886. Stochastic Processes and Technological Applications
Winter. 3(4-0) STT 861, or STT 862.

887. Stochastic Models in the Physical Sciences
Spring. 3(3-0) STT 886 or approval of department.
Selected models from the physical sciences. These may include topics from the theory of queues, the theory of dams, and branching processes in cosmic ray theory.

890. Statistical Problems
Fall, Winter, Spring, Summer. Uniform credit. Approval of department.

899. Master's Thesis Research
Fall, Winter, Spring, Summer. Uniform credit. Approval of department.

927. Theory of Measure and Integration
Spring, 3(3-0) MTH 922.
Interdepartmental with and administered by the Department of Mathematics.
Introduction to the theory of integration over abstract spaces. Topics include: measure spaces; measurable and integrable functions; modes of convergence, theorems of Egoroff, Luzin, Riesz-Fischer, Lebesgue; absolute continuity, and the Radon-Nikodym theorem; product measures and Fubini's theorem. Applications to some of the classical theorems of integration and summability.

928. Measure Theory-Applications to Probability
Fall, 3(3-0) MTH 927.

929. Foundations of Decision Theory
Winter, 3(3-0) STT 928.

937. Systems Simulation
Fall, 4(4-0) MGT 836, STT 425, MTH 228.
Interdepartmental with and administered by the Department of Management.
The concept of a model, model building, characteristics of simulation models. Techniques of computer simulation. Simulation models in research and management planning/controls. Validation and experimental design. Special purpose languages.

948. Mathematical Programming For Business
Spring, 4(4-0) MGT 836, MTH 334, MTH 420, STT 863.
Interdepartmental with and administered by the Department of Management.

949. Advanced Applied Stochastic Processes
Winter, 4(4-0) MGT 836, MGT 937.
Interdepartmental with and administered by the Department of Management.
Selected topics from the following areas: Semi-Markov, Markov-renewal and regenerative processes; branch Markov decision processes; decision theory; applications from production, inventory, reliability, queuing, and gaming theory.

951. Advanced Theory of Nonparametric Statistics
Fall of odd-numbered years, 3(3-0) STT 873, STT 928 or concurrently.
Possible topics include small and large sample properties of distribution free tests, robust estimation of location, scale and regression parameters; nonparametric ANOVA.

952. Asymptotic Theory
Spring of even-numbered years, 3(3-0) STT 873 or concurrently.
Possible topics include large sample behavior of likelihood functions; contiguity; Bahadur and Pitman efficiency of statistical procedures.

953. Advanced Theory of Linear Statistical Models
Fall of even-numbered years, 3(3-0) STT 873, STT 928 or concurrently.
Possible topics include construction and analysis of linear models; regression; ridge regression; optimality criteria, relationships and merits; existence and construction of optimal designs.

954. Sequential Analysis
Spring of odd-numbered years, 3(3-0) STT 873, STT 929.
Possible topics include sequential estimation, testing and design; optimal stopping.

961. Convergence of Measures and Random Variables
Fall of odd-numbered years, 3(3-0) STT 873, STT 928, or concurrently.
Topics in vague convergence of measures, Conditions for relative compactness of a set of measures, Relationships between vague, almost sure, and in-measure convergence, donker's theorem and its extensions; applications to statistics.

962. Martingales
Winter or even-numbered years, 3(3-0) STT 873, STT 928.
Convergence, stopping and decomposition of sub- and super-martingales, relationship with differentiation of measures, applications to sequential analysis and boundary crossing probabilities.

963. Diffusion and Brownian Motion
Spring of even-numbered years, 3(3-0) STT 873, STT 928.
One dimensional diffusion, speed and drift measures, local time, stochastic integral, Ito's theorem.

964. Renewal Theory and Random Walk
Fall of even-numbered years, 3(3-0) STT 873, STT 928, or concurrently.

965. Second Order Processes
Winter of odd-numbered years, 3(3-0) STT 873, STT 928.
Stochastic processes studied by the methods of linear spaces. Sample path properties, representatives, estimation, prediction, multiplicity.

966. Semi-Groups and Applications
Spring of odd-numbered years, 3(3-0) STT 873, STT 928.
Hille-Yosida theorem, processes of independent increments, infinitely divisible processes, Markov processes in several dimensions.

990. Problems in Statistics and Probability
Fall, Winter, Spring, Summer, 1 to 4 credits. May retake for a maximum of 10 credits. STT 873. Seminar or individual study on an advanced topic in statistics.

995. Topics in Statistics and Probability
Fall, Winter, Spring. Uniform credit.
Nonparametric statistics, multimodal statistical analysis, statistical time series analysis, Bayesian statistics, reliability theory, stochastic approximation, design of experiments, sets of decision problems, stochastic processes, sequential analysis, other topics.

999. Doctoral Dissertation Research
Fall, Winter, Spring, Summer. Uniform credit. Approval of department.

STUDIO ART
See Art.

SURGERY SUR
College of Human Medicine

608. Surgery Clerkship
Fall, Winter, Spring, Summer. 1 to 17 credits. May reenroll for a maximum of 43 credits. H M 602.
An introduction to the surgical patient, stress, surgical diagnosis, pre-operative evaluation and post-operative care. Objectives are designed to help the student attain acceptable levels of surgical competence for physicians.

609. Oto-laryngology Clerkship
Fall, Winter, Spring, Summer. 1 to 17 credits. May reenroll for a maximum of 34 credits. H M 602.
Common oto-laryngologic disorders, emergencies, including diagnosis and treatment, and judgments concerning proper management by primary physicians.

