434  Highway and Traffic Safety
Fall of odd years. 3(3-0)

436  Statewide Transportation Network Evaluation
Spring of odd years. 3(3-0)
Transportation system measures, needs studies, sufficiency ratings. Cost allocation models, programming and budget constraints. Corridor analysis, transportation economics, demand elasticity.

437  Simulation Models for Transportation Applications
Fall of even years. 3(3-0)
Simulation models for analysis and optimization of transportation systems. Experimentation with planning and traffic simulation models for signal timing and capacity analysis.

439  Transportation Research Methods
Spring. 3(3-0)
Application and interpretation of quantitative methods and design of experiments for transportation research. ANOVA, non-parametric, discriminant analysis, factor analysis, multivariate regression, SPSS.

450  Intelligent Transportation Systems (ITS)
Fall of odd years. 3(3-0) RB: Traffic and Transportation engineering
Technical and policy aspects emerging from the application of advanced technologies to transportation problems. Intelligent Transportation Systems (ITS) user services requirements, available and emerging technologies, case studies of ongoing operational tests, legal institutional and planning issues related to ITS development and deployment.

451  Transportation and the Environment
Spring of even years. 3(3-0) RB: Traffic and Transportation engineering

452  Finite Element Method
Fall, Spring. 3(3-0) Interdepartmental with Mechanical Engineering. Administered by Department of Mechanical Engineering. SA: AE 809, MSM 809
Theory and application of the finite element method to the solution of continuum type problems in heat transfer, fluid mechanics, and stress analysis.

453  Independent Study in Civil Engineering
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 9 credits in all enrollments for this course. R: Open only to Civil Engineering master's students.
Research problems of limited scope not pertaining to thesis accomplished under CE 899 or CE 999.

454  Selected Topics in Civil Engineering
Fall, Spring. 2 to 4 credits. A student may earn a maximum of 9 credits in all enrollments for this course. Selected topics in new or developing areas of civil engineering.

455  Master's Research Project
Fall, Spring. Summer. 1 to 5 credits. A student may earn a maximum of 5 credits in all enrollments for this course. R: Open only to master's students in the Civil Engineering major. Approval of department. Major's degree Plan B individual student research project. Original research, research replication, or survey and reporting on a research topic.

456  Master's Design Project
Fall, Spring. Summer. 1 to 3 credits. A student may earn a maximum of 3 credits in all enrollments for this course. R: Open only to master's students in the Civil Engineering major. Approval of department. Major's degree Plan B individual student civil engineering design project.

457  Master's Thesis Research
Fall, Spring, Summer. 1 to 8 credits. A student may earn a maximum of 24 credits in all enrollments for this course. Master's thesis research.

458  Independent Study in Civil Engineering
Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 9 credits in all enrollments for this course. R: Open only to Civil Engineering doctoral students. Research problems of limited scope not pertaining to thesis accomplished under CE 999.

459  Doctoral Dissertation Research
Fall, Spring, Summer. 1 to 24 credits. A student may earn a maximum of 72 credits in all enrollments for this course. Doctoral dissertation research.

460  Greek and Roman Literature in English Translation
Fall of even years. 3(3-0) R: Not open to freshmen.
Representative works of major Greek and Roman authors.

461  Ancient Novel in English Translation
Spring of odd years. 3(3-0) R: Not open to freshmen.
Translation of the ancient Greek and Roman novel. Interpretation of assigned novels. The role of popular literature in Greco-Roman society.

462  Women in Classical Greek Society
Spring of odd years. 3(3-0) Interdepartmental with Women's Studies. R: Not open to freshmen or sophomores.
Image, role, and status of women in Greek society as seen through literary sources.

463  Topics in Classical Studies
Spring of even years. 3(3-0) RB: (CLA 210) R: Open only to juniors or seniors.
Special topics supplement regular course offerings.

464  Senior Thesis
Fall, Spring. 3(3-0) RB: (LTN 402) R: Approval of department. Scholarly research and writing with a focus on specific problems, under faculty supervision.

COM—Communication

Department of Communication
College of Communication
Arts and Sciences

100  Human Communication
Fall, Spring, Summer. 3(3-0)
Process and functions of communication. Principles underlying communication behavior. Practice in analyzing communication situations and in speaking and writing.

200  Methods of Communication Inquiry
Fall, Spring, Summer. 4(3-2) RB: Completion of University mathematics requirement.
Nature and conduct of communication inquiry. Significant questions about communication and finding systematic answers.

