TEACHER EDUCATION
Department of Teacher Education
College of Education

149. Reflections on Learning
Fall, Spring, Summer. 3(3-0) Interdepartmental with Counseling, Educational Psychology and Special Education. Students' experiences as learners in comparison to psychological, sociological, and anthropological theories and assumptions about learning and teaching in and out of school.

250. Human Diversity, Power, and Opportunity in Social Institutions
Fall, Spring, Summer. 3(3-0) Comparative study of schools and other social institutions. Social construction and maintenance of diversity and inequality. Political, social and economic consequences for individuals and groups.

301. Learners and Learning in Context
Spring. 4(3-1) P: TE 150, TE 250 or CEP 240. R: Not open to freshmen and sophomores. Elementary education candidates. Curriculum in K-8 grades. Methods and materials for teaching in elementary and middle school.

305. Curriculum Methods and Materials: Elementary Education
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 2 credits in all enrollments for this course.

310. Interdisciplinary Elementary Curriculum
Fall. 2(2-0) R: Not open to freshmen and sophomores. Open only to elementary certification candidates with Academic Learning emphasis. Integrating reading and writing across the curriculum. Classroom organization, unit planning and interdisciplinary curriculum.

311. Literacy Instruction in the Elementary School
Fall. 2(1-3) R: Not open to freshmen and sophomores. Open only to elementary certification candidates. Application of instructional principles for teaching reading. Emphasis on the nature of literacy, its cultural context, and reading-writing connections.

312. Critical Reading and Children's Literature
Fall, Spring. 3(2-0) R: Not open to freshmen and sophomores. Only to elementary certification candidates. Strategies for helping children to develop critical reading skills through literary experience. Emphasis on fiction.

315. Teaching Mathematics in the Elementary Grades
Fall, Spring. 1 to 2 credits. R: Not open to freshmen and sophomores. Open only to elementary certification candidates. Methods and materials for teaching mathematics in the elementary school. Emphasis on problem-solving and meaningful presentation of mathematical content.

330. Teaching Social Studies in Elementary Grades
Fall, Spring. 1 to 2 credits. R: Not open to freshmen and sophomores. Open only to elementary certification candidates. Methods and materials for teaching social studies in diverse elementary classrooms. Use of social science and historical content to address contemporary issues.

331. Teaching Language Arts in the Elementary School
Fall, Spring. 1 to 2 credits. R: Not open to freshmen and sophomores. Open only to elementary certification candidates. Methods and materials for teaching language arts in elementary grades. Emphasis on the interrelationship of listening, viewing, speaking, reading, and writing.

381. Teaching Science in the Elementary and Middle School
Fall. 2(2-0) R: Not open to freshmen and sophomores. Open only to elementary certification candidates. Methods and materials for teaching science. Emphasis on teaching for conceptual understanding.

382. Methods of Teaching-1. Secondary Social Studies
Fall. 1(1-0) R: Not open to freshmen and sophomores. Open only to secondary certification candidates. Instructional issues common to all subject areas. Selection of instructional techniques based on teacher values and content of instruction, and learner needs and characteristics.

SYSTEMS SCIENCE
Department of Electrical Engineering
College of Engineering

410. Systems Methodology
Spring. 2(2-3) P: CE 370. R: Open only to Engineering Arts seniors. Systems analysis and design. Needs analysis, system identification, graphical models. Team project required.

411. Systems I
Fall of odd-numbered years. 3(3-0) P: CPS 131, MTH 234. R: Not open to Electrical Engineering majors. Systems methodology and analysis. Mathematical representations of systems, transform and state space analysis, feedback control, system simulation. Practical applications.

413. Systems II
Spring of odd-numbered years. 3(3-0) P: STT 351, SYS 810. R: Not open to Electrical Engineering majors. System modeling methodology and techniques. Continuous and discrete system simulation. Simulation model optimization with applications to optimal control and parameter estimation. Applications in decision support contexts.

422. Methods of Teaching-1. Secondary Social Studies
Fall. 1(1-0) R: Not open to freshmen and sophomores. Open only to secondary certification candidates. Instructional issues common to all subject areas. Selection of instructional techniques based on teacher values and content of instruction, and learner needs and characteristics. 

