Telecommunications Engineering

**TE 5341** Probability, Statistics, and Random Processes in Engineering (3 semester credit 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** (CE 6378 and CS 6378) Advanced Operating Systems (3 semester credit 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. Must have knowledge of C and UNIX. Prerequisite: **CS 5348** or equivalent. (3-0) S

**TE 6385** (CS 6385) Algorithmic Aspects of Telecommunication Networks (3 semester credit 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** and **CS 5348** and **ENGR 3341** or equivalent. (3-0) Y

**TE 6V98** Thesis (3-9 semester credit hours) Pass/Fail only. May be repeated for credit. Instructor consent required. ([3-9]-0) S

**TE 7V81** Special Topics in Telecommunications (1-6 semester credit hours) May be repeated for credit as topics vary (9 semester credit hours maximum). ([1-6]-0) R

**TE 8V40** Individual Instruction in Telecommunications Engineering (1-6 semester credit hours) Pass/Fail only. May be repeated for credit. Instructor consent required. ([1-6]-0) S

**TE 8V70** Research in Telecommunications Engineering (3-9 semester credit hours) Pass/Fail only. May be repeated for credit. Instructor consent required. ([3-9]-0) S

**TE 8V99** Dissertation (1-9 semester credit hours) Pass/Fail only. May be repeated for credit. Instructor consent required. ([1-9]-0) S