922 Contexts and Micropolitics of Teacher Education
Fall of odd years. 3(3-0)
Historical and contemporary forms of teacher education in relation to social and institutional contexts. Relation of traditional and innovative programs to basic tensions and issues in the field.

923 Comparative Perspectives on Teaching, Curriculum, and Teacher Education
Spring of odd years. 3(3-0)

924 Philosophy of Education: Ideas and Methods
Spring of even years. 3(3-0)
Selected ideas in education from different philosophical traditions. Issues of method, historical perspectives, and textual analysis.

928 Proseminar in Educational Policy
Fall. 3(3-0) A student may earn a maximum of 3 credits in all enrollments for this course. Interdepartmental with Educational Administration. Administered by Department of Educational Administration.

931 Qualitative Methods in Educational Research
Fall. 4(4-0) Interdepartmental with Counseling, Educational Psychology and Special Education; Educational Administration. RB: (CEP 930) R: Open only to doctoral students. Approval of department.
Multiple traditions of qualitative research in education. Approaches to theory, research questions and design, data collection and analysis, and reporting. Ethical issues. Appraising qualitative research.

940 Curriculum Deliberation and Development
Fall of odd years. 3(3-0)
Research in curriculum deliberation and development. Discourse, group dynamics, processes, and outcomes for teaching and learning.

942 Economic Analysis in Educational Policy Making
Spring of even years. 3(3-0) Interdepartmental with Educational Administration. Administered by Department of Educational Administration.

943 Seminar in Professional Development
Spring. 3(3-0) P.M: (TE 971 and TE 940 and TE 994) R: Open only to Ed.S. students in the Department of Teacher Education. Approval of department.
Synthesis and application of knowledge acquired through consideration of research and field-based inquiry from teacher practice and change initiatives.

946 Current Issues in Literacy Research and Instruction
Spring of odd years. 3(3-0)
Current research trends in the psychological, social, and political dimensions of literacy and literacy instruction.

950 Mathematical Ways of Knowing
Fall of even years. 3(3-0) RB: Two undergraduate mathematics courses. Philosophical, cultural, political, societal, psychological, and historical perspectives on knowing in mathematics as a discipline.

955 Contemporary Issues in Science Curriculum and Teaching
Fall. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course.
Epistemological, social, psychological, and historical foundations of science education in relation to contemporary issues and problems of science curriculum, teaching, and policy.

960 Language, Literacy, and Educational Policy
Fall of odd years. 3(3-0)

965 The Craft of Policy Analysis in Education
Spring of odd years. 3(3-0)
Framing problems, devising alternative solutions, and predicting impacts.

970 Curriculum and Pedagogy in Teacher Education
Spring of even years. 3(3-0)
Teacher learning opportunities at the preservice, induction, and inservice levels. Intended and enacted curriculum, sources of pedagogy, and their impact on teachers' knowledge, skills, and attitudes.

971 Teacher Learning in School Settings
Fall of odd years. 3(3-0)
Research about school-based learning by prospective, beginning, and experienced teachers. Observation, conversation, writing, and classroom research as tools for improving teaching.

975 Policy Perspectives on Teaching and Teacher Education
Fall of odd years. 3(3-0)
Policy issues such as teacher accountability, teacher knowledge, and political influence.

982 Seminar in Curriculum, Teaching, and Educational Policy
Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 10 credits in all enrollments for this course.
Intensive study in an area of curriculum, teaching, and learning; educational policy and social analysis; or teacher education and teacher learning.

990 Independent Study
Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 10 credits in all enrollments for this course. R: Open only to doctoral students.
Supervised individual study in an area of curriculum, teaching, and educational policy.

991 Special Topics in Curriculum, Teaching, and Educational Policy
Fall, Spring, Summer. 1 to 6 credits. A student may earn a maximum of 9 credits in all enrollments for this course.