A-167
326. Methods of Teaching I—Secondary Subject Areas: English

Fall. 3(2-3)
R: Not open to freshmen and sophomores. Open only to secondary teacher certification candidates. Classroom instruction in English. Selection of instructional techniques based on course objectives, and the needs and characteristics of learners. Temporary approval effective from Fall Semester 1992 through Spring Semester 1994.
QP: TE 200 or TE 200A or TE 200B or TE 200C or TE 200D QA: TE 326

337. Methods of Teaching Secondary Subject Areas: Science
Fall. 2(2-0)
R: Not open to freshmen and sophomores. Open only to secondary teacher certification candidates. Classroom instruction in science. Selection of instructional techniques based on course objectives, and the needs and characteristics of learners. Temporary approval effective from Fall Semester 1992 through Spring Semester 1994.
QP: TE 200 or TE 200A or TE 200B or TE 200C or TE 200D QA: TE 337

339. Methods of Teaching Secondary Subject Areas: Social Science & History
Fall. 2(2-0)
R: Not open to freshmen and sophomores. Open only to secondary teacher certification candidates. Issues of classroom instruction in social sciences and history. Selection of instructional techniques based on course objectives and the needs and characteristics of learners. Temporary approval effective from Fall Semester 1992 through Spring Semester 1994.
QP: TE 200 or TE 200A or TE 200B or TE 200C or TE 200D QA: TE 339

342. Interdisciplinary Teaching and Learning
Fall, Spring. 2(3-3)
R: Not open to freshmen and sophomores. Open only to teacher certification candidates. Interdisciplinary teaching, curriculum, and learning in elementary and secondary schools. Temporary approval effective from Fall Semester 1992 through Spring Semester 1994.
QP: TE 200 or TE 200A or TE 200B or TE 200C or TE 200D QA: TE 406C

412. Reading in the Content Areas of the Secondary Level
Fall, Spring. 2(2-0)
R: Not open to freshmen and sophomores. Open only to secondary certification candidates. Reading and learning from text. Applications in subject areas including identification of reading-reasoning processes in content areas. Assessment and instructional procedures. Temporary approval effective from Fall Semester 1992 through Spring Semester 1994.
QP: TE 200 or TE 200A or TE 200B or TE 200C or TE 200D QA: TE 412, TE 412A

459. School and Society
Fall, Spring. 2 to 3 credits.
R: Not open to freshmen and sophomores. Open only to teacher certification candidates. Structure, function, and purposes of educational institutions. Emphasis on issues of diversity, equity, and access to knowledge. Temporary approval effective from Fall Semester 1992 through Spring Semester 1994.
QP: TE 200 or TE 200A or TE 200B or TE 200C or TE 200D QA: TE 412, TE 412A

460. Teaching of Mathematics
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 3 credits in all enrollments for this course.
R: Not open to freshmen and sophomores. Open only to teacher certification candidates. Field-based experience in elementary or secondary schools. Temporary approval effective from Fall Semester 1992 through Spring Semester 1994.
QP: TE 200 or TE 200A or TE 200B or TE 200C or TE 200D QA: TE 360A

470. Elementary Student Teaching
Fall, Spring. 1 to 10 credits. A student may earn a maximum of 10 credits in all enrollments for this course.
R: Not open to freshmen and sophomores. Open only to teacher certification candidates. Extended supervised experience in K-12 classrooms to develop proficiency in teaching. Learning to teach and assess teaching practice. Temporary approval effective from Fall Semester 1992 through Spring Semester 1994.
QP: TE 200 or TE 200A or TE 200B or TE 200C or TE 200D QA: TE 410, TE 450A, TE 450B, TE 450C

471. Elementary Student Teaching: Special Education
Fall, Spring. 10(2-24)
QP: TE 200 or TE 200A or TE 200B or TE 200C or TE 200D QA: TE 471

474. Secondary Student Teaching: Special Education
Fall, Spring. 10(2-24)
QP: TE 200 or TE 200A or TE 200B or TE 200C or TE 200D QA: TE 474

