990. Problems in Statistics and Probability
Fall, Winter, Spring, Summer. 1 to 4 credits. May re-enroll for a maximum of 10 credits. 671.
Seminar or individual study on an advanced topic in statistics.

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

999. Research
Fall, Winter, Spring, Summer. Variable credit. Approval of department.

STUDIO ART
See Art.

SURGERY

College of Human Medicine

608. Surgery Clerkship
Fall, Winter, Spring, Summer. 1 to 17 credits. May re-enroll for a maximum of 43 credits. H M 602.
An introduction to the surgical patient, stressing 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. Otolaryngology Clerkship
Fall, Winter, Spring, Summer. 1 to 17 credits. May re-enroll for a maximum of 34 credits. H M 602.
Common otolaryngologic 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 re-enroll 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 re-enroll for a maximum of 34 credits. H M 602.
Demonstration of clinical manifestations of genito-urinary disease, investigative methods and techniques of diagnosis and management, familiarity with urologic emergencies and performance of basic urologic skills.

612. Rectal Surgery
Fall, Winter, Spring, Summer. 1 to 17 credits. May re-enroll for a maximum of 34 credits. H M 602.
Data collection, laboratory examination, and problem formulation relating to colon and rectal disease. Involvement in special techniques, examinations, and surgical procedures is an important aspect of the experience.

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

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

630. Emergency Medicine Clerkship
Fall, Winter, Spring, Summer. 4 to 8 credits. May re-enroll for a maximum of 8 credits. H M 602.
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.

SYSTEMS SCIENCE
See Electrical Engineering and Systems Science.

TELECOMMUNICATION* TC

College of Communication Arts and Sciences

190. Telecommunication in the United States
Fall, Winter, Spring. 3(3-0) Non-majors.
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.

*Name change effective July 1, 1975. Formerly Department of Television and Radio.

Name change effective July 1, 1975. Formerly College of Communication Arts.

210. Telecommunication Processes
Fall. 3(0) Sophomores.
Human communication processes and behavior as modified by telecommunication. Audiences of telecommunication. Functions and dysfunctions of telecommunication. Contemporary implications of telecommunication media on society.

220. History and Economics of Telecommunication
Winter. 4(3-3) 210.
Institutional and cultural development and understanding of processes of telecommunication field, including broadcast programs.

230. Basic Telecommunication Technology
Spring. 4(3-2) 220.
An analysis of technical factors involved in electronic communication: transmission, sound physics and aural technology, light physics, visual behavior and image technology, computer and automation controls, technical telecommunication policy formulation.

250. History of the Motion Picture
Fall, Winter. 4(3-4) Sophomores.
Development of the motion picture from its beginning to the present, emphasizing social and cultural values. Screening of significant films from various periods and countries.

301. Basic Audio Production
(301.) Fall, Winter, Spring, Summer. 4(4-0) 330.
Basic orientation to audio and radio studio, with laboratory experiences in production, writing and performance.

302. Basic Video Production
(302.) Fall, Winter, Spring. 4(2-4) 301.
Basic orientation to video and television studio, with lab experiences in production, writing and performance.

310. Basic Telecommunication Policy
Fall, Winter. 4(4-0) Juniors, approval of department.
Essential U.S. public communication policy is treated through rigorous methodological analysis of case and statutory law, public documents and related primary materials.

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

350. Advanced Radio Production
Winter, Spring. 4(2-4) 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(4-2) Junior majors, 302 and approval of department.
Advanced television crew operation. Writing and production of programs directed by students in 431.

361. Television Directing
(333.) Fall, Winter, Spring, Summer. 4(2-4) 302 and approval of department.
Television producing and directing methods with assigned experiences in the television studio.

2010. Telecommunication Processes
Fall. 3(0) Sophomores.
Human communication processes and behavior as modified by telecommunication. Audiences of telecommunication. Functions and dysfunctions of telecommunication. Contemporary implications of telecommunication media on society.

220. History and Economics of Telecommunication
Winter. 4(3-3) 210.
Institutional and cultural development and underlying economic principles of the telecommunication field, including broadcast programs.

230. Basic Telecommunication Technology
Spring. 4(3-2) 220.
An analysis of technical factors involved in electronic communication: transmission, sound physics and aural technology, light physics, visual behavior and image technology, computer and automation controls, technical telecommunication policy formulation.

250. History of the Motion Picture
Fall, Winter. 4(3-4) Sophomores.
Development of the motion picture from its beginning to the present, emphasizing social and cultural values. Screening of significant films from various periods and countries.

