803. **Enteral and Parenteral Nutrition** Fall, , Summer. 3(3-0)

R. Open only to M.S. students in Surgery.

Identification of individuals requiring nutritional support. Nutritional requirements in diseases. Delivery of total parenteral and enteral nutrition. Special

Temporary approval effective from Fall Semester 1992 through Summer Semester 1994.

QA: SUR 803

804. Research Design and Quantitative Techniques for Surgical Residents Spring. 3(3-0) R: Open only to students in master's degree program

in Surgery.

Recognition and differentiation between experimental designs. Identification of strengths and weaknesses of a manuscript. Recognition and definition of statistical terms and common inferential techniques used in surgical research. Use of computer softwar QA: SUR 804

890. Seminars in Research

Fall, Spring, Summer. 1 credit. A student may earn a maximum of 2 credits in all enroll-

ments for this course.

R: Open only to M.S. students in Surgery.

Philosophy and methods of research. Preparation and presentation of research data in research reports.

Practical applications.

Temporary approval effective from Fall Semester 1992 through Summer Semester 1994.

QA: SUR 890

Master's Thesis Research PPR

Fall, Spring, Summer. 3 to 4 credits. A student may earn a maximum of 10 credits in all

enrollments for this course.
P: SUR 801, SUR 802, SUR 803, SUR 804. R: Open only to M.S. students in Surgery. Approval of department.

Temporary approval effective from Fall Semester 1992 through Summer Semester 1994.

QA: SUR 899

SYS SYSTEMS SCIENCE

Department of Electrical Engineering College of Engineering

410. Systems Methodology

Spring. 2(1-3)
P: CE 370. R: Open only to Engineering Arts seniors. Systems analysis and design. Needs analysis, system identification, graphical models. Team project required. QP: CE 370 QA: SYS 410

810. 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. QP: MTH 214 QA: SYS 810, SYS 811

Systems II 811.

Spring of odd-numbered years. 3(3-0) P: STT 351, SYS 810. R: Not open to Electrical Engi-

neering majors

System modelling methodology and techniques. Con-tinuous and discrete system simulation. Simulation model optimization with applications to optimal control and parameter estimation. Applications in decision support contexts. QP: SYS 810, STT 441 or STT 351 QA: SYS 811, SYS 814

TEACHER EDUCATION

Department of Teacher Education College of Education

150. Reflections on Learning Fall, Spring, Summer. 3(3-0) Interdepart-mental 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.

Human Diversity, Power, and 250.

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.

Learners and Learning in Context

Spring. 4(3-4)
P: TE 150; TE 250 or CEP 240. R: Not open to freshmen and sophomores. Open only to Education majors and to students in Education specialization. Role of social context and sociocultural background

in learning. Natural and socially constructed differences among learners. Relationship among subject-specific knowledge, teaching and learning that subject, and the institutional and communal context. QP: TE 101, TE 200

Curriculum Methods and Materials: 305.

Elementary Education
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. Elementary certification candidates.

Curriculum in K-8 grades. Methods and materials for teaching in elementary and middle school.

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 305, TE 305A, TE 307A, TE 308A

Interdisciplinary Elementary Curriculum Fall. 2(1-2)

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.

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 306C, TE 307A, TE 308A

Methods of Teaching Reading in the Elementary School

Fall. 2(2-0)

R: Not open to freshmen and sophomores. Open only to elementary certification candidates.

Methods and materials for teaching reading at the

elementary level. Learning and teaching problems, concrete materials and instructional strategies.

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 310, TE 310A, TE 310B, TE 310C, TE 310D

Literacy Instruction in the Elementary Grades 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.

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 312, TE 312D, TE 311C, TE

313. Critical Reading and Children's Literature

TE

R: Not open to freshmen and sophomores. Open only to elementary certification candidates.

Strategies for helping children to develop critical reading skills through literary experience. Emphasis on fiction.

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 313, TE 313B, TE 313D

Teaching Mathematics in the Elementary Grades Fall, Spring. 1 to 2 credits. 315.

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. 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 315, TE 315D, TE 315C, TE 315A, TE 315B

Teaching Social Studies in Elementary Grades Fall, Spring. 1 to 2 credits. 316.