480. Proseminar for the Learning Community Emphasis Area
Spring. 1(1-0)
R: Not open to freshmen and sophomores. Open only to elementary certification candidates with Learning Community emphasis. Action research on problems of teaching based on research field experience in the Learning Community Emphasis of the Teacher Education program. Temporary approval effective from Fall Semester 1992 through Spring Semester 1994.
QP: TE 200 or TE 200A or TE 200B or TE 200C or TE 200D QA: TE 490D

490. Independent Study in Teacher Education
Fall, Spring, Summer. 1 to 6 credits. A student may earn a maximum of 6 credits in all enrollments for this course.
R: Not open to freshmen and sophomores. Open only to students with a teacher certification option. Approval of department. Supervised individual or small group study of the practice of teaching. Temporary approval effective from Fall Semester 1992 through Spring Semester 1994.
QP: TE 200 or TE 200A or TE 200B or TE 200C or TE 200D

494. Field Experience in Teacher Education
Fall, Spring. 1 to 10 credits. A student may earn a maximum of 10 credits in all enrollments for this course.
R: Not open to freshmen and sophomores. Open only to teacher certification candidates. Directed and evaluated internship in heterogeneous classrooms. Teaching worthwhile content to students with varied learning needs. Theoretical and field-based explorations of common teaching dilemmas. Temporary approval effective from Fall Semester 1992 through Spring Semester 1994.
QP: TE 200 or TE 200A or TE 200B or TE 200C or TE 200D QA: TE 484

501. Internship in Teaching Diverse Learners I
Fall, Spring. 8(2-8)
R: TE 402, C: TE 501, TE 802 R: Open only to students seeking teacher certification. Directed and evaluated internship in heterogeneous classrooms. Teaching worthwhile content to students with varied learning needs. Theoretical and field-based explorations of common teaching dilemmas.
QP: TE 402, C: TE 501, TE 802

502. Internship in Teaching Diverse Learners II
Spring, 8(2-8)
R: TE 402, C: TE 501, TE 804 R: Open only to students seeking teacher certification. Continuing internship in heterogeneous classrooms at selected schools. Increased emphasis on independent teaching. Maintaining classroom communities that ensure equitable access to important knowledge and skills. Assessing academic and social outcomes.
QP: TE 402, C: TE 501, TE 802

801. Professional Roles and Teaching Practices I
Fall. 3(2-3)
R: TE 402, C: TE 501, TE 802 R: Open only to students seeking teacher certification. Teachers' professional and ethical responsibilities. Connections of teachers to colleagues, families, other social service providers, and community leaders. Roles in school governance.
802. Reflection and Inquiry in Teaching Practice I
Fall, 3(3-0)

P: TE 402, C: TE 501, TE 801 R: Open only to students seeking teacher certification.

Qualitative and quantitative research methods on teaching and learning. Criteria for judging the validity and applicability of research-based knowledge. Planning educational programs worthy of inquiry. Designing and conducting studies of teaching practice.

803. Professional Roles and Teaching Practice II
Spring, 3(2-3)

P: TE 501, C: TE 502, TE 803 R: Open only to students seeking teacher certification.

School-agency alliances for fostering student learning. Strategies for working with families and community groups to improve responsiveness of the school curriculum to student needs. Child advocacy in the school and community.

804. Reflection and Inquiry in Teaching Practice II
Spring, 3(2-3)

P: TE 602 C: TE 502, TE 805 R: Open only to students seeking teacher certification.

Collecting, analyzing, and interpreting data on teaching, learning, and educational policy. Dilemmas surrounding research on practice. Approaching and reporting results of inquiry.

807. Professional Development and Inquiry
Fall, Summer, 2(2-0)

R: Open only to masters students in Curriculum and Teaching.

Teacher-centered inquiry through autobiography and documentation of self as learner. Relationship of personal research to classroom-based research. Application to practice.

809. Curriculum, Staff Development, and School Change
Fall, Summer, 2(2-0)

R: Open only to masters students in Curriculum and Teaching.

Inquiry into problems and promise of school change through curriculum and staff development.

