

SURGERY

SUR

Department of Surgery
College of Human Medicine

- 830. Relief Printing**
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 Master of Fine Arts students in Studio Art. Approval of department.
Theory and practice of relief prints as a means to create expressive imagery.
- 831. Screen Printing**
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 Master of Fine Arts students in Studio Art. Approval of department.
Theory and practice of screen printing as a means to create expressive imagery.
- 832. Lithography**
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 Master of Fine Arts students in Studio Art. Approval of department.
Theory and practice of lithography as a means to create expressive imagery.
- 833. Intaglio Printing**
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 Master of Fine Arts students in Studio Art. Approval of department.
Theory and practice of intaglio printing as a means to create expressive imagery.
- 840. Ceramics**
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 Master of Fine Arts students in Studio Art. Approval of department.
Advanced study in ceramics to foster independent development.
- 850. Sculpture**
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 Master of Fine Arts students in Studio Art. Approval of department.
Advanced study in a variety of three-dimensional media to foster individual development.
- 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.
Planning and conceptualizing ideas for visual communication problems that are to be expressed in words and/or pictures. Design of research that will expose a mastery of visual aesthetics and concepts in information design.
- 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.
- 883. Critical Theory and Aesthetic Experience in Art Education**
Spring of odd-numbered years. 3(3-0)
R: Approval of department.
Theories of art criticism and aesthetic experience. Application of these concepts to art education and related fields.
- 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.
- 885. Research Methods for Art Education**
Spring of even-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.
- 891. Special Topics in Art Education**
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 3 credits in all enrollments for this course.
R: Approval of department.
Special topics supplementing regular course offerings proposed by faculty on a group study basis for graduate students.
- 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 scholarly and applied research.
- 894. Art Education Research Practicum**
Fall, Spring, Summer. 3(0-6) A student may earn a maximum of 6 credits in all enrollments for this course.
R: Open only to master's students in Art Education. Approval of department.
Design and implementation of research in art classrooms.
- 897. Master's Project 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's students in Art Education. Approval of department.
Final project in art education, used in partial fulfillment of Plan B master's degree requirements.
- 898. Master of Fine Arts Research**
Fall, Spring. 4 to 8 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.
- 899. Master's Thesis Research**
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 master's students in Art Education. Approval of department.
Directed research leading to a master's thesis, used in partial fulfillment of Plan A master's degree requirements.
- 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 graduate-professional students in College of Human Medicine.
The surgical patient, surgical diagnosis, pre-operative evaluation and post-operative care.
- 609. Otolaryngology 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 otolaryngologic disorders, emergencies. Diagnosis and treatment. Primary physician's judgments about management.
- 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: SUR 608. R: Open only to graduate-professional students in College of Human Medicine.
Principles of wound healing and tissue repair. Indications and applications of plastic surgery procedures.
- 611. Urology 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.
Demonstration of clinical manifestations of genito-urinary disease, investigative methods and techniques of diagnosis and management. Urologic emergencies and performance of basic urologic skills.
- 613. Orthopedic Surgery 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.
Diagnosis and management skills in common orthopedic problems. Orthopedic emergencies.
- 614. Neurosurgery 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.
Problems related to common emergent and elective neurosurgery involving the brain, spine, and peripheral nerves. Neurological examinations, diagnostic methods.
- 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.

Descriptions — Surgery of Courses

616. Thoracic Surgery 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. Problem solving in thoracic medicine and surgery. Pulmonary physiology. Diagnostic tools and tests, and indications for surgical procedures.

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 agents. Performing anesthetic procedures under faculty supervision.

619. Sub-specialty Surgery 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. Surgical domains not covered otherwise or in which students desire further exposure.

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.

621. Surgical Nutritional Care 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. Clinical experience with nutrition team dealing with surgical and medical patients requiring therapeutic nutrition as a result of metabolic derangement and nutritional deficiencies.

637. Core Competencies III
Spring, Summer. 2 credits. A student may earn a maximum of 6 credits in all enrollments for this course.

Interdepartmental with Human Medicine, Medicine, Pediatrics and Human Development, Family Practice, and Obstetrics, Gynecology and Reproductive Biology. Administered by Human Medicine
P: FMP 602. R: Open only to graduate-professional students in College of Human Medicine. A weekly seminar addressing core knowledge and skills from an interdisciplinary perspective.

801. Shock and Metabolism
Fall. 4(4-0)

R: Open only to M.S. students in Surgery. Results of prolonged reduction in tissue perfusion on tissue metabolism, structure, and function at the systemic, cellular and subcellular levels. Pharmacologic interventions useful in volume resuscitation.

802. Clinical Surgical Anatomy
Spring. 4(2-4) Interdepartmental with Anatomy.

R: Open only to Master's students in Surgery. Review of surgical anatomy. Detailed anatomical information through lecture and dissection sessions. Clinical interpretation of anatomy and surgical approaches.

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.

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 in research.

890. Seminars in Research
Fall, Spring, Summer. 1 credit. 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 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. Completion of Tier I writing requirement. Systems analysis and design. Needs analysis, system identification, graphical models. Team project required.

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.

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: Not open 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(3-0)

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 (W)
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. 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 (W)
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. 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: Not open 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. 3(3-0) Interdepartmental with Women's Studies. Administered by Women's Studies.

P: WS 201; WS 202 or WS 203. R: Not open to freshmen and sophomores. Feminist perspectives on the role of gender in structuring educational experiences in elementary and secondary school.

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 Summer Semester 1994 through Spring Semester 1996.

473. Elementary Student Teaching: Special Education
Fall, Spring. 10(2-24)

R: Not open to freshmen and sophomores. Open only to elementary special education teaching certification candidates. 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 Summer Semester 1994 through Spring Semester 1996.