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. 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 316, TE 316B, TE 316C, TE 316D

317. Teaching Language Arts in the Elementary School

Fall, Spring. 2(2-0)

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 interrelationship of listening, viewing, speaking, reading, and writing. 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 317, TE 317C

Teaching Science in the Elementary and Middle School 318.

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.

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 318, TE 318B, TE 318C, TE

Methods of Teaching-1- Secondary Common Elements 322.

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 belief systems, and learner needs and characteristics.

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 322

Methods of Teaching-1- Secondary Subject Areas: English 326 Fall. 2(2-0)

R: Not open to freshmen and sophomores. Open only to secondary teacher certification candidates Classroom instruction in English. Selection of instruc-

tional 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

338. Methods of Teaching Secondary Subject Areas: Social Science & History

R: Not open to freshmen and sophomores. Open only to secondary 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 338

Field Experience in Teaching

Fall, Spring. I 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 370A, TE 370B, TE 370D, TE 360A

401. Teaching of Subject Matter to Diverse

Learners Fall. 5(3-8)

P: TE 301. R: Not open to freshmen and sophomores. Open only to Education majors and to students in Education specialization.

Examining teaching as enabling diverse learners to inquire into and construct subject-specific meanings. Adapting subject matter to learner diversity. Exploring multiple ways diverse learners make sense of the curriculum.

402. Crafting Teaching Practice

Spring. 6(4-8)
P: TE 401. R: Not open to freshmen and sophomores.
Open only to Education majors and to students in Education specialization.

Gathering data on learners to inform content and instructional decisions. Deciding what should be taught for specific disciplines. Teachers' multiple roles and their professional, intellectual, sociopolitical, and communal responsibilities.

Subject-Specific Secondary Instructional Methods 403.

Fall, Spring. 2(2-0)

Secondary instruction in specific subject areas. Selection of instructional techniques to fit course objectives, and needs and characteristics of learners.

Temporary approval effective from Fall Semester 1992 through Spring Semester 1994. QA: TE 320, TE 321, TE 323, TE 324, TE 328, TE 329, TE 330, TE 331, TE 335, TE 336, TE 340, TE 334, TE 349

406. Interdisciplinary Teaching and Learning

Fall, Spring. 2(1-3)
R: Not open to freshmen and sophomores. Open only to teacher certification candidates with Academic Learning emphasis.

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. 3(2-3)
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

450. 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 450, TE 450A, TE 450B, TE

470

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 nature of 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 470, TE 470A, TE 470B, TE 470C, TE 470D

Elementary Student Teaching: Special Education 473.

Fall, Spring. 10(2-24) R: Not open to freshmen and sophomores. Open only to elementary special education teaching certification

Supervised special education student teaching in elementary schools. Participation in planning, implementing and evaluating instruction. Individualized Educational Planning (IEP) Committees and multidisciplinary exercises.

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 473

474. Secondary Student Teaching: Special Education

Fall, Spring. 10(2-24)
R: Not open to freshmen and sophomores. Open only to secondary special education teaching certification

Supervised special education student teaching in secondary school settings. Full-time practicum experience includes planning, implementing and evaluating instruction. Participation in IEP Committees and multidisciplinary exercises.

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 474

Proseminar for the Learning Community Emphasis Area 480.

Spring. I(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 480D

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

Special Topics 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 teacher certification candidates.

Aspects of teaching practice and inquiry into 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 482

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.

Supervised practica and/or observations in educational settings.

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

Learners I
Fall. 6(2-24)
P: TE 402. C: TE 801, 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.

502. Internship in Teaching Diverse Learners II

P: TE 501. C: TE 803, 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.

801. Professional Roles and Teaching
Practice I
Fall. 3(2.3)
P: TE 402. C: TE 501, TE 802 R: Open only to students seeking teacher certification.
Teachers' professional and ethical responsibilities.
Connections of schools to other social agencies. Relations of teachers to colleagues, families, other social service providers, and community leaders. Roles in service providers, and community leaders. Roles in school governance.

802. Reflection and Inquiry in Teaching Practice I

Fall. 3(2-3) P: TE 402. C: TE 501, TE 801 R: Open only to stu-

dents seeking teacher certification.

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

803. Professional Roles and Teaching Practice II

Spring. 3(2-3)
P: TE 801. C: TE 502, TE 804 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 802. C: TE 502, TE 803 R: Open only to students seeking teacher certification.