810. History of American Education
Spring of even-numbered years, 3(3-0)

Social and intellectual history of educational ideas and institutions. Legacies of reform initiatives. Evolution of the education profession.

QA: TE 804A

811. Philosophical Inquiry and Contemporary Issues in Education
Fall, Spring, 3(3-0)

Philosophy of education. Analytic tools used for evaluating current educational goals, practices, issues, and reforms.

QA: TE 806, TE 810A

812. Sociological Inquiry into Education
Spring of odd-numbered years, 3(3-0)

Relationships of educational organizations and practices to social structures and institutions.

QA: SOC 501, TE 901

815. Comparative Analysis of Educational Practice
Fall of even-numbered years, 3(3-0)


QA: TE 803A, TE 803B

816. Education in Transition
Fall of odd-numbered years, 3(3-0)

Comparative analysis of change in educational concepts, policies, and practices.

818. Curriculum In Its Social Context
Fall, Spring, 3(3-0)

Philosophical, social, and historical foundations of curriculum, issues and practices across subjects, grades, and school settings. Moral consequences of curriculum decisions for teachers and students.

QA: TE 810A

820. Power and Pluralism in School Practice
Spring of even-numbered years, 3(3-0)

Connections between schools and diversity, inequality, and power in society. Genesis and consequences of school policies for diverse learners.

821. Race and Educational Policy in the United States
Spring of odd-numbered years, 3(3-0)

Educational policy in relation to race in the United States. Efforts to promote equity through racially sensitive curricular and instructional practices.

822. Issues of Culture in Classroom and Curriculum
Fall of odd-numbered years, 3(3-0)

Socio-cultural contexts and functions of schooling. Cultural diversity in education. Schools and classrooms as cultural systems. Students' cultural backgrounds in relation to curriculum. Developing effective multicultural curricula for all students.

QA: TE 806

823. Learning Communities and Equity
Spring, 3(3-0)

Cooperative grouping and heterogeneous learning teams. Impact of learning communities on equity and on school curricula.

QA: TE 811A, TE 811B, TE 811C

825. Diverse Learners and Learning Subject Matter
Summer, 3(3-0)

Multiple perspectives on teaching subject matter to diverse learners. Texts, curricula, and pedagogical approaches. Subject-specific issues related to classroom diversity.

830. Teaching School Subject Matter with Technology
Fall, Spring, 3(3-0)

Use of technologies in teaching subject matter to diverse learners. Critical perspectives on technologies in schools.

QA: TE 466A, TE 466B

840. Proseminar I: Historical Bases of Literacy Instruction
Fall, 3(3-0)

R: Open only to graduate students in Literacy Instruction.

Relationships between language processes and school curricula.

QA: TE 819A, TE 819B

841. Proseminar II: Psychological Bases of Literacy Instruction
Spring, 3(3-0)

P: TE 819. R: Open only to graduate students in Literacy Instruction.

Psychological foundations of literacy instruction, including theories and models of reading and writing. Psychological processes, social and contextual factors, and text features relevant to literacy instruction.

QA: TE 819B, TE 819C

842. Advanced Methods of Elementary School Reading
Fall, 3(3-0)

Methods and materials for teaching developmental and content area reading in grades K-8.

QA: TE 820A

843. Reading, Writing, and Reasoning in Secondary School Subjects
Fall, 3(3-0)

Knowledge and methodology for teaching language, literacy, and thinking in selected secondary school subjects.

QA: TE 820C, TE 820D

844. Classroom Literacy Assessment
Spring, 3(3-0)

Knowledge and methodology about ongoing and summative types of classroom assessment in oral language, reading, and writing at the elementary and secondary levels.

QA: CEP 820E, CEP 820G

845. Language Diversity and Literacy Instruction
Fall, 3(3-0)

P: One introductory linguistics course. Acquisition of literacy in schools by language minority students and other learners with diverse backgrounds.

846. Seminar in Literacy Instruction
Spring, 3(3-0)

P: CEP 819, TE 840. R: Open only to master's students in Literacy Instruction. Approval of department. Synthesis and application of knowledge acquired through consideration of current research and issues from practice.

