HSC 300 **Fundamentals of Communicable and Non-Communicable** Diseases (4). An introductory course providing a basic overview of acute and chronic diseases; and how these diseases affect the human body. Prerequisite: HSC 100. Cross listed with MBI 300.

HSC 310 **Health Systems of the United States** (3). Survey, analysis, development, structure, and function of various approaches to health care delivery systems in the United States; role of federal, state, and local health organizations and institutions; barriers to health care delivery problems.

HSC 315 **Legal Aspects of Health Care Services** (3). Overview of law as it relates to health care delivery and health services; analysis of current ethical and legal issues and an examination of the legal responsibilities of health professionals; discussion, formulation and application of legal principles to health care delivery questions; legal methods and terminology.

HSC 333 **Epidemiology** (3). Concepts, methods, research and measurements for analysis of the spread and control of human disease, disorders, and disability; case studies and problem solving of public health and health services problems. Prerequisite: HSC 300.


HSC 415 **Management of Health Systems** (3). Concepts on administrative organization and control, institutional planning, patient care evaluation, professional and peer review, records processing, quality assurance, information systems, and personnel management as they relate to health care organizations; alternate approaches for the management of alternate health care facilities and programs. Prerequisite: HSC 310.

HSC 420 **Current Issues in Health Services** (3). Trends and issues in health education, health care delivery, problems in health services, health planning, governmental and private control of health care practices or procedures, evaluation of new technologies, alternate methods and strategies. May be repeated once for credit with permission of the advisor. Prerequisite: HSC 310.

HSC 444 **Health Planning** (3). Resource development, legislation, community involvement, procedures and processes related to planning and implementing health systems at the institutional, community, and governmental levels. Prerequisite: HSC 310.

HSC 454 **Health Services and Long Term Care Administration** (3). Selected aspects of managing, planning, organizing, and staffing public and private health care facilities for the elderly and chronically ill; emphasis on administering health services for the elderly with principles of nursing home management and long term care administration. Prerequisite: HSC 310.

**MEDICAL RADIOGRAPHY**

Faculty: D. Paris, Departmental Chair; M. Hilger, Cray, P. Latham, C. Stegman, L. Thor- sell.

(This program is scheduled to be phased out at the end of the 1984-85 academic year. As of August, 1983, only transfer students who will be able to complete the program by May 1985, will be admitted.)

**Objectives**

The Medical Radiography Program is a comprehensive component of the health care system dedicated to the development of graduates who possess an understanding and appreciation of human compassion in administering health care to patients; to provide students with a wide range of technical experiences in which he or she can utilize his or her full potential; to graduate radiographers who are educationally qualified to exceed the standards for certification as established by the American Registry of Radiologic Technologists; and to provide the radiographer with a high standard of preparation necessary for employment in the specialty fields of medical radiography including teaching and administration.
Bachelor of Science

ADMISSION TO THE PROGRAM: The Medical Radiography Program offers entry on two levels, both of which lead to the Bachelor of Science degree and eligibility for application for certification by the American Registry of Radiologic Technology. One entry level is for those applicants who are already certified graduates of a Committee on Allied Health uation Accreditation (C.A.H.E.A.) accredited program. The other entry level is for those applicants who have been screened and admitted to the professional program after having completed the preprofessional period (51-52 semester hours) of applied science and the University Liberal Studies Program as determined by the curriculum outline for study of medical radiography. All applicants must possess a cumulative grade point average of 2.50 or better. Detailed information about these programs, as well as the required application forms and procedures, may be obtained by contacting the Department if Medical Radiography, Box 15075, Northern Arizona University, Flagstaff, Arizona 86001

Certified Applicants: Those applicants who are already certified medical radiographers (A.R.R.T. or equivalent by challenge examination) will follow the procedure outlined here when applying for the professional degree program:

1. Applicants must be admitted to Northern Arizona University through regular university admission procedures.
2. Applicants, in addition, must apply directly to the Medical Radiography Department for admission to the degree program on application forms supplied by the department.
3. Applicants must have the following supporting documentation submitted directly to the Department of Medical Radiography: (a) an official copy of any post high school transcripts (professional and/or college); (b) an official copy of applicant's professional certification with verification of Registry grade and date; (c) the Health History Questionnaire Form.