994 Laboratory and Field Experience in Curriculum, Teaching, and Educational Policy
Fall, Spring, Summer. 1 to 6 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Open only to doctoral students. Approval of department.
Supervised practica, observations, and internships in an area of curriculum, teaching and learning; educational policy and social analysis; or teacher education and teacher learning.

995 Research Practicum in Curriculum, Teaching, and Educational Policy
Fall, Spring, Summer. 1 to 6 credits. A student may earn a maximum of 3 credits in all enrollments for this course. R: Open only to doctoral students in the College of Education. Approval of department.
Supervised research practicum. Design, execution, analysis, presentation, critique, and revision of research projects.

999 Doctoral Dissertation
Fall, Spring, Summer. 1 to 24 credits. A student may earn a maximum of 54 credits in all enrollments for this course. R: Open only to doctoral students in the Department of Teacher Education.
Doctoral dissertation research.

TELECOMMUNICATION TC

Department of Telecommunication
College of Communication Arts and Sciences

100 The Information Society
Fall, Spring, Summer. 3(3-0)
Technological, industry and social trends in the information society. Telecommunication industries. Social policy involving information technologies and information services, including television, radio, cable TV, telephone, the Internet, New Media.

200 History and Economics of Telecommunication
Fall, Spring. 4(4-0) P.M: (TC 100 and EC 201 or concurrently)
Institutional, economic and content development of telecommunication including broadcasting, cable, new video technologies, and telephone and data transmission.

201 Introduction to Telecommunication Technology
Fall, Spring. 4(4-0) P.M: (CSE 101 or concurrently and CSE 131 or concurrently and CSE 231 or concurrently) and (TC 100) and (MTH 106 and MTH 110 and MTH 116 and MTH 124 and MTH 132 and MTH 152H and MTH 201 and STT 200 and STT 201) or (MTH 103 and MTH 114) or designated score on Mathematics placement test.
Operational principles of audio, data and video telecommunication technologies.
Telecommunication—TC

240 Introduction to Digital Media Arts  
Fall, Spring, Summer. 3(2-2) R: Open only to students in the Department of Telecommunication.  
Principles, processes, techniques and technology involved in the making of media messages, particularly in video, audio and digital media.

310 Basic Telecommunication Policy  
Fall, Spring, Summer. 4(4-0) P:M: (TC 100 and TC 200 and TC 201)  
Policy in information, telecommunication, and media in the United States and abroad.

324 Basic Video Design and Production  
Fall, Spring, Summer. 4(4-4) P:M: (TC 240)  
Conceptualization, design, planning, producing, directing, shooting, editing, and evaluation of video programs. Emphasis on multi-camera, live studio production. Introduction to location single-camera shooting and editing.

342 Basic Audio Production  
Fall, Spring, Summer. 4(2-2) P:M: (TC 201 and TC 240)  
Basic audio production techniques. In-depth audio and radio industry analysis. Media writing.

346 Basic Interactive Media Design  
Fall, 4(2-4) P:M: (TC 201) and (TC 240)  
Basic design and development of interactive digital media, particularly related to Internet applications.

352 Broadcast and Cable Programming and Audience Promotion  
Spring of even years. 3(3-0) RB: (TC 200 and TC 240)  
Evaluation, selection and scheduling of cable and broadcast programming. Audience promotion strategies and techniques.

354 Telecommunication Marketing and Sales Promotion  
Fall, Spring. 3(3-0) RB: (MSC 300 and TC 200)  
Application of advertising and marketing concepts to broadcast stations, cable systems, program networks and telecommunications.

361 Data Communication  
Fall, Spring. 3(3-0) P:M: (TC 200 and TC 201) RB: (TC 310)  
Introduction to data communication concepts and applications. Basic data communications protocols and local area network approaches. Fundamentals of databases.

375 New Media, Old Media  
Fall. 3(3-0) P:M: (TC 100) RB: or approval of department.

391 Special Topics in Telecommunication  
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 8 credits in all enrollments for this course. R: Approval of department.  
Contemporary issues in telecommunication.