QA: TE 820K

847. Methods for Teaching Language Arts
Fall, 3(3-0)

Methods and materials for teaching listening, speaking, reading, and writing with emphasis on language development across the curriculum.

QA: TE 822A

848. Methods of Writing Instruction
Spring of odd-numbered years, 3(3-0)

P: TE 847. Rationale and methods for writing instruction from pre-writing through drafting and editing.

QA: TE 822A QA: TE 822C

849. Methods and Materials for Teaching Children's and Adolescent Literature
Fall of odd-numbered years, Summer of even-numbered years, 3(3-0)

Evaluation and utilization of various genres and elements of literature with focus on literature for students in grades K-12.

QA: TE 824A, TE 824B, TE 824C, TE 824F, TE 824G

850. Critical Reading for Children and Adolescents
Fall of even-numbered years, 3(3-0)

P: TE 849.

Teaching and learning of critical and aesthetic responses to literature for K-12 students.

QA: TE 824A QA: TE 824E

851. Literacy for the Young Child in Home and School
Spring of even-numbered years, 3(3-0)

P: TE 840.

Literacy development in children from early infancy through age six, with emphasis on evaluation and utilization of writings for young children.

QA: TE 824A QA: TE 824F

855. Teaching School Mathematics
Fall, Summer, 3(3-0)

P: Two undergraduate mathematics courses.

Methods, materials, activities, and content important to teaching mathematics. Emphasis on conceptual understanding of mathematical ideas. Implications for lesson development, teaching diverse learners, and evaluating student learning.

856. Alternatives in School Mathematics
Curriculum
Spring, Summer, 3(3-0)

P: Two undergraduate mathematics courses.

Selection and appraisal of mathematics curricula. Use of materials in the classroom. Representation of selected mathematical content for diverse learners.
Descriptions—Teacher Education
of Courses

867. Teaching and Learning Mathematical Problem Solving
Spring, 3(3-0)
P: Two undergraduate mathematics courses.
Alternative approaches to solving mathematical problems and incorporating problem solving into K-12 teaching. Selection, supervision, and uses of problems in the classroom. Materials and assessment strategies.

868. Practice and Inquiry in Science Education
Spring, 3(3-0)
Teaching science subjects. Emphasis on learner diversity, learning community, conceptual understanding, subject matter context, and learners’ prior knowledge.
QA: TE 826C, TE 826E

869. Teaching and Learning K-12 Social Studies
Fall, 3(3-0)
F: Purposes for teaching and learning social studies. Developing citizenship, social science reasoning, and content knowledge with diverse learners.
QA: TE 850A

866. K-12 Social Studies Curriculum
Spring of even-numbered years, 3(3-0)
Issues and practices in social studies from historical, philosophical, and industrial perspectives. Student diversity and the social studies curriculum. Reforms and needed research in social studies education.
QA: TE 830C

877. Perspectives in Social Studies: Global Education
Fall of odd-numbered years, Summer.
3(3-0)
Issues affecting the global community. Educational strategies for developing a global perspective on human relationships and the environment.
QA: TE 850R

876. Perspectives in Social Studies: Law-Related Education
Summer, 3(3-0)
Intellectual, social, and personal premises for law-related education. Strategies for curricular infusion.
QA: TE 850G

878. Perspectives in Social Studies: Teaching about Canada
Summer of even-numbered years, 3(3-0)
Teaching about Canada and Canadian-American relations. Social, cultural, political, and environmental issues.

870. Curriculum Design, Development, and Deliberation in Schools
Spring, 3(3-0)
Simultaneous curriculum design, critique of curriculum discourse, process, and product. Teachers’ roles in situs-based curriculum and staff development.
QA: TE 810C

872. Teachers as Teacher Educators
Spring, 3(3-0)
Experienced teachers’ contributions to the professional development of novice teachers. Implications for school change.

875. Teaching in International Schools
Summer of even-numbered years, 3(3-0)
Issues of teaching in schools with multinational student populations. Relationship of curricular and school organizational structures to local culture.

882. Seminars in Curriculum and Teaching (MTC)
Fall, Spring, Summer. 1 to 4 credits.
A: A student may earn a maximum of 9 credits in all enrollments for this course. Intensive study of selected topics in curriculum and teaching.