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

Professional Development and

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. QA: TE 829, TE 869

RORInquiry into Classroom Teaching and Learning

Fall, Summer. 2(2-0)

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

Alternative forms of classroom inquiry to improve teaching and learning of subject matter. Social context of teaching and learning, pedagogy, and teaching effects. Social and academic outcomes for diverse learners

QA: TE 869, TE 870

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

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

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

History of American Education

Spring of even-numbered years. 3(3-0) Social and intellectual history of educational ideals and institutions. Legacies of reform initiatives. Evolution of the education profession. QA: TE 804A

Philosophical Inquiry and Contemporary Issues in Education

Fall, Spring. 3(3-0)

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

QA: TE 800, TE 801A

Sociological Inquiry into Education 812.

Spring of odd-numbered years, 3(3-0) Relationships of educational organizations and practices to social structures and institutions. QA: SOC 901, TE 901

815. Comparative Analysis of Educational Practice

Fall of even-numbered years, 3(3-0) Cross-national comparison of educational practices in light of differences in culture, social organization, economic conditions, and historical circumstance. International perspectives on education in the United States. Borrowing and adapting educational 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 practice.

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.

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.

Issues of Culture in Classroom and 822 Curriculum

Fall of odd-numbered years. 3(3-0) Socio-cultural contexts and functions of schooling. Cultural diversity in education. Schools and class-rooms as cultural systems, Students' cultural backgrounds in relation to curriculum. Developing effective multicultural curricula for all students. QA: TE 806

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.

Designing Interdisciplinary 830. Curricula

Spring of odd-numbered years, 3(3-0) Historical and conceptual analyses of ways to design, organize, and integrate curricula across subject areas. Evaluation and application of criteria for planning and teaching interdisciplinary curricula.

Teaching School Subject Matter with

Technology
Fall, Spring. 3(3-0)
Uses of technologies in teaching subject matter to diverse learners. Critical perspectives on technologies in schools.

QA: TE 446A, TE 446B

840. Proseminar I: Historical Bases of Literacy Instruction

Fall. 3(3-0)

R: Open only to graduate students in Literacy Instruc-

Relationships between language processes and school-

ing. QA: TE 819A, TE 819B

841. Proseminar II: Psychological Bases of Literacy Instruction Spring. 3(3-0) P: TE 840. 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

Advanced Methods of Elementary

School Reading
Fall,, Summer. 3(3-0)
Methods and materials for teaching developmental and content area reading in grades K-8.

843. Reading, Writing, and Reasoning in Secondary School Subjects

Spring. 3(3-0)

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

QA: TE 820C, TE 820D

844. Classroom Literacy Assessment

Summer. 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

Language Diversity and Literacy Instruction 845. 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.

OA: TE 822A

Methods of Writing Instruction 848.

Spring of odd-numbered years. 3(3-0)

P: TE 847

Rationale and methods for writing instruction from pre-writing through drafting and editing. QP: 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

Critical Reading for Children and

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. QP: TE 824A QA: TE 824E

Literacy for the Young Child in Home and School 851.

Spring of even-numbered years. 3(3-0) P: TE 849

Literacy development in children from early infancy through age six, with emphasis on evaluation and utilization of writings for young children. QP: TE 824A QA: TE 824F

Teaching School Mathematics Fall. 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. Uses of materials in the classroom. Representation of selected mathematical content for diverse learners.

857. 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, appraisal, and uses of problems in the classroom. Materials and assessment strategies.

Practice and Inquiry in Science Education

Spring. 3(3-0)

Teaching science subjects. Emphasis on learner diversity, learning community, conceptual understanding, subject matter content, and learners' prior knowledge. QA: TE 826C, TE 826E

865. Teaching and Learning K-12 Social Studies

Fall, 3(3-0)

Purposes for teaching and learning social studies. Developing citizenship, social science reasoning, and content knowledge with diverse learners. QA: TE 830A

K-12 Social Studies Curriculum

Spring of even-numbered years, 3(3-0) Issues and practices in social studies from historical, philosophical, and epistemological perspectives. Student diversity and the social studies curriculum. Reforms and needed research in social studies educa-QA: TE 830C

867. 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 830K

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 830G

Perspectives in Social Studies: 869. Teaching about Canada

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

Curriculum Design, Development, and Deliberation in Schools 870.