410 Advanced Telecommunication Policy  
Spring of even years. 3(3-0) P:M: (TC 310) RB: (TC 100 and TC 200 and TC 201)  
Information and communication industries policy in the network of networks of the information society.

422 Advanced Video Design and Production (W)  
Fall, Spring. Summer. 4(2-4) P:M: (TC 342 and TC 343)  
Advanced design and development of interactive digital media, particularly related to CD-ROM, DVD, computer kiosks, and advanced Internet applications.

433 Audio Industry Design and Management (W)  
Fall, Spring. 4(2-4) P:M: (TC 342 and TC 343)  
Advanced design and development of interactive digital media, particularly related to CD-ROM, DVD, computer kiosks, and advanced Internet applications.

446 Advanced Interactive Media Design (W)  
Spring of even years. 3(3-0) RB: (TC 346)  
Design of objects and environments for use as 3-D graphic artwork, computer animation, and real-time, interactive virtual environments: 3-D modeling, texturing, lighting, object animation, human and facial animation, real time interaction design from gaming, simulation, and immersive virtual environments.

452 Telecommunication and Information Industries (W)  
Spring. 4(4-0) P:M: (TC 100 and TC 200 and TC 201) and completion of Tier I writing requirement.  
Telecommunication and information industry issues including economic dynamics, market structures, business practices, and interfaces with other industries.

456 Multichannel and Broadband Telecommunication(W)  
Spring. 4(4-0) P:M: Completion of Tier I writing requirement.  
Fall. Open only to juniors or seniors in the Department of Telecommunication.

462A Wireless Networks and Applications  
Fall of even years. 3(2-2) P:M: (TC 361)  
Technologies and services in the wireless telecommunications industry. Applications of wireless communications for voice and data communications, including cellular telephony and mobile data applications.

462B Teleconferencing and Computer Supported Cooperative Work  
Spring of even years. 3(2-2) P:M: (TC 361) RB: (TC 201 and TC 240)  
Methods of teleconferencing including assessing requirements for teleconferencing, system design and implementation, and system evaluation.

462C Introduction to Electronic Commerce  
Spring of odd years. 3(2-2) P:M: (TC 361) RB: (TC 100 and TC 201)  
Design of e-commerce sites.

463 Network Design and Implementation I  
Fall, Spring. 3(3-0) P:M: (TC 361)  
Network design and implementation, and operational and management of telecommunication systems. Overview of the different systems, network configurations, current market forces and how they factor into business plans for public telecommunication networks.

464 Network Security  
Spring of odd years. 3(3-0) P:M: (TC 361)  
Network security issues and how network security is maintained in voice data and video networks.

465 Network Design and Implementation II (W)  
Spring. 3(2-2) P:M: (TC 361 and TC 463)  
Fall. Open only to juniors or seniors in the Department of Telecommunication.  
Techniques for analyzing organizational requirements for private voice data and video systems. Preparing a request for proposals and bids.
Telecommunication Research Methods (W)
Spring. 4(4-0) P:M: Completion of Tier I writing requirement. RB: (TC 100) R: Not open to freshmen or sophomores. 
Telecommunication research methods, including content analysis, sampling, experiments, surveys, statistics, ratings, polling and qualitative research.

Global Media (W)
Fall. 4(4-0) P:M: Completion of Tier I writing requirement. RB: (TC 100) R: Not open to freshmen or sophomores. 
Comparison of national approaches to use of television, radio, cable, telephone, data and satellite communication, and the Internet. Development, international commerce, data flows, propaganda, impact on cultures.

Independent Study
Fall, Spring, Summer. 1 to 7 credits. A student may earn a maximum of 7 credits in all enrollments for this course. R: Open only to juniors or seniors in the Department of Telecommunication. Approval of department; application required. Directed study under faculty supervision.

Special Topics in Telecommunication
Fall. Spring. 1 to 4 credits. A student may earn a maximum of 8 credits in all enrollments for this course. R: Approval of department. Contemporary issues in telecommunication.

