Telecommunications Engineering

**TE 5341** Probability, Statistics, and Random Processes in Engineering (3 semester hours) Introduction to probability modeling and the statistical analysis in engineering and computer science. Introduction to Markov chains models for discrete and continuous time queuing systems in Telecommunications. Computer simulations. Prerequisite: Undergraduate degree in engineering and computer science. (3-0) R

**TE 6378** and **CS 6378** Advanced Operating Systems (3 semester hours) Concurrent processing, inter-process communication, process synchronization, deadlocks, introduction to queuing theory and operational analysis, topics in distributed systems and algorithms, checkpointing, recovery, multiprocessor operating systems. Prerequisites: **CS 5348** or equivalent; knowledge of C and UNIX. (3-0) S

**TE 6385** (CS 6385) Algorithmic Aspects of Telecommunication Networks (3 semester hours) This is an advanced course on topics related to the design, analysis, and development of telecommunications systems and networks. The focus is on the efficient algorithmic solutions for key problems in modern telecommunications networks, in centralized and distributed models. Topics include: main concepts in the design of distributed algorithms in synchronous and asynchronous models, analysis techniques for distributed algorithms, centralized and distributed solutions for handling design and optimization problems concerning network topology, architecture, routing, survivability, reliability, congestion, dimensioning and traffic management in modern telecommunication networks. Prerequisites: **CS 5343**, **CS 5348**, and CE/EE/TE 3341 or equivalents. (3-0) Y

**TE 7v81** Special Topics in Telecommunications (1-6 semester hours) For letter grade credit only. (May be repeated to a maximum of 9 hours.) (1-6-0) R

**TE 8v40** Individual Instruction in Telecommunications Engineering (1-6 semester hours) (May be repeated for credit.) For pass/fail credit only. (1-6-0) S

**TE 8v70** Research in Telecommunications Engineering (3-9 semester hours) (May be repeated for credit.) For pass/fail credit only. (3-9-0) S

**TE 8v98** Thesis (3-9 semester hours) (May be repeated for credit.) For pass/fail credit only. (3-9-0) S

**TE 8v99** Dissertation (1-9 semester hours) May be repeated for credit. For pass/fail credit only. (1-9-0) S