860. **Graphic Design**  
*Fall, Spring, 2 to 8 credits. A student may earn a maximum of 40 credits in all enrollments for this course.  
R: Open only to graduate students in Studio Art.  
Approval of department.*  
Fluency and conceptualizing (ideas for visual communication) problems that are to be expressed in words and/or pictures. Design of research that will express a mastery of visual aesthetics and concepts in information design.  
QA: STA 906

882. **Seminar in Art Education**  
*Fall of even-numbered years. 3(3-0)  
R: Approval of department.*  
Contemporary thought in art education. Current problems examined within an interdisciplinary framework.  
QA: STA 925

883. **Critical Theory and Aesthetic Experience in Art Education**  
*Spring of even-numbered years. 3(3-0)  
R: Approval of department.*  
Theories of artistic criticism and aesthetic experience. Application of these concepts to art education and related fields.  
QA: STA 926

884. **Curriculum Design for Art Education**  
*Fall of odd-numbered years. 3(3-0)  
R: Approval of department.*  
Principal curriculum models. Factors affecting art curricula. Design and evaluation of curricula for art education.  
QA: STA 927

885. **Research Methods for Art Education**  
*Spring of odd-numbered years. 3(3-0)  
R: Approval of department.*  
Research designs and methodologies applicable to the study of problems in art education. Preparing, conducting, and evaluating a pilot research problem.  
QA: STA 928

891. **Special Topics in Art Education**  
*Fall, Spring, Summer. 1 to 2 credits. A student may earn a maximum of 2 credits in all enrollments for this course.  
R: Open only to Master of Fine Arts students in Studio Art.  
Approval of department.*  
Special topics supplementing regular course offerings proposed by faculty on a group study basis for graduate students.  
QA: STA 828

892. **Master of Fine Arts Seminar**  
*Fall, Spring. Summer. 3(3-0) A student may earn a maximum of 12 credits in all enrollments for this course.  
R: Open only to Master of Fine Arts students in Studio Art.  
Approval of department.*  
Contemporary intellectual issues related to practice in the visual arts. Group critiques of individual student's work and individual research.  
QA: STA 821, STA 822

897. **Master's Project in Art Education**  
*Fall, Spring, 1 to 2 credits. A student may earn a maximum of 2 credits in all enrollments for this course.  
R: Open only to master's students in Art Education.  
Approval of department.*  
Final project in an application, used in partial fulfillment of Plan B master's degree requirements.  
QA: STA 921

898. **Master of Fine Arts Research**  
*Fall, Spring, 4 to 8 credits in increments of 2 credits. A student may earn a maximum of 16 credits in all enrollments for this course.  
P: 12 graduate credits in student's studio art discipline.  
R: Open only to Master of Fine Arts students in Studio Art.  
Individual research project in the student's studio art discipline directed by major professor.  
QA: STA 914

**SURGERY**

**Department of Surgery**  
**College of Human Medicine**

608. **Basic Surgery Clerkship**  
*Fall, Spring, Summer. 6 to 12 credits. A student may earn a maximum of 12 credits in all enrollments for this course.  
P: FMP 602.  
R: Open only to master's students in Art Education.  
Directed research leading to a master's thesis, used in partial fulfillment of Plan A master's degree requirements.  
QA: STA 899

609. **Otolaryngology Clerkship**  
*Fall, Spring, Summer. 8 credits. A student may earn a maximum of 18 credits in all enrollments for this course.  
P: FMP 602.  
R: Open only to graduate-professional students in College of Human Medicine.  
The surgical patient, surgical diagnosis, pre-operative evaluation and post-operative care.  
QA: SUR 608

610. **Plastic Surgery Clerkship**  
*Fall, Spring, Summer. 6 credits. A student may earn a maximum of 18 credits in all enrollments for this course.  
P: FMP 602.  
R: Open only to graduate-professional students in College of Human Medicine.  
Common otolaryngologic disorders, emergencies. Diagnosis and treatment. Primary physician's judgment about management.  
QA: SUR 609

611. **Urology Clerkship**  
*Fall, Spring, Summer. 8 credits. A student may earn a maximum of 18 credits in all enrollments for this course.  
P: FMP 602.  
R: Open only to graduate-professional students in College of Human Medicine.  
Demonstration of clinical manifestations of genitourinary disease. Investigative methods and techniques of diagnosis and management. Urologic emergencies and performance of basic urologic skills.  
QA: SUR 610

