Course Outline
CSE-518: Advanced Computer Networks
Department of Comp. Sci. & Eng., East West University

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  ❖ CSE-518
Teaching Assistant: Al-Muttakin, Rifat Mehreen Amin
Office Hour

Day	Time
Sunday	01:30pm – 03:00pm
Monday	01:30pm – 03:00pm
Tuesday	01:30pm – 03:00pm
Wednesday	01:30pm – 03:00pm
Thursday	10:10am – 11:40am, 11:50am – 01:20pm, 01:30pm – 03:00pm, 03:10pm – 04:40pm

Course Description: In the last decades, the widespread use of the Internet as a general-purpose network and the continuous growth in communications has motivated an increasing demand for new competencies and skills in the networking area. Thus strong efforts have been made to adapt and improve the computer networks with enhanced service models, protocols, control and management facilities, in order to accommodate the integration of applications and services with distinct quality requirements. Achieving seamless and ubiquitous networking solutions is a further intricate issue attending to the plethora of service providers with their own business, management and technological strategies. Despite ongoing advances, achieving scalable and flexible networking solutions requires further study and contributions at multiple levels. In this context, the course unit on "CSE518: Advanced Computer Networks" aims to provide advanced background on relevant computer networking topics, allowing postgraduate students to acquire and pursue deeper knowledge in the field of Computer Science and Engineering.

Syllabus: This is an advanced-level course on the recent developments in computer networks. The topics to be covered include current topics of research and development such as Routing, Congestion Control, Multicasting, Quality of Service Support and Resource Reservation in the Internet, Wireless Networks including wireless Ad-hoc networks, Peer-to-peer networks (P2P), Performance Study of Computer Networks, Multiprotocol Label Switching (MPLS) and Network Security. This is a graduate class and hence, the emphasis will be on in-depth critical analysis of (a few) current research problems and proposed solutions. We will also have a special emphasis on Future Internet including topics such as Data center networks, optical networks, Multimedia networking and P2P networks. At the end of the course you should be able to

- ❖ Understand the state-of-the-art in network protocols, architectures and applications.
- ❖ Analyze existing network protocols and networks
- ❖ Develop new protocols in networking
- ❖ To understand how networking research is done
- ❖ To investigate novel ideas in the area of Networking via term-long research projects.

Text Book:
- ❖ Larry L. Peterson and Bruce S. Davie, **Computer Networks-A Systems Approach (Fifth edition)**, Morgan-Kaufmann pub.

Reference Materials:
- ❖ Behrouz A. Forouzan, **TCP/IP Protocol Suite (Fourth edition)**, Mcgraw-Hill pub.
- ❖ Articles from recent journals and conferences will be assigned throughout the semester. Relevant chapters from other textbooks will also be made available, as necessary.

Mark Distribution:
- ❖ Class Participation   10%
- ❖ Assignments   10%
- ❖ Case Study   5%
- ❖ Quiz (Best two)   10%
- ❖ Presentation   15%
- ❖ Term I Exam   15%
- ❖ Term II Term Exam   15%
- ❖ Final Exam   20%

  *The above mark distribution can be change up to ±5% (for each field).

Exam Dates:

Exam Name	Both Sections	Notes
Mid Term 1	16th October 2016	Monday, 17 October 2016 is earmarked for Mid Term I Exams for students who will have more than two exams on a single day.
Mid Term 2	13th November 2016	Monday, 14 November 2016 is earmarked for Mid Term II Exams for students who will have more than two exams on a single day.
Final	11th December 2016	Sunday, 18 December 2016 is earmarked for Final Exams for students who will have more than two exams on a single day.

Special Instructions:
- ❖ All mobile phones MUST be turned to silent. There is zero tolerance for cheating at EWU. Students caught with cheat sheets in their possession, whether used or not used, &/or copying from cheat sheets, writing on the palm of hand, back of calculators, chairs or nearby walls, etc. would be treated as cheating in the exam hall. The only penalty for cheating is expulsion from EWU. **For plagiarism, the grade will be automatically become zero for that exam/assignment**. There will be **NO make-up examinations for Quiz Exam in any case**. Make up exam can only be considered for the midterms in case of emergency, you MUST either inform me or the department secretary within 24 hours of the exam time. Failure to do so will mean that you are trying to take UNFAIR advantage and you will be automatically disqualified.