Spring. 3(3-0)

Simulation in group curriculum deliberation. Critique of curriculum discourse, process, and product. Teachers' roles in site-based curriculum and staff develop-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.

Teaching in International Schools 875.

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 student may earn a maximum of 9 credits in all enrollments for this course.

Intensive study of selected topics in curriculum and

883. Seminars in Literacy Instruction

Fall, Spring, Summer. 1 to 4 credits. 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 schooling.

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.

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.

Supervised graduate practica, observations, and internships in fields of emphasis in curriculum, teaching, and schooling. QA: TE 881

Master's Thesis Research 899.

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.

QA: TE 899

Proseminar in Curriculum, Teaching 901. 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)

P: TE 901. R: Open only to doctoral students in Cur riculum, 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

QA: TE 975, TE 976, TE 977

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.

Contemporary Theories and Discourses in Education 917.

Fall of even-numbered years. 3(3-0) Logical positivism, interpretive theories, critical theory, feminist theory, poststructuralism and neopragmatism. Applications to curriculum, teaching, and educational policy. QA: TE 910M

Disciplinary Knowledge and School 918. Subjects

Spring. 3(3-0)

Cross-disciplinary comparisons of the nature of knowledge, its creation, refutation, and use. Correspondence between disciplinary knowledge and knowledge as represented in schools. QA TE 941

Policy Analysis in Education Fall. 3(3-0) 919.

Conception, generation, 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 educa-

tion in relation to social and institutional contexts. Relation of traditional and innovative programs to basic tensions and issues in the field.

Comparative Perspectives on Teaching, Curriculum, and Teacher 923. Education

Spring of even-numbered years, 3(3-0) Contrasting national responses to universal questions. Links among education and other nation-building institutions. Organization and distribution of knowledge. Organization of, preparation for, and practice

Philosophy of Education: Ideas and Methods 924.

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

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. Ap-

proval of department. Multiple traditions of qualitative research in educa-Multiple traditions of quantitative research in education. Approaches to theory, research questions and design, data collection and analysis, and reporting. Ethical issues. Appraising qualitative research. QA: TE 921, TE 922, TE 923, EAD 951H

Curriculum Deliberation and 940. **Development**Fall of odd-numbered years, 3(3-0)

Research in curriculum deliberation and development. Discourse, group dynamics, processes, and outcomes for teaching and learning. QA: TE 910G

Marginalized Subjects in Curriculum 941. and Teaching

Spring of even-numbered years. 3(3-0) School subjects, ways of knowing, and people margin-alized by omission or inequitable policies and practices in schools. Critical and feminist pedagogy.

Current Issues in Literacy Research 946. and Instruction

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

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. 1 to 3 credits. A student may earn a

maximum of 6 credits in all enrollments for this course.

Epistomological, social, psychological, and historical foundations of science education in relation to contem-porary issues and problems of science curriculum, teaching, and policy.

960. Language, Literacy, and Educational

Policy
Fall of odd-numbered years. 3(3-0) Policy in relation to framing curriculum. The linguistic nature of pupil assessment. Gatekeeping functions of schools.

965. The Craft of Policy Analysis in Education

Spring of even-numbered years. 3(3-0) Framing problems, devising alternative solutions, and predicting impacts.

970. Curriculum and Pedagogy in Teacher Education

Spring of odd-numbered 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.

Teacher Learning in School Settings

Fall of odd-numbered 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.

Policy Perspectives on Teaching and Teacher Education 975.

Fall of odd-numbered years. 3(3-0) Policy issues such as teacher accountability, teacher knowledge, and political influence.

Seminar in Curriculum, Teaching, and Educational Policy (MTC) Fall, Spring, Summer. 1 to 4 credits. A 982.

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.

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.

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.

Special Topics in Science Education

Spring of even-numbered years, 1 to 6 credits. A student may earn a maximum of 6 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 depart-

ment.

Supervised practica, observations, and internships in an area of curriculum, teaching and learning; educa-tional policy and social analysis; or teacher education and teacher learning.

995. Research Practicum in Curriculum, Teaching, and Educational Policy Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 4 credits in all enrollments for this course.