612. **Orthopedic Surgery Clerkship**  
*Fall, Spring, Summer. 6 credits. A student may earn a maximum of 18 credits in all enrollments for this course.  
P: FMP 602.  
R: Open only to graduate-professional students in College of Human Medicine.  
Common degenerative and elective orthopedic problems. Orthopedic emergencies.  
QA: SUR 813

614. **Neurosurgery Clerkship**  
*Fall, Spring, Summer. 8 credits. A student may earn a maximum of 19 credits in all enrollments for this course.  
P: FMP 602.  
R: Open only to graduate-professional students in College of Human Medicine.  
Common emergent and elective neurosurgical problems involving the brain, spine, and peripheral nerves. Neurological examinations, diagnostic methods.  
QA: SUR 814

615. **Ophthalmology Clerkship**  
*Fall, Spring, Summer, 6 credits. A student may earn a maximum of 18 credits in all enrollments for this course.  
P: SUR 608.  
R: Open only to graduate-professional students in College of Human Medicine.  
Medical and surgical treatment of eye diseases. Clinical experiences include private office practice, surgical observations, pre-and post-operative care.  
QA: SUR 615

616. **Thoracic Surgery Clerkship**  
*Fall, Spring, Summer, 6 credits. A student may earn a maximum of 19 credits in all enrollments for this course.  
P: SUR 608.  
R: Open only to graduate-professional students in College of Human Medicine.  
Problem solving in thoracic surgery and medicine, Pulmonary physiology. Diagnostic tools and tests, and indications for surgical procedures.  
QA: SUR 616

618. **Anesthesia Clerkship**  
*Fall, Spring, Summer. 6 credits. A student may earn a maximum of 18 credits in all enrollments for this course.  
P: SUR 608.  
R: Open only to graduate-professional students in College of Human Medicine.  
Common anesthetic approaches. Performing anesthetics procedures under faculty supervision.  
QA: SUR 618

620. **Advanced Surgery Clerkship**  
*Fall, Spring, Summer, 6 credits.  
P: SUR 608, MED 608.  
R: Open only to graduate-professional students in College of Human Medicine.  
Advanced experience in critical care, trauma, and nutrition. Students must successfully complete several technical bedside procedures with more responsibility for patient care than in SUR 608.  
QA: SUR 620

621. **Surgical Nutritional Care Clerkship**  
*Fall, Spring, Summer. 6 credits.  
P: SUR 608, MED 608.  
R: Open only to graduate-professional students in College of Human Medicine.  
Clinical experience with nutrition team dealing with surgical and medical patients requiring therapeutic nutrition. Specific to metabolic derangement and nutritional deficiencies.  
QA: SUR 621

801. **Shock and Metabolism**  
*Fall. 4(4-0)*  
R: Open only to M.S. students in Surgery.  
Result of profound reduction in tissue perfusion on tissue metabolism, structure, and function at the systemic, cellular, and subcellular levels. Pharmacologic interventions useful in volume resuscitation. Temporal approval effective from Fall Semester 1992 through Summer Semester 1994.  
QA: SUR 591

802. **Clinical Surgical Anatomy**  
*Spring. 4(2-4)* A student may earn a maximum of 6 credits in all enrollments for this course.  
Interdepartmental with Anatomy.  
R: Open only to Master's students in Surgery.  
QA: SUR 802
TEACHER EDUCATION

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. 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. 3(3-4)
R: 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. Naturalistically 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: Open only to M.S. students in Engineering. Open only to M.S. students in Elementary Education. Open only to second semesters for M.A. students.
Temporary approval effective from Fall Semester 1992 through Summer Semester 1994.
QP: SUR 803, SUR 802, SUR 803, SUR 804.

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 curricula. 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 305, TE 305A, TE 307A, TE 306A

326. 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 312C, TE 312A

328. Critical Reading and Children's Literature
Fall, Spring. 2(2-0)
R: Not open to freshmen and sophomores. Open only to elementary certification candidates. Emphasis on teaching 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 315B, TE 315B

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 diverse elementary classrooms. 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 316, TE 316B, TE 318C, TE 316D

371. Teaching Language Arts in the Elementary School
Fall, Spring. 4(3-4)
R: Not open to freshmen and sophomores. Open only to elementary certification candidates. Methods and materials for teaching language arts in diverse elementary grades. Emphasis on interrelationships 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

319. Teaching Science in the Elementary and Middle School
Fall, Spring. 2(2-2)
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

332. Methods of Teaching I: Secondary Communication Elements
Fall. 1(1-0)
R: Not open to freshmen and sophomores. Open only to secondary certification candidates. Selection of instructional techniques based on teacher values and beliefs, students and context, and instructional 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 332