Telecommunication Internship
Fall, Spring. Summer. 1 to 7 credits. A student may earn a maximum of 7 credits in all enrollments for this course. P:M: (TC 100 and TC 200 and TC 201 and TC 240) and (TC 310 or TC 361) R: Open only to juniors or seniors in the Department of Telecommunication. Approval of department; application required. Supervised professional experience in a telecommunication institution, business or facility.

Proseminar in Telecommunication
Fall. 1(1-0) Introduction to three areas: digital media arts and technology (DMAT); information and telecommunication management (ITM); and information, policy and society (IPS).

Research Methods in Telecommunication
Spring. 3(3-0) SA: TC 876 Social science research methods in telecommunication and Internet services assessing content, consumption and social effects. Design, sampling, data collection, analyses, presentation and ethics for content analysis, ethnographies, focus groups, case studies, surveys and experiments. Market research and segmentation including new product introductions.

Introduction to Theory in Telecommunication, Information, Society
Fall. 3(3-0) SA: TC 821 Classic and contemporary theories of communication with special emphasis on applications to telecommunication, new media, and technology.

Ethnicity, Race, Gender and Telecommunication
Fall of odd years. 3(3-0) Ownership, employment and portrayals of ethnic, racial and gender groups in media.

Foundations of Digital Media Arts and Technology
Fall. 3(3-0) R: Basic familiarity with computers and Internet. R: Approval of department.
Foundational technology and design concepts and skills unique to and common across video, audio, multimedia, and 3-D animation/virtual reality.

Design Research for Digital Media Arts and Technology
Spring. 3(3-0) R: Direct experience with the creative process for one or more digital media arts and technologies areas including audio, video, multimedia, and 3-D animation/virtual reality. SA: TC 824 Research methods used by design teams for asking and answering questions related to digital media arts and technology—before, during, and after design of creative work. The design goals and the design prototype are tested to guide development and evaluate effectiveness.

Design and Development of Media Projects
Fall. 3(2-2) P:M: (TC 840) and (TC 442 or TC 443 or TC 446 or TC 847) R: Open only to graduate students in the Department of Telecommunication or approval of department. Design of digital media arts projects in video, audio, multimedia, 3-D animation/virtual reality and other new media. Proposal development, team building, project management and workflow methods, production techniques and evaluative methods in the creation of media projects.

Special Topics in Digital Media Arts and Technology
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. P:M: (TC 840 or concurrently and TC 841) and (TC 442 or concurrently or TC 443 or concurrently or TC 446 or concurrently or TC 447 or concurrently) R: Approval of department. Current topics at the cutting edge of digital media arts and technology.

Telecommunication and Information Policy
Spring. 3(3-0) R: Open only to graduate students in Telecommunication or approval of department. SA: TC 810 Analysis of major public and private telecommunication and information policies. Applying concepts and data from law, political science, economics, communication, technology and general social science.

Economic Structure of Telecommunication Industries
Fall. 3(3-0) R: Open only to graduate students in the Department of Telecommunication or approval of department. Economic aspects of telecommunication and information industries. Emphasis on market structure, conduct, performance. Content diversity, new technologies, recent regulatory policies, and antitrust.

Information Technology and Organizations
Spring. 3(3-0) R: Knowledge of communication industries and technologies that might be acquired either academically or through professional experience. Develops basic perspectives for analyzing the impact of information technologies on organizational structures, the allocation and performance of tasks within organizations, organization members, and organizational strategies and effectiveness, and relationships among firms in a market economy.

Economics of Media Markets and Strategies
Fall of even years. 3(3-0) P:M: (TC 852) RB: Intermediate microeconomics class. Conceptual tools and analytical perspectives on economic forces and incentives underlying structure, conduct and responses to new technologies in media markets.

Information Networks and Technologies
Spring. 3(3-0) R: Academic or professional background in telecommunication field. Fundamental characteristics, components, standards and applications of information networks and services. Local and wide area network technologies, fundamentals of the Internet, and private network technologies and services from a management perspective.

