

Networked Systems (NET SYS)

Courses

NET SYS 201. Computer and Communication Networks. 4 Units.

Network architecture of the Internet, telephone networks, cable networks, and cell phone networks. Network performance models. Network performance models. Advanced concepts and implementations of flow and congestion control, addressing, internetworking, forwarding, routing, multiple access, streaming, and quality-of-service.

Prerequisite: EECS 148 or COMPSCI 132

Same as COMPSCI 232, EECS 248A.

Restriction: Graduate students only.

NET SYS 202. Networking Laboratory. 4 Units.

A laboratory-based introduction to basic networking concepts such as addressing, sub-netting, bridging, ARP, and routing. Network simulation and design. Structured around weekly readings and laboratory assignments.

Prerequisite: EECS 148 or COMPSCI 132

Same as COMPSCI 233.

NET SYS 210. Advanced Networks. 4 Units.

Design principles of networked systems, advanced routing and congestion control algorithms, network algorithms, network measurement, management, security, Internet economics, and emerging networks.

Prerequisite: NET SYS 201 or COMPSCI 232 or EECS 248A. NET SYS 201 with a grade of B- or better. COMPSCI 232 with a grade of B- or better. EECS 248A with a grade of B- or better

Same as COMPSCI 234.

NET SYS 230. Wireless and Mobile Networking. 4 Units.

Introduction to wireless networking. The focus is on layers 2 and 3 of the OSI reference model, design, performance analysis, and protocols. Topics covered include: an introduction to wireless networking, digital cellular, next generation cellular, wireless LANs, and mobile IP.

Prerequisite: EECS 148 or COMPSCI 132

Same as COMPSCI 236.

NET SYS 240. Network and Distributed Systems Security. 4 Units.

Modern computer and networks security: attacks and countermeasures, authentication, identification, data secrecy, data integrity, authorization, access control, computer viruses, network security. Group communication and multicast security techniques. Covers secure e-commerce and applications of public key methods, digital certificates, and credentials.

Prerequisite: EECS 148 or COMPSCI 132

Same as COMPSCI 203.

NET SYS 260. Middleware for Networked and Distributed Systems. 4 Units.

Discusses concepts, techniques, and issues in developing distributed systems middleware that provides high performance and Quality of Service for emerging applications. Also covers existing standards (e.g., CORBA, DCOM, Jini, Espeak) and their relative advantages and shortcomings.

Prerequisite: An undergraduate-level course in operating systems and networks.

Same as COMPSCI 237.

NET SYS 270. Topics in Networked Systems. 4 Units.

Study of Networked concepts.

Repeatability: Unlimited as topics vary.

NET SYS 295. Networked Systems Seminar. 1 Unit.

Current research in networked systems. Includes talks by UCI faculty, visiting researchers, and Networked Systems graduate students.

Grading Option: Satisfactory/unsatisfactory only.

Repeatability: May be repeated for credit unlimited times.