225  An Introduction to Interpersonal Communication
Fall, Spring, Summer. 3(3-0)
Principles and practices of interpersonal communication. Emphasis on effective and responsible interpersonal communication.

240  Introduction to Organizational Communication
Fall, Spring. 4(4-0)
Theories, systems, structures and processes of organizational communication. Organizational cultures. Communication in multinational organizations and in individual, leadership, supervisor-subordinate and small group situations.

275  Effects of Mass Communication
Fall, Spring. 3(3-0) RB: (TC 100) R: Not open to freshmen.
Major social effects of mass media on audience behavior. Political communication. Media effects on children. Message strategies producing attitude change. Interrelationships between mass media and interpersonal communication.
315 Information Gathering and Interviewing
Theories
Fall of odd years. 3(3-0) P:M: (COM 200 or concurrently) R: Open only to juniors or seniors in the Communication major. Information gathering as a relational process. Interaction through the asking and answering of questions.

325 Interpersonal Influence and Conflict
Fall, Spring. 3(3-0) P:M: (COM 200 or concurrently) R: Open only to juniors or seniors in the Colleges of Business, Communication Arts and Sciences, and Education. Theories, processes and models of interpersonal influence and conflict. Conflict resolution, persuasion, and compliance-gaining.

340 Leadership and Group Communication
Spring. 3(3-0) P:M: (COM 200) R: Open only to juniors or seniors in the Colleges of Business, Communication Arts and Sciences, and Education. Theory and research on dyadic and group relations within organizations. Leadership, motivation, networks, decision making, and organizational taxonomy.

375 Audience Response to Media Entertainment
Spring. 3(3-0) P:M: (COM 200) R: Open only to juniors or seniors in the Colleges of Business, Communication Arts and Sciences, and Education. Theory and research on audience responses to media entertainment. Models of audience responses, reactions to violence in media, and children and the media.

391 Topics in Verbal, Intercultural, or Gender Communication
Fall, Spring. 4(4-0) A student may earn a maximum of 8 credits in all enrollments for this course. P.M. (COM 200) R: Open only to juniors or seniors in the Colleges of Business, Communication Arts and Sciences, and Education. Verbal interaction, cultural diversity or gender communication.

399 Special Topics in Communication
Spring. 3(3-0) A student may earn a maximum of 6 credits in all enrollments for this course. P.M. (COM 200) R: Open only to juniors or seniors in the Colleges of Business, Communication Arts and Sciences, and Education. Contemporary issues in communication.

425 Communication in Close Relationships (W)
Fall, Spring. 4(4-0) P:M: (COM 225 or COM 325 or COM 200) R: Completion of Tier I writing requirement. R: Open only to juniors or seniors or graduate students in the Department of Communication. In-depth treatment of current research and of theoretical and methodological issues.

440 Organizational Communication Structure (W)
Fall. 4(4-0) P:M: (COM 200 and COM 240) R: Completion of Tier I writing requirement. R: Open only to juniors or seniors or graduate students in the Department of Communication. Systems approaches to information processing and communication structures in organizations.

475 Communication Campaign Design and Analysis (W)
Fall. 4(4-0) P:M: (COM 275 and COM 200) R: Completion of Tier I writing requirement. R: Open only to juniors or seniors or graduate students in the Department of Communication. Design and analysis of campaigns presented through mediated channels including electronic and print media.

490 Independent Study
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 3 credits in all enrollments for this course. R: Not open to freshmen or sophomores. Approval of department; application required. Directed study under faculty supervision.

493 Internship
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 Communication. Approval of department; application required. Supervised practical experience in a professional environment.

494 Practicum in Communication Research and Instruction
Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Open only to sophomores or juniors or seniors in the Department of Communication. Approval of department; application required. Structured participation in departmental research teams and applied practice in the community.

800 Communication Programs and Evaluation
Fall. 3(3-0) Communication audits, training and development, and focus groups as they apply to the evaluation of communication programs and institutions. Related topics include interviewing, questionnaire design and formative evaluation.

801 Communication Research I
Fall. 4(4-0) Communication research strategy and methodology. Scientific process. Derivation and test of hypotheses. Methods of research design.

802 Communication Research II
Spring. 4(4-0) R: (COM 801) Further consideration of communication research strategy and methodology. Topics include systems theory, cybernetics, and transactional approach.

815 Organizational Communication I
Fall. 3(3-0) Emphasis on dyadic and group processes and organizational intervention strategies. Topics include managing diversity, organizational structure, and communication productivity.

