-2.3 |
| Week 4 | Email, DNS | | | | | | | | | | 2.4-2.6 |
| Week 5 | UDP | | | | | | | | | | 3.1-3.3 |
| Week 6 | TCP | | | | | | | | | | 3.4-3.5 |
| Week 7 | Flow Control | | | | | | | | | | 3.6 |
| Week 8 | Network Layer | | | | | | | | | | 4.1-4.3 |
| Week 9 | IP | | | | | | | | | | 4.4 |
| Week 10 | Break | | | | | | | | | |  |
| Week 11 | Routing Algorithms | | | | | | | | | | 4.5 |
| Week 12 | Routing Protocols | | | | | | | | | | 4.6 |
| Week 13 | Broadcast and Multicast | | | | | | | | | | 4.7 |
| Week 14 | Link Layer | | | | | | | | | | 5.1-5.4 |
| Week 15 | Ethernet and Virtualization | | | | | | | | | | 5.5- 5.7 |
| **Assessment Methods and Criteria** | | **Evaluation Tool** | | **Quantity** | | **Date** | | | | **Weight in Total (%)** | **Weight in Semester Evaluation (%)** |
|  | | **Semester Evaluation** | | | | | | | | 100 | 100 |
|  | | Midterm | | 2 | |  | | | | **60** | 60 |
|  | | Participation | | 1 | |  | | | | **10** | 10 |
|  | | Programming Assignments | | 2 | |  | | | | **30** | 30 |
|  | | | | | | | | | | | |
| **\*\*\* ECTS Credit Calculation \*\*\*** | | | | | | | | | Language of Instruction: | | English |
| **Evaluation Tool** | **Hour/ Quantity** | **Student Workload Hours** | |  | | **Evaluation Tool** | | | | **Hour/ Quantity** | **Student Workload Hours** |
| Theoretical hours | 3 | 42 | |  | | Programming Assignments | | | | 2 | 28 |
| Pre- and post-class self- study | 4 | 56 | |  | |  | | | |  |  |
| **GENERAL TOTAL** | | | | | | | | | | 9 | 126 |
| **Recommended ECTS Credit (Total Hours / 25)** | | | | | | | | | | | 5 |