

- 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 problems.
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 software
QA: SUR 804
- 890. Seminars in Research**
Fall, Spring, Summer. 1 credit. A student may earn a maximum of 2 credits in all enrollments 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
- 899. Master's Thesis Research**
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

SYSTEMS SCIENCE SYS

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
- 811. Systems II**
Spring of odd-numbered years. 3(3-0)
P: STT 351, SYS 810. R: Not open to Electrical Engineering majors.
System modelling methodology and techniques. Continuous 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 TE

Department of Teacher Education College of Education

- 150. 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(3-4)
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
- 305. Curriculum Methods and Materials: 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
- 306. 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
- 310. 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
- 312. 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 312A
- 313. Critical Reading and Children's Literature**
Fall, Spring. 2(2-0)
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
- 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.
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
- 316. Teaching Social Studies 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 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
- 318. 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.
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 318D
- 322. Methods of Teaching-1. Secondary Common Elements**
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