820 Communication Theory and Process
Fall. 3(3-0) Theoretical models of communication with emphasis on the applications of communication theory to various professional communication areas.

821 Mass Communication Theory and Research
Fall, Spring. 3(3-0) SA: TC 821 Current mass communication research and theories, including exposure patterns, diffusion of news and social effects of mass media.

828 Cross-Cultural Communication
Spring. 3(3-0) Problems in communicating across cultural boundaries, focusing on the processes, theories, and methods in the study of intercultural communication.

855 Codes and Code Systems
Spring. 4(4-0) Structure and function of verbal and nonverbal communication. Relationship between discourse and context. Generation of meaning through interaction.

860 Persuasion
Fall. 3(3-0) Use of messages to gain compliance and effect social change. Persuasion and attitude change from classical theories to contemporary situations.

874 Communication in Logistics
Fall. 1-4(1-1) R: Open only to students in the Master of Science in Logistics. Development of effective interpersonal communication skills. Oral communication in business settings. Use of appropriate technology for management presentations.

890 Independent Study
Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 9 credits in all enrollments for this course. R: Approval of department. Individualized study under faculty direction.

893 Internship
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 graduate students in Communication. Supervised experience in an applied-communication setting.

899 Master's Thesis Research
Fall, Spring, Summer. 1 to 6 credits. A student may earn a maximum of 14 credits in all enrollments for this course. R: Open only to graduate students in Communication. Master's thesis research.

901 Communication Research Design I
Fall. 4(4-0) R: One introductory research design or statistics course. Methods of data collection and analysis. Writing and critiquing research reports.

902 Communication Research Design II
Spring. 4(4-0) R: (COM 901) R: Open only to graduate students. Further study of methods of data collection and analysis. Writing and critiquing research reports.

915 Organizational Communication II
Spring of odd years. 3(3-0) R: (COM 815) Organizational communication structure and information processing. The organization's embeddedness in a larger social environment.

921 Micro and Macro Media
Fall of odd years. 3(3-0) Perspectives on media processes pertaining to individuals, groups, and large-scale systems. Topics include cognitive processing of media, public opinion, and affective responses to media.
Environmental issues and problems explored from a variety of perspectives, including legal, scientific, historical, political, socio-economic, and technical communication processes. Varied topics pertaining to advanced study of communication processes.

Doctoral dissertation research.

Varied topics pertaining to advanced study of communication processes.

Doctoral dissertation research.

260 Discrete Structures in Computer Science
Fall, Spring, 4(4-0) P.M. (MTTH 133 or MTTH 126 or MTTH 153H or LBS 119) SA: CPS 260

290 Independent Study in Computer Science
Fall, Spring, 1 credit. A student may earn a maximum of 3 credits in all enrollments for this course. R: Approval of department; application required. SA: CPS 290
Supervised individual study in an area of computer science.

291 Selected Topics in Computer Science
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. SA: CPS 291
Topics selected to supplement and enrich existing courses and lead to the development of new courses.

232 Introduction to Programming II
Fall, Spring, 4(3-2) P.M. (CSE 231) SA: CSE 330
Continuation of object-oriented programming using C++; development of classes and reliable software. Data structures and their encapsulation; stacks, queues, lists, trees, and hash tables. Algorithms operating on data structures. Object-oriented design and programming.

320 Computer Organization and Assembly Language Programming
Fall, Spring, 4(3-2) P.M. (CSE 232 and CSE 260) SA: CPS 320 Not open to students with credit in EE 331.
Machine representation of data and instructions. Machine organization, primary storage, registers, arithmetic logic unit, control unit, operations. Assembly language programming, interface to high level languages. Assemblers and loaders.

331 Algorithms and Data Structures
Fall, Spring, 4(3-2) P.M. (CSE 232 and CSE 260) R: Open only to students in the Department of Computer Science and Engineering or Computer Engineering majors or the LBS Computer Science coordinate major or the Computer Science disciplinary minor.
Linear data structures, trees, and graphs and algorithms which operate on them. Fundamental algorithms for searching, sorting, string matching, graph problems, and their analysis.

370 Software Engineering
Fall, Spring, 4(3-2) P.M. (CSE 232 and CSE 260) R: Open only to students in the Department of Computer Science and Engineering or the Computer Engineering major or the LBS Computer Science field of concentration or the LBS Computer Science coordinate major or the Computer Science disciplinary minor. SA: CPS 470, CSE 470
Software life cycle including specification, design, coding, testing, and verification of a software product. Stepwise refinement and rapid prototyping. Software portability, reusability and maintenance.