New Jersey Institute of Technology
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NEWARK COLLEGE OF ENGINEERING

SYLLABUS AND COURSE INFORMATION

Course Name: Networking Applications

Course Number: ECET 416

Course Structure: 2-2-3 (lecture hr/wk – lab hr/wk – course credits)

Course Description: Introduces students to the technology of networking with a particular focus on local area networks (LANs) and the protocols associated with network communication. Comprised two components: concept/theory and hands-on/applications in the laboratory. Topics include: overview of telecommunications systems; networking concepts, protocols and standards; wide area networks, (LANs), the enterprise network, LAN topology, media access control, transport control protocol (TCP), internet protocol (IP), and routing. Students learn to analze traffic flow on network links and how to write network based software applications.

Prerequisites: (CS 100 or CS 106 or CS 113 or CS 114 or CS 115 or CS 116) and ECET 415 and Junior or Senior Standing

Corequisites: None

Required, Elective, or Selected Elective: Elective

Required Materials: **Text:** Name: CompTIA Server+ Cert. All-in-One Exam Guide
Author: Daniel Lachance
Year: 2016
ISBN: 978-1-25-983803-3

Course Outcomes: By the end of the course students are able to:

1. Understand the topology of local and wide area networks.
2. Understand the difference between the main data transport layers and the application layer.
3. Understand the basics of the TCP and IP protocols.
4. Understand the basics IP based routing.
5. Write simple network based applications in a modern programming language.
6. Observe and understand network traffic using a software or hardware network traffic analyzer.

Class Topics:

LANs	WANs
IP Addressed	The Transport Layer
The Application Layer	The OSI Model
TCP	IP
Sockets	Network Traffic
Network Communication	

New Jersey's Science & Technology University

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Please note that it is my professional obligation and responsibility to report any academic misconduct to the Dean of Students Office. Any student found in violation of the code by cheating, plagiarizing or using any online software inappropriately will result in disciplinary action. This may include a failing grade of F, and/or suspension or dismissal from the university. If you have any questions about the code of Academic Integrity, please contact the Dean of Students Office at dos@njit.edu

Modification to Course: The Course Outline may be modified at the discretion of the instructor or in the event of extenuating circumstances. Students will be notified in class of any changes to the Course Outline.

Prepared By: Daniel Brateris

Course Coordinator: Daniel Brateris

Updated: 26 January 2022