

Computers Networks and Telecommunications II

SYLLABUS

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| 1) Course Name | : Computers Networks and Telecommunications II |
| Course Code | : |
| Lecture and Credit | : 2 hours , 2 Credit |
| Department | : Computer Engineering |
| Semester | : Spring 2012 |
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| 2) Instructor | |
| Name-Surname | : Sanjar Erdolatov |
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Course Intent:

This course will cover the basics of computer networking and the components that make up a standard network. The successful student will have a firm grasp of Data Communication fundamentals and Computer Networking upon completion of this course. The successful student will also feel comfortable with standard networking terms and understand basic network topologies and common networking problems.

Course Objective:

A course in Data Communication is essential for anyone minoring in IT. Effective use of Communication methodologies and an understanding of basic communications infrastructures are essential for success in today's market. A successful student will have a solid base of understanding in Data Communications and Networking.

Text (Bibliography. No Single acceptable text has yet been found)

Behrouz A. Forouzan *Data Communications and Networking, 4th Edition*. McGrawHill: New York 2007

Topics:

Topics for this course will include:

- What is Data Communication and Networking?
 - Data communication
 - Data Exchange
 - Modes of operation
- What is Data Networking
 - The basic nets, Differences and commonalities
 - Internet
 - Intranet
 - Extranet
- Protocols and Architecture.
 - Data Transmission.
 - Transmission Media.
 - Data Encoding.
 - Data Link Control.
- Large/Wide Area Networks:
 - Metropolitan Area Networks (MANs)
 - Geographical Problems
 - Technologies for Wide Area Networks (WANs).

- Congestion Control in Data Networks.
 - What Causes Congestion
 - Pitfalls
- Local Area Networks
 - LAN Technologies
 - Ethernet
 - Wireless
 - “Phone Wire”
 - LAN Systems
 - Small LANs
 - Larger LANs
- Internet
 - Internet Protocols
 - Internetwork Operation
- Network Security
 - The Building Blocks
 - Authentication
 - Autorization
 - Data Integrity
 - Data Privacy
 - E-Commerce
 - Digital Signatures
 - Data Encryption
 - Secure Databases

Grading:

Midterm Examination	40%
Final Examination	60%

Grades are awarded based on an overall average using the following criteria:

Other Issues and guidelines:

- 1) **Late projects and Homeworks:** Late projects and assignments will result in the drop of a grade for that assignment for each week the assignment is late.
- 2) **Make-ups:**
 - a) **Exams:** Make-ups will **NOT** be granted without prior written notification of the instructor. The student is responsible for showing producing written documentation of the extenuating circumstance that is acceptable to the instructor.
 - b) **Quizzes:** Make-ups will **NOT** be granted except under severe extenuating circumstances. The student is responsible for showing producing written documentation of the extenuating circumstance which is acceptable to the instructor.
- 3) **Incompletes:** Incomplete or ‘I’ grades will be granted in **VERY RARE** cases only.
- 4) **Missed Classes:** Making up **missed classes** is entirely the student's responsibility. Under no circumstances should the instructor's assistance be **ASSUMED**.