610. Plastic Clerkship
Fall, Winter, Spring, Summer. 1 to 17 credits. May reenroll for a maximum of 34 credits. H M 602.
Principles of wound healing and tissue repair. Indications and applications of plastic procedures.
611. Urology Clerkship  
Fall, Winter, Spring, Summer. 1 to 17 credits. May reenroll for a maximum of 34 credits. H M 602.  
Demonstration of clinical manifestations of genitourinary disease, in vivo assessment of diagnostic and therapeutic methods, and related basic concepts will be used to explain the development of emergent conditions. Clinical diagnosis and treatment of emergencies seen in community emergency departments will be discussed.

SYSTEMS SCIENCE  
See Electrical Engineering and Systems Science.

612. Telecommunication Process and Effects  
Fall, Winter, Spring, Summer. 3(4-0) Sophomores.  
Telecommunication majors.  
Human communication processes and behavior as modified by telecommunication. Functions, audiences, and implications of electronic media on society.

613. Orthopedic Clerkship  
Fall, Winter, Spring, Summer. 1 to 17 credits. May reenroll for a maximum of 34 credits. H M 602.  
Diagnostic and management information and skills, including emergencies, in common orthopedic problems.

614. Neurosurgery Clerkship  
Fall, Winter, Spring, Summer. 1 to 17 credits. May reenroll for a maximum of 34 credits. H M 602.  
A hospital-based experience to provide the student with familiarity with the field and understanding of the contribution of neurosurgery in medicine generally.

615. Ophthalmology Clerkship  
Fall, Winter, Spring, Summer. 1 to 17 credits. May reenroll for a maximum of 34 credits. H M 602.  
Development of skills and knowledge in ophthalmology, neuro-ophthalmology, visual function, and management of problems such as glaucoma, the red eye, and trauma.

616. Thoracic Surgery Clerkship  
Fall, Winter, Spring, Summer. 1 to 17 credits. May reenroll for a maximum of 34 credits. H M 602.  
Problem-solving in thoracic medicine and surgery, also stressing pulmonary physiology, use of diagnostic tests and tests, and indications for surgical procedures.

617. Anesthesiology Clerkship  
Fall, Winter, Spring, Summer. 4 to 16 credits. May reenroll for a maximum of 16 credits. H M 602.  
Introduces common anesthetic agents and provides opportunity for performing anesthetic procedures under faculty supervision.

618. General Surgery Elective Clerkship  
Fall, Winter, Spring, Summer. 4 to 16 credits. May reenroll for a maximum of 16 credits. H M 602 and SUR 608.  
Experiences in clinical general surgery.

619. Emergency Medicine Clerkship  
Fall, Winter, Spring, Summer. 4 to 8 credits. May reenroll for a maximum of 8 credits. SUR 608, H D 608 or MED 608; H M 602, Interdepartmental with and administered by the Department of Medicine. Pathophysiology and other basic concepts will be used to explain the development of emergent conditions. Clinical diagnosis and treatment of emergencies seen in community emergency departments will be discussed.

335. Audience Survey and Analysis  
Fall, Winter, Spring, 4(4-0) Juniors.  
Designing research for the study of telecommunication audiences. Survey research, sampling, questionnaire construction, research administration. Analyses and interpretation of research results. Audience measurement services and feedback systems.

350. Advanced Radio Production  
Fall, Spring, 4(2-4) TC 301 and approval of department.  
Planning, coordinating and producing the radio program. Emphasis on documentary and studio productions utilizing original ideas and methods.

351. Television Studio Production  
Fall, Spring, 4(2-4) TC 302, approval of department.  
Advanced television crew operations. Writing and production of programs directed by students in TC 451.

610. Pathophysiology  
Fall, Winter, Spring, Summer. 3(4-0) Nonmajors.  
History, economics, public control, programming, social effects and future of telecommunication, primarily radio and television broadcasting and cable communication. Citizen responsibilities in the development of telecommunication systems and services.

210. Television Media and Society  
Fall, Winter, Spring, Summer. 3(3-0) Nonmajors.  
History, economics, public control, programming, social effects and future of telecommunication, primarily radio and television broadcasting and cable communication. Citizen responsibilities in the development of telecommunication systems and services.

280. Television Producing and Directing Methods  
Fall, Winter, Spring, Summer. 4(2-4) Sophomores.  
Television producing and directing methods with an emphasis on production as the execution of film design.

285. The Documentary Film  
Spring, 4(2-4) TC 280.  
History of documentary film and analysis of documentary types, providing a solid basis for the understanding and evaluation of the nonfiction film. Screening of significant films.

399. Telecommunication Internship  
Fall, Winter, Spring, Summer.  
Variable credit. May reenroll for a maximum of 16 credits. Telecommunication juniors and seniors.  
Internship in a telecommunication studio or in a government agency or business.

401. Station Operations and Programming  
Fall, Spring, 4(4-0) Seniors, TC 310, TC 335.  
Sales, ratings, station organization, departmental functions, promotion, program formats, station-community relations, ascertainment of community needs, license renewal, stations-network relations.

415. Cable Communication  
Fall, Winter, Spring, 4(2-4) nonmajors.  
History, technology, public policy, services, economics, management and social effects of broadband cable communication systems.

437. Television Program Development  
Fall, Winter, Summer. 3(4) Senior nonmajors.  
Television production planning and practices. Designed for non-majors who desire a working knowledge of the medium for application in other fields.