885. Seminars in Literacy Instruction (MTC)
Fall, Spring, Summer. 1 to 4 credits.
A: A student may earn a maximum of 9 credits in all enrollments for this course. Intensive study of selected topics in literacy instruction.

890. Independent Study
Fall, Spring, Summer. 1 to 6 credits. A student may earn a maximum of 9 credits in all enrollments for this course. Supervised individual study in an area of curriculum, teaching, or school counseling.

891. Special Topics in Teaching, Curriculum, and Schooling
Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 9 credits in all enrollments for this course.

891A. Special Topics in Science Education
Summer. 1 to 4 credits. A student may earn a maximum of 9 credits in all enrollments for this course.

894. Laboratory and Field Experiences in Curriculum, Teaching, and Schooling
Fall, Spring, Summer. 1 to 6 credits. A student may earn a maximum of 9 credits in all enrollments for this course.

899. Master’s Thesis Research
Fall, Spring, Summer. 2 to 12 credits in increments of 2 credits. A student may earn a maximum of 12 credits in all enrollments for this course.

901. Proseminar in Curriculum, Teaching and Educational Policy I
Fall, 3(3-0)
R: Open only to doctoral students in Curriculum, Teaching, and Educational Policy. Two historical episodes related to improving teaching practice, teacher and student learning, curricula, and educational policy. Nature and effects of educational reforms.
QA: TE 975, TE 976, TE 977

902. Proseminar in Curriculum, Teaching, and Educational Policy II
Spring, 3(3-0)
R: Open only to doctoral students in Curriculum, Teaching, and Educational Policy. Two historical episodes related to improving teaching practice, teacher and student learning, curricula, and educational policy. Nature and effects of educational reforms.
QA: TE 975, TE 976, TE 977

916. History of Curriculum and School Subjects
Spring of odd-numbered years, 3(3-0)
Formation and organization of contemporary U.S. school curricula and school subjects in historical, epistemological, and sociopolitical contexts.

917. Contemporary Theories and Discourses in Education
Fall of even-numbered years, 3(3-0)
Logical positivism, interpretive theories, critical theory, feminist theory, poststructuralism and the philosophy, applications to curriculum, teaching, and educational policy.
QA: TE 910M

918. Disciplinary Knowledge and School Subjects
Spring, 3(3-0)
Cross-disciplinary comparisons of the nature of knowledge, its creation, refinement, and use. Correspondence between disciplinary knowledge and knowledge as represented in schools.
QA: TE 941

919. Policy Analysis in Education
Fall, 3(3-0)
Concepts, principles, and analysis of educational policies. Contexts such as governance levels, national setting, and legislative forms. Uses, limitations, and ethics of policy analysis.
QA: TE 933

920. Social Analysis of Educational Policy
Spring, 3(3-0)
Social science perspectives on factors outside and inside school systems which shape policy and influence both the nature of policy problems and the form of educational solutions.

921. Learning to Teach
Fall, 3(3-0)
Intellectual, practical, and moral dimensions of teaching and learning to teach. Impact of formal and informal influences on teachers’ knowledge, skills, and attitudes.

922. Contexts and Micropolitics of Teacher Education
Fall of odd-numbered 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 even-numbered years, 3(3-0)

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

931. Qualitative Methods in Educational Research
Fall, 4(4-0) Interdepartmental with Educational Administration and Counseling. Educational Psychology and Special Education. P: 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. Approving qualitative research.
QA: TE 921, TE 923, TE 925, EAD 951H

940. Curriculum Development and Evaluation
Fall of odd-numbered years, 3(3-0)
Research in curriculum development and evaluation. Discourse, group dynamics, processes, and outcomes for teaching and learning.
QA: TE 910G

941. Marginalized Subjects in Curriculum and Teaching
Spring of even-numbered years, 3(3-0)
School subjects, ways of knowing, and possibilities of curricular reform. Implications for practice in schools. Critical and feminist pedagogy.

