802. Essentials of Electron Microscopy
Fall, Spring. 2(2-0)
Principles of operation and uses of transmission and scanning electron microscopy. Related electron beam instruments. Specimen preparation and analytical methods.

810. Transmission Electron Microscopy Laboratory
Fall, Spring. Summer. 3(1-4)
P: NSC 802.
Use of transmission microscope and preparative equipment. Preparation techniques for specimens, photographic and darkroom work, and interpretation of micrographs.

811. Scanning Electron Microscopy; Energy Dispersive X-Ray Microanalysis
Fall, Spring. Summer. 3 credits.
P: NSC 802 or concurrently.

825. Special Problems in Electron Microscopy
Fall, Spring. Summer. 1 to 3 credits.
A student may earn a maximum of 40 credits in all enrollments for this course.
P: NSC 802, NSC 810 or NSC 820.
Use of electron microscopy techniques for selected research topics.

830. Nature and Practice of Science
Fall, Spring. 3(1-0)
Foundations of scientific inquiry. Recommended scientific best-practices including principles and practices of research integrity and professionalism. Evaluation of scientific quality and productivity.

837. Confocal Microscopy
Fall, Spring. 2 credits.
Interdepartmental with Crop and Soil Sciences. Administered by Crop and Soil Sciences.
R: Approval of department; application required.

850. Cell and Molecular Biology
Summer. 3 credits.
P: Secondary certification in biology, 3 years teaching experience. C: NSC 851 concurrently. R: Secondary certification in biology, 3 years teaching experience; approval of college.
Molecular basis of structure and function of cells. Protein structure and function, cell physiology, metabolic energy and transmission of genetic information.

851. Cell and Molecular Biology Laboratory
Summer. 3 credits.
Generation of laboratory exercises appropriate for secondary students.

852. Interdisciplinary Seminar in Biological Science
Fall, Spring, Summer. 1 credit.
P: Secondary certification in biology, 3 years teaching experience. R: Approval of college.
Interrelationships of biological science and technology. Role of society in regulation of research and technological innovations.

855. Environmental and Behavioral Biology
Summer. 3 credits.
Given only at W.K. Kellogg Biological Station.
P: Secondary certification in biology, 3 years teaching experience. C: NSC 856 concurrently. R: Approval of college.
Biologic and abiotic features of lakes, streams, forest ecosystems, and microbial ecosystems.

860. Problem Solving Techniques in Physical Science
Summer. 3 credits.
P: NSC 861. NSC 862, NSC 863. R: Secondary certification in chemistry or physics or earth science or physical science, 3 years teaching experience. Approval of college.
Measurement and analysis of chemical, physical, and geological phenomena.

861. Chemistry for Teachers
Summer. 2 credits.
P: Secondary certification in chemistry or physics or earth science or physical science, 3 years teaching experience. R: Approval of college.
Intensive lecture and laboratory study of basic chemistry from a modern viewpoint.

862. Physics for Teachers
Summer. 2 credits.
P: Secondary certification in chemistry or physics or earth science or physical science, 3 years teaching experience. R: Approval of college.
Intensive lecture and laboratory study of basic physics from a modern viewpoint.

863. Earth Science for Teachers
Summer. 2 credits.
P: Secondary certification in chemistry or physics or earth science or physical science, 3 years teaching experience. R: Approval of college.
Intensive lecture and laboratory study of basic earth sciences from a modern viewpoint.

864. Interdisciplinary Seminar in Physical Science
Summer. 3 credits.
P: NSC 860. R: Approval of college.
Interrelationships of the physical sciences. The role of society in regulation of science to technology transfer.

870. Teaching College Science
Spring. 2 credits.
R: One year of graduate study in a biological or physical science. Approval of college.

889. Research for Inservice Teachers
Fall, Spring, Summer. 1 to 6 credits.
A student may earn a maximum of 10 credits in all enrollments for this course.
R: Open only to inservice K-12 teachers with baccalaureate degrees.
Research in faculty laboratories. Oral and written presentations.

