CSE 5461 (Approved): Computer Networking and Internet Technologies

Course Description

Computer networks, communication protocols, Internet TCP/IP and applications, wireless communications and network security.

Prior Course Number: CSE 677, part of CSE 678
Transcript Abbreviation: Computer Netwrking
Grading Plan: Letter Grade
Course Deliveries: Classroom
Course Levels: Undergrad, Graduate
Student Ranks: Senior, Masters, Doctoral
Course Offerings: Autumn, Spring
Flex Scheduled Course: Never
Course Frequency: Every Year
Course Length: 14 Week
Credits: 2.0
Repeatable: No
Time Distribution: 3.0 hr Lec
Expected out-of-class hours per week: 3.0
Graded Component: Lecture
Credit by Examination: No
Admission Condition: No
Off Campus: Never
Campus Locations: Columbus
Prerequisites and Co-requisites: CSE 2421 or ((ECE 2560 or 265) and CSE 2451); co-req: CSE 2431
Exclusions: Not open to students with credit for CSE 3461 or CSE 677
Cross-Listings:

The course is required for this unit's degrees, majors, and/or minors: No
The course is a GEC: No
The course is an elective (for this or other units) or is a service course for other units: Yes

Subject/CIP Code: 14.0901
Subsidy Level: Doctoral Course

Programs

Abbreviation	Description
MS CSE	MS Computer Science and Engineering
PhD CSE	PhD Computer Science and Engineering

Course Goals

Be competent with the basics of data communications and network architecture.
Be competent with network layer control and protocols.
Be competent with link layer control and protocols.
Be competent with using the TCP/IP protocol suite.
Be familiar with using high speed LANs.

Be familiar with various internetworking technologies.
Be exposed to designing advanced communication protocols.

Course Topics

Topic	Lec	Rec	Lab	Cli	IS	Sem	FE	Wor
Introduction to Internet	6.0							
Internet application, TCP and IP layers	15.0							
Internet data link and physical layers	3.0							
Wireless networks	9.0							
Network security	9.0							
Exams		2.0						

Grades

Aspect	Percent
Lab projects or homeworks or Exam 1	30%
Midterm Exam	30%
Final Exam	40%

Representative Textbooks and Other Course Materials

Title	Author
Computer Networking: A Top-Down Approach	James Kurose and Keith Ross

ABET-EAC Criterion 3 Outcomes

Course Contribution		College Outcome
***	a	An ability to apply knowledge of mathematics, science, and engineering.
*	b	An ability to design and conduct experiments, as well as to analyze and interpret data.
*	c	An ability to design a system, component, or process to meet desired needs.
*	d	An ability to function on multi-disciplinary teams.
*	e	An ability to identify, formulate, and solve engineering problems.
*	f	An understanding of professional and ethical responsibility.
	g	An ability to communicate effectively.
**	h	The broad education necessary to understand the impact of engineering solutions in a global and societal context.
*	i	A recognition of the need for, and an ability to engage in life-long learning.
***	j	A knowledge of contemporary issues.
**	k	An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

Additional Notes or Comments

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The core of this course is Internet technologies

* Moved exclusion from General Information to Exclusions. --rowland
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