Information Networks and Electronic Commerce
Fall. 3(2-2) R: Academic or professional background in telecommunication field. R: Approval of department. Design and management of electronic commerce strategies and the telecommunications infrastructure. Impact of electronic commerce on organizations and society.

Electronic Information and Entertainment Media Management
Spring. 3(3-0) R: Open only to graduate students in the Department of Telecommunication or approval of department. SA: TC 856 Management, programming, advertising, and promotion issues in broadcast television, multichannel television, interactive television and Internet/broadband data service programming, and advertising.

Telecommunication and National Development
Fall of odd years. 3(3-0) Role of electronic mass media and telecommunication in facilitating national development in Asia, Africa, Latin America, the Caribbean and the Middle East. Examples from agriculture, health, family planning, nutrition, and education.

Comparative and International Telecommunication
Fall of even years. 3(3-0) Comparison of various national approaches to broadcasting, cable, satellite and telephone systems. Policy, economic, institutional and content issues. Interactions and media flows among countries. International regulatory bodies.
Philosophical, legal, political, and statutory principles common law, statutes, and administrative policy. Selected issues involving constitutional law, underlying law and public policy applied to media. Academic and applied research methods, Univariate and multivariate techniques.

975 Quantitative Research Design
Fall, 3(3-0) Interdepartmental with Advertising; Journalism. Administered by Department of Advertising. RB: One graduate-level research design or statistics course. R: Open only to Ph.D. students in Mass Media. Survey, experimental and content-analytic techniques applied to the study of media. Academic and applied research methods, Univariate and multivariate techniques.

THEATRE

Department of Theatre
College of Arts and Letters

101 Acting I
Fall, Spring, 3(2-2) Improvisational exercises, creative exercises, monologue and scene study.

110 Theatrical Play Analysis
Fall, Spring, 3(0-0) Play study in relation to theatrical production.

211 Production Design: Scenery and Lighting
Fall, Spring, 3(0-6) Technical aspects of the design and construction of stage scenery and lighting.

212 Production Design: Costumes, Props
Fall, Spring, 3(0-6) Technical aspects of the design and construction of stage costumes and props. Materials and techniques related to theatrical makeup.

290 Independent Study
Fall, Spring, 1 to 4 credits. A student may earn a maximum of 4 credits in all enrollments for this course. R: Approval of department.

300B Production
Fall, Spring, Summer, 1(0-2) A student may earn a maximum of 6 credits in all enrollments for this course. R: Approval of department. Assisting with box office, publicity, costume shop, scene shop, or running crew for department productions.

301 Contemporary Acting I
Spring, 3(0-6) RB: (THR 101) R: Open only to students in the Department of Theatre. Intensive practicum including scene study, rehearsal, and performance of works by twentieth-century American playwrights such as Williams, Miller, O’Neill, Albee, and Oedets.

402 Voice Studio
Fall, Spring, 2(0-4) A student may earn a maximum of 4 credits in all enrollments for this course. RB: (THR 101) R: Open only to seniors in the Department of Theatre. Intensive practicum in advanced techniques for developing physical awareness in voice as an instrument of expression.

409 Auditioning
Fall, 2(0-4) RB: (THR 301 Or THR 302) R: Open only to seniors in the Department of Theatre. Audition and practice of techniques used for production casting in the theatre and elsewhere. Monologues, cold readings, and improvisations. Interview and resume preparation.

410 Oral Interpretation
Spring, 3(2-2) RB: (THR 101) Selecting, interpreting and performing dramatic and non-dramatic literature for an audience. Reading for sense, instant characterization through vocal expressiveness, and audience control.

411 Stage Lighting Design
Fall of odd years, 3(2-2) A student may earn a maximum of 6 credits in all enrollments for this course. RB: (THR 211) R: Not open to freshmen. Theory and practice in lighting design and equipment. Application of light to stage production through play analysis, color theory, and the development of lighting plots.