NURSING

NUR 201. Introduction to Nursing Practice I
Fall, Spring. 3(1-0)
R: College of Nursing majors only. Not open to Registered Nurses.
Theoretical concepts of nursing necessary for professional practice, assessment, interpersonal communication, documentation and decision-making.

NUR 202. Introduction to Nursing Practice II
Spring. 4(4-0)
P: NUR 201. R: Open only to College of Nursing students. Not open to Registered Nurses.

NUR 203. Concepts of Nursing Care of the Adult
Fall, Spring. 4(4-0)
P: NUR 204, C: NUR 304 concurrently. R: Open only to College of Nursing students.
Nursing care of the adult client with an emphasis on health promotion, disease prevention, care in acute and chronic illness, and rehabilitation.

NUR 204. Concepts of Nursing Care of the Childbearing Family
Fall, Spring. 4(4-0)
P: NUR 204, C: NUR 306 concurrently. R: Open only to College of Nursing students.
Concepts of holistic nursing care with culturally diverse childbearing families during the prenatal, intrapartum, and postpartum periods. Concepts of health promotion and risk factors in child care situations.
Descriptions — Nursing of Courses

306. Practicum in Nursing Care of the Childbearing Family
Fall, Spring. 3 credits.
P: NUR 204; C: NUR 305 concurrently. R: Open only to College of Nursing majors.
Practicum in nursing care with culturally diverse childbearing families during the prenatal, intrapartum and postpartum periods. Implementation of nursing process in various settings. Levels of risk reduction and health promotion.

307. Concepts of Nursing Care of Children and Their Families
Fall, Spring. 2(2-0)
P: NUR 204. C: NUR 305 concurrently. R: Open only to College of Nursing students.
Theory and concepts related to the holistic care of children (infancy through adolescence) and their families.

308. Practicum in Nursing Care of Children and Their Families
Fall, Spring. 3 credits.
P: NUR 204; C: NUR 307 concurrently. R: Open only to College of Nursing students.
Clinical application of the theoretical concepts presented in NUR 306. Variety of health settings will be utilized for clinical practice.

314. Transition to Professional Nursing
Fall, Spring, 4(3-3) Given only at various off-campus sites.
R: Open only to College of Nursing Registered Nurses. Concepts and practicum for role transition for Registered Nurses seeking degree completion. Assessment, documentation, interpersonal skills and concepts of aging with emphasis on clinical decision making and socialization to professional role.

319. Introduction to Nursing Theory and Research
Spring. 3(3-0)
P: STT 206 or STT 201. R: Open only to sophomores or juniors or seniors in the College of Nursing. Completion of Tier I writing requirement. Major nursing theories and their application to practice. The research process, terminology and investigations undertaken in nursing.

341. Clinical Problems in Adaptation
Spring. 3(3-0)
R: Open only to College of Nursing majors. Theoretical concepts related to individual's adaptive-maladaptive responses to stress. Emphasis on pathophysiology.

409. Concepts of Psychiatric, Mental, and Community Health Nursing
Fall, Spring. 4(4-0)
R: Open only to College of Nursing majors. Completion of Tier I writing requirement. Health care trends and issues in public and mental health. Roles, responsibilities, and activities of nurses in the provision of care in public and mental health.

410. Practicum in Community Health Nursing
Fall, Spring. 3 credits.
C: NUR 409 concurrently. R: Open only to College of Nursing majors. Completion of Tier I writing requirement. Clinical experience in community health nursing focusing on application of public health and nursing principles in the care of individuals, families and aggregates in a variety of settings.

412. Practicum in Psychiatric and Mental Health Nursing
Fall, Spring. 3 credits.
C: NUR 409 concurrently. R: Open only to College of Nursing majors.
Theoretical perspectives of behavior applied to mental health nursing in a practice setting. Advanced concepts of communication. Use of self, group and milieu are used to define the nurse's role.