301. Basic Audio Production
(301.) Fall, Winter, Spring, Summer. 4(4-0) 330.
Basic orientation to audio and radio studio, with laboratory experiences in production, writing and performance.

302. Basic Video Production
(302.) Fall, Winter, Spring. 4(2-4) 301.
Basic orientation to video and television studio, with lab experiences in production, writing and performance.

310. Basic Telecommunication Policy
Fall, Winter. 4(4-0) Juniors, approval of department.
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351. Television Studio Production
Fall, Spring. 4(4-2) Junior majors, 302 and approval of department.
Advanced television crew operation. Writing and production of programs directed by students in 431.

361. Television Directing
(333.) Fall, Winter, Spring, Summer. 4(2-4) 302 and approval of department.
Television producing and directing methods with assigned experiences in the television studio.
490. Cinema II  
Spring. 4(4-6) 360 and approval of department.  
Theory and practice in film production: script, scheduling, shooting, editing, sound, elaboration and implementation of Cinema I concepts.

498. International Telecommunication  
Fall, Summer. 4(4-4) Seniors; Juniors with approval of department.  
Alternative approaches to television, radio, cable, and satellite communication with examples from selected national and international systems. Telecommunication's role in national development. Conflict and cooperation in information distribution and propaganda.

499. Individual Projects  
Fall, Winter, Spring, Summer. Variable credit. Junior Telecommunication majors only; approval of department.

501. Trends and Issues in Telecommunication  
Spring, Summer. 4(4-4) Approval of department.  
Salient issues and prevailing trends in telecommunication. Consideration of interdependence and relationships within and between telecommunication systems, services, and society.

522. Art Instructional Media Laboratory II—Television  
Fall, Winter, Spring, Summer. 4(1-9)  
May re-enroll for a maximum of 8 credits. Approval of department. Interdepartmental and jointly administered with the Department of Art.  
Analysis of teaching video tapes and television programs in art. Utilization of television as a medium of artistic expression and communication for application to art education or related fields.

525. Seminar in Instructional Television  
Spring, Summer. 3(3-0) Approval of department. Interdepartmental with and administered by the College of Education.  
Television use in instruction, particularly as it concerns the learner, the classroom teacher, the instructional developer and the administration.

530. The Television Producer  
Fall, Winter. 4(4-0) 361 or approval of department.  
Producer's functions in planning and supervising the execution of television programs, with emphasis on content, organization and use of production techniques to secure the intended audience response.

531. Research Methods in Broadcasting  
Fall. 4(4-0) Approval of department.

540. News and Public Affairs Programming  
Winter. 4(4-0) Approval of department.  
Analysis of broadcast journalism functions in relation to program design. Writing practices in analytic and editorial forms. Programming responsibilities, legal and ethical restraints.

851. Broadcast Management: Profit and Personnel  
Spring. 4(4-0) 401 or approval of department.  
The management of station finances and the motivation of station personnel.

856. Public Broadcasting  
Winter. 4(4-0) 498 or approval of department.  
Investigation of the role, organization, and problems of non-profit broadcasting by television and radio, especially since its recognition by federal legislation as an alternate program service to commercial broadcasting in the United States.

855. Teaching of Broadcasting  
Summer. 4(4-0) Approval of department.  
Philosophy and objectives of instruction in broadcasting. The undergraduate and graduate curricula. The content of radio and television courses and methods of teaching.

890. Special Problems  
Fall, Winter, Spring. Variable credit. Approval of department.

899. Research  
Fall, Winter, Spring. Variable credit. Approval of department.

941. Evaluation and Criticism in Broadcasting and Film  
Winter. 3(3-0) Approval of department.  
Formulation and application of standards for objective appraisal of the social, ethical and artistic aspects of radio, television and film programs.

990. Global Broadcasting: Foreign Domestic Systems  
(1955) Winter. 4(4-0) 495 or approval of department.  
Organization, financing, and programming as related to historic and cultural determinants. Special emphasis on the role of broadcasting in developing nations.

(1951) Spring. 4(4-0) 499 or approval of department.  
Propaganda and information services. International coordinating organizations such as ITY, UNESCO, Eurovision, and Intervision. Developments in satellite communication.

THEATRE

College of Arts and Letters

101. Theatre Appreciation: Foundations  
Fall, Winter, Spring, Summer. 3(3-0).  
Theatre arts as a recreational, cultural and social force in contemporary life; fundamentals of play production and analysis for critical appreciation.

103. Theatre Foundations: Stagecraft  
Fall, Winter, Spring, Summer. 3(3-6)  
Majors.  
Materials utilized in theatre and necessary fabrication skills. Emphasis on structural qualities, color theory and design fundamentals.