R: Open only to doctoral students. Approval of department.

Supervised research practicum. Design, execution, analysis, presentation, critique, and revision of research projects.

Doctoral Dissertation

Fall, Spring, Summer. 1 to 24 credits. A student may earn a maximum of 36 credits in all enrollments for this course. R: Open only to Ph.D. students.

TELECOMMUNICATION TC

Department of Telecommunication College of Communication Arts and Sciences

The Information Society 100.

Fall, Spring, Summer. 3(3-0) 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. QA: TC 210

History and Economics of Telecommunication 200.

Fall, Spring, Summer. 4(4-0) P: EC 201 or concurrently. R: Not open 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

Introduction to Telecommunication Technology

Fall, Spring, Summer. 4(4-0)
P: MTH 110 or MTH 116; CPS 100 or CPS 130 or CPS 131 or concurrently. R: Not open to freshmen. Operational principles of audio, data and video telecommunication technologies. QP: TC 210, TC 220 QA: TC 230

240. Telecommunication Media Arts

Fall, Spring, Summer. 4(2-4)

R: Not open to freshmen. Characteristics of image and sound media and their role in shaping the meaning of media messages. Application of aesthetic principles in the design of

mediated communication. QA: TC 301, TC 302

275. Effects of Mass Communication Fall, Spring, Summer. 3(3-0) Interdepart-mental with Communication.

R: Not open to freshmen.

Major social effects of mass media on audience behavior. Political communication. Media effects on chil-dren. 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 200, 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(2-4) 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 220, TC 230 QA: TC 302, TC 361

343. Basic Audio Production

Fall, Spring, Summer. 4(2-4) P: TC 201, TC 240. R: Open only to Telecommunication majors. Approval of department: application reauired.

Basic audio production techniques. In-depth audio and radio industry analysis. Media writing. QP: TC 230 QA: TC 301, TC 350

Media Arts Content and Culture

Spring, 3(3-0)
R: Not open to freshmen and sophomores. Media content as cultural discourse. Cultural themes in content and structure of media entertainment, news, sports, religious and political programs and commercials. QA: TC 395

Broadcast and Cable Programming and Audience Promotion 352.

Fall, Spring, Summer. 3(3-0) P: TC 200, TC 240, or approval of department. R: Not

open 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, ML 300.
Application of advertising and marketing concepts to broadcast stations, cable systems, program networks and telecommunications. QA: TC 401

361. Telecommunication System and Service Policies

P: TC 200, TC 201, TC 310; ACC 230.
Services, systems, and public policy related to telephone and telecommunication. QP: TC 310 QA: TC 360

370. History of Film and Documentary Fall, Spring. 4(2-4) R: Not open to freshmen.

Analysis of fiction and non-fiction forms, emphasizing social background and cultural values. Screening of significant feature and documentary films. QA: TC 280, TC 396

442. Advanced Video Design and Production

Fall. 4(2-4)
P: TC 342, TC 343. R: Open only to Telecommunication majors. Approval of department; application

Advanced principles of studio and field production. Techniques of design, recording, editing and writing. Emphasis on electronic field production and editing. QP: TC 301, TC 302, TC 361 QA: TC 421, TC 351, ŤC 451

443. Audio Industry Design and Management

Fall, Spring. 4(2-4)
P: TC 342, TC 343. R: Open only to Telecommunication majors. Approval of department; application required

Advanced audio production specializing in multi-chan-nel techniques. Industry focus on all aspects of the audio field.

QP: TC 301, TC 302 QA: TC 350

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. Applica-

tions and design of systems. QP: TC 302, CPS 115 QA: TC 440

452. Telecommunication and Information Industries

Spring, Summer. 4(4-0) P: TC 100, TC 200, TC 201.

Telecommunication and information industry issues including economic dynamics, market structures, business practices, and interfaces with other industries. QP: TC 220 QA: TC 452

456. 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; develop-

ments in broadcasting, cable, satellite master antennae TV, direct broadcast satellite, multipoint distribution systems, and home video applications. QP: TC 325, TC 401 QA: TC 415

Telecommunication Management

Fall, Spring, Summer. 4(4-0) P: TC 354, MGT 302.

Theoretical and practical aspects of telecommunication management including case studies. QP: TC 220, TC 310, TC 335 QA: TC 401