413. Issues in Professional Nursing
Fall, Spring, 2(2-0)
R: Open only to College of Nursing majors. Completion of Tier I writing requirement. Past, current, and future impact of selected legal, economic, educational, social, political, ethical, and professional forces on health care and nursing practice at local, national, and international levels.

420. Senior Practicum in Nursing
Fall, Spring, 4(1-5)
R: Open only to College of Nursing majors. Synthesis and application of nursing concepts as they relate to health care delivery in a variety of health care settings.

422. Nursing in Great Britain
Summer. 5(6-0) Given only in London, England.

430. Nursing Care of the Critically Ill Client
Fall, 3(2-3)

490. Independent Study in Nursing
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 College of Nursing seniors. Approval of college. Individualized area of study in nursing.

491. Special Topics
Fall, Spring, Summer. 2 to 4 credits. A student may earn a maximum of 6 credits in all enrollments for this course.
R: Open only to College of Nursing majors. Exploration of selected issues in nursing.

500. Health Assessment for Advanced Nursing Practice
Spring. 3(1-6)
R: Open only to College of Nursing graduate students. Collecting subjective and objective data to describe the client's health history, health problems, coping mechanisms, belief and value orientation, and physical status. Interviewing techniques and physical examination skills stressed.

501. Clinical Nurse Specialist in Primary Care
Fall, 2(2-0)
R: Open only to graduate students in College of Nursing. Practice concepts, role characteristics, and definitions critical to implementation of clinical nurse specialist role in primary care.

503. Primary Care: Organizational Structures, Policy and Change
Spring.
P: NUR 501. R: Open only to graduate students in College of Nursing.
Health care organizations in primary care. Roles of federal and state government in health care policy and their influence on health care organizations.

506. Theoretical Foundations of Nursing
Fall, 2(2-0)
R: Open only to graduate students in College of Nursing and to R.N.'s with approval of department. Analysis and evaluation of nursing theories and conceptual models.

507. Research Methods in Health Care
Spring. 3(3-0)
R: Open only to graduate students in College of Nursing. Basic statistics course or concurrently. Research methods commonly used in health research. Critique of availability of research findings to practice.

509. Research Analysis in Health Care
Fall. 3(2-3)
P: NUR 507. Review and application of research analyses commonly used in health care.

511. Primary Care Clinical Therapeutics for Advanced Nursing Practice
Fall, 3(3-0)
R: Open only to graduate students in College of Nursing and to R.N.'s with approval of department. Concepts of pharmacology and pathophysiology applied to common primary health care problems.

513. Advanced Independent Nursing Interventions
Spring. 3(3-0)
R: Open only to graduate students in College of Nursing and to R.N.'s with approval of department. Concepts underlying advanced nursing interventions in primary care.

521. Family Health Seminar for the Clinical Nurse Specialist
Fall. 3(3-0)
R: Open only to graduate students in College of Nursing. Family health and role of the clinical nurse specialist. Reciprocal influences of the client-family system, the health care delivery system, and other social systems in family health.

522. Family Clinical Nurse Specialist Practicum I
Fall. 4(3-0)
P: NUR 500, NUR 505, NUR 365, NUR 511, NUR 513, NUR 521. R: Open only to graduate students in College of Nursing Family Clinical Nurse Specialist program. Health and uncomplicated health problems in primary care. Collaborative practice model.

524. Family Clinical Nurse Specialist Practicum II
Spring. 4(3-0)
P: NUR 522. R: Open only to graduate students in College of Nursing Family Clinical Nurse Specialist program. Complex health problems in primary care. Collaborative practice model.

531. Aging, Environment and Health
Fall, 3(3-0)
R: Open only to graduate students. Process of aging in context of family, the community, and contemporary American society. Impact on health status.