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

950. Mathematical Ways of Knowing
Fall of even-numbered years, 3(3-0)
P: 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, 3(3-0)
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.
TELECOMMUNICATION TC

Department of Telecommunication
College of Communication Arts and Sciences

100. The Information Society Fall, Spring, Summer. 3(4-0)
Technological and social trends in the information society. Social policy involving information technologies and information services. Examples from the telephone, computer, television, cable, radio and satellite systems.

QF: EC 201 or concurrently. R: Open only to freshmen. Institutional, economic and content development of telecommunication including broadcasting, cable, new video technologies, and telephone and data transmission.

QP: EC 201, MTH 108 QA: TC 220

200. History and Economics of Telecommunication Fall, Spring, Summer. 4(4-0)
R: Not open to freshmen. Major social effects of mass media on audience perception. Applications of aesthetic principles in the design of mediated communication.

QA: TC 301, TC 302

275. Effects of Mass Communication Fall, Spring, Summer. 3(0-0); Interdepartmental with Communication.
R: Open only 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.

QA: TC 300

310. Basic Telecommunication Policy Fall, Spring, Summer. 4(4-0)
P: TC 100, TC 201, TC 240.
Policy and plans in telecommunication systems and services in the United States and other nations.

QP: TC 210, TC 220, TC 230 QA: TC 310

342. Basic Video Design and Production Fall, Spring, Summer. 4(4-0)
P: TC 240, R: Open only to telecommunication majors. Approval of department; application required. Conceptualization, design, planning, producing, directing, editing, and evaluation of video programs.

QP: TC 210, TC 230, TC 230 QA: TC 302, TC 361

343. Media Arts Content and Culture Spring, 3(0-0)
R: Open only to telecommunication majors.

QA: TC 398

352. Broadcast and Cable Programming and Audience Promotion Fall, Spring, Summer. 3(3-0)
P: TC 200, TC 240, or approval of department. R: Open only to freshmen. Evaluation, selection and scheduling of cable and broadcast programming. Audience promotion strategies and techniques.

QP: TC 302 QA: TC 325

354. Telecommunication Marketing and Sales Promotion Fall, Spring. 3(3-0)
P: TC 200, MTH 330.
Application of advertising and marketing concepts to broadcasting, cable systems, program networks and telecommunications.

QA: TC 401

361. Telecommunication System and Service Policies Spring, 3(3-0)
P: TC 200, TC 201, TC 310; ACC 230.
Services, systems, and public policy related to telephones and telecommunications.

QP: TC 310 QA: TC 360

370. History of Film and Documentary Fall, Spring. 4(3-2)
R: Open only to telecommunication majors. Approval of department; application required. Advanced principles of studio and field production. Techniques of design, recording, editing and writing. Emphasis on electronic film production and editing.

QP: TC 301, TC 302, TC 361 QA: TC 421, TC 351, TC 451

442. Advanced Video Design and Production Fall. 4(4-0)
P: TC 342, TC 343. R: Open only to Telecommunication majors. Approval of department; application required. Advanced production specializing in multi-channel techniques. Industry focus on all aspects of the audio field.

QP: TC 301, TC 302 QA: TC 350

456. Hypermedia Design Fall, 4(3-2)
P: CPS 100 or CPS 130 or CPS 131; TC 342 or approval of department.

Current and future hypermedia capabilities. Applications and design of systems.

QP: TC 302, CPS 115 QA: TC 440

458. Telecommunication and Information Industries Fall, Spring, Summer. 4(4-0)
P: TC 100, TC 201, TC 202.
Telecommunication and information industry issues including economic dynamics, market structures, business practices, and interfaces with other industries.

QP: TC 220 QA: TC 452

459. Multichannel Television Fall, Spring. 4(4-0)
P: TC 352, TC 354. R: Open only to Telecommunication seniors and graduate students. Television in a multichannel environment: development in broadcasting, cable, satellite master antenna TV, direct broadcast satellite, multipurpose distribution systems, and home video applications.

QP: TC 325, TC 401 QA: TC 415

455. Telecommunication Management Fall, Spring, Summer. 4(4-0)
P: TC 354, MGT 392.
Theoretical and practical aspects of telecommunication management including case studies.

QP: TC 220, TC 310, TC 354 QA: TC 401