804. Research Design and Quantitative Techniques for Surgical Residents  
Spring, 3(3-6)  
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. Definition and recognition of statistical terms and common inferential techniques used in surgical research. Use of computer software in research.

890. Seminars in Research  
Fall, Spring, Summer. 1 credits. A student may earn a maximum of 5 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.

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.

SYSTEMS SCIENCE  
Department of Electrical Engineering

410. Systems Methodology  
Spring, 3(3-3)  
P: CK 370. R: Open only to Engineering Arts seniors. Completion of Tier I writing requirement. Systems analysis and design. Needs analysis, system identification, graphical models. Team project required.

TEACHER EDUCATION  
Department of Teacher Education

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

240. Diverse Learners in Multicultural Perspective  
Fall, Spring, Summer. 3(2-2) Interdepartmental with Counseling, Educational Psychology and Special Education. Administered by Counseling, Educational Psychology and Special Education. R: Open only to students with credit in TE 250. Communicative, linguistic, physical, sensory, behavioral, affective and cognitive differences in learning in multicultural classrooms. Factors that mediate access to knowledge.

250. Human Diversity, Power, and Opportunity in Social Institutions  
Fall, Spring, Summer. 3(3-3) 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 (W)  
P: TE 150, FY 250 or CEP 249. R: Open only to freshmen and sophomores. Open only to Education majors and to students in Education specialization. Completion of Tier I writing requirement.  
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. Multiple literacies.

401. Teaching of Subject Matter to Diverse Learners  
Fall, 5(3-3)  
P: TE 301. R: Open only to freshmen and sophomores. Open only to Education majors and to students in Education specialization. Completion of Tier I writing requirement. 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 (W)  
Spring, 6(4-8)  
P: TE 401. R: Open only to freshmen and sophomores. Open only to Education majors and to students in Education specialization. Completion of Tier I writing requirement. 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.

405. Feminist Analyses of Education in the United States  
Fall, even years. 3(3-0) Interdepartmental with Women's Studies. Administered by Women's Studies. R: Open only to freshmen or sophomores. Feminist perspectives on the role of gender in structuring educational experiences in elementary and secondary school.

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: Open only to students with a teacher certification option. Approval of department.

493. Directed Teaching  
Fall, Spring. 9 credits. Interdepartmental with Music. Administered by Music. R: Open only to seniors in Instrumental Music Education, Stringed Instrument Music Education, and Vocal-General Music Education. Supervised music teaching experience in Schools, on-campus seminar required.

501. Internship in Teaching Diverse Learners I  
Fall, 6(2-4)  
P: TE 402. R: Open only to students seeking teacher certification. Directed and evaluated internship in heterogeneous classrooms. Teaching experience with students with varied learning needs. Theoretical and field-based explorations of common teaching dilemmas.

502. Internship in Teaching Diverse Learners II  
Spring, 6(2-4)  
P: TE 501. C: TE 805, TE 804 concurrently. R: Open only to students admitted to the Teacher Certification Internship-Year Studies Program. Not open to students with credit in CEP 502A or CEP 502B or CEP 502C or CEP 502D. 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(3-3)  
P: TE 402, C: TE 501, TE 801 concurrently. R: Open only to students admitted to the Teacher Certification Internship-Year Studies Program. Not open to students with credit in CEP 801A. 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 school governance.

802. Reflection and Inquiry in Teaching Practice I  
Fall, 3(3-3)  
P: TE 402, C: TE 501, TE 801 concurrently. R: Open only to students admitted to the Teacher Certification Internship-Year Studies Program. Not open to students with credit in CEP 802A or CEP 802B or CEP 802D. 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 methods of teaching practice.

803. Professional Roles and Teaching Practice II  
Spring, 3(3-3)  
P: TE 501, C: TE 502, TE 804 concurrently. R: Open only to students admitted to the Teacher Certification Internship-Year Studies Program. Not open to students with credit in CEP 502A or CEP 802C or CEP 802D. 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(3-3)  
P: TE 502, C: TE 502, TE 803 concurrently. R: Open only to students admitted to the Teacher Certification Internship-Year Studies Program. Not open to students with credit in CEP 502A or CEP 802C or CEP 802D. Collecting, analyzing, and interpreting data on teaching, learning, and educational policy. Dilemmas surrounding research on practice. Appraising and reporting results of inquiry.