Freshman Applicants: A freshman applicant interested in Medical Radiography will be assigned an advisor from the Department of Medical Radiography upon the applicant's arrival for orientation and/or registration, provided the applicant has clearly indicated to the university on his or her application form that he or she wants to prepare to enter this program of study. The assigned advisor will assist the freshman students in planning their course of study for the required preprofessional period. At the end of the preprofessional period, only those students who have fully met all prerequisites and requirements will be considered for admission into the degree program. Enrollment is limited; therefore, all new students should maintain close communication with their faculty advisors during the preprofessional course of study.

Transfer Applicants: Students who enter the university with advanced standing, including community college graduates, should be aware that admission is not automatic into the degree program of medical radiography. Such admission is limited and requires a procedure separate from admission into the university. Transfer applicants interested in medical radiography should contact directly the Medical Radiography Department, Box 15075, to determine their status and to avoid any disappointment and/or misunderstanding.

PREPKOFESSIONAL EDUCATION: Students seeking admission into the program must complete a minimum of 54 semester hours of preprofessional study. Included are BIO 135, 136; ENG 102, 103; MAT 109, 112; PHY 141; PSY 150, a 12 hour extended emphasis in Computer Science OR Education OR Health Services Administration, and the balance in selected University Liberal Studies Program courses as required for graduation by the university.

MAJOR: The major requires 77 hours of medical radiography. These must include RAD 101, 102, 141, 184, 203, 204, 215, 232, 252, 285, 286, 315, 408 and 410. 6 credit hours of RAD 497 may be substituted for RAD 315 and 410 with advisor's permission.

CLINICAL EXTERNSHIP: RAD courses 285, 286, and 408 require that senior students complete 50-weeks (2,000 hours) of supervised externship training in the radiology department of an affiliated hospital within the Phoenix area.
DEGREE REQUIREMENTS: A total of 131 credit hours required for the Bachelor of Science degree includes the University Liberal Studies Program and applied sciences; 12 hours of extended emphasis in Computer Science OR Education OR Health Services Administration, and 77 hours of major medical radiography courses.

Granting of Credit

Upon completion of all major course requirements, all radiographers who are certified graduates of a Committee on Allied Health Education Accreditation (C.A.H.E.A) accredited school, A.R.R.T. certified (or equivalent through challenge examination) will be granted lower division college credit within the medical radiography major at Northern Arizona University as follows:

1. Hospital-based (C.A.H.E.A accredited schools): A.R.R.T. certified radiographers (or equivalent through challenge examination) will be granted up to 58 lower division credit hours in medical radiography course work. Radiographers with no previous college transfer credit will need an additional 73 credit hours to complete the Bachelor of Science degree requirements.

2. Community college transfer students (C.A.H.E.A accredited programs): A.R.R.T. certified radiographers (or equivalent through challenge examination) will be granted up to 64 lower division credit hours with an option to challenge eight additional lower division credit hours. Radiographers receiving the maximum of 72 credit hours of transfer work will need an additional 59 credit hours to complete the Bachelor of Science degree requirements.

3. Four-year college transfer students (C.A.H.E.A accredited programs): A.R.R.T. certified radiographers (or equivalent through challenge examination) will be granted lower and/or upper division credit as determined by the Department of Medical Radiography. Accepted candidates must complete a minimum of 30 credit hours and 30 weeks of resident course work at Northern Arizona University.

RAD: MEDICAL RADIOGRAPHY COURSES

RAD 100 Orientation to Medical Radiography (1). An orientation into the profession of medical radiography and relationship to the health care delivery system; program requirements, educational routes, employment opportunities, promotional expectations and professional responsibilities are emphasized.

RAD 101 Radiologic Fundamentals (4). Orientation to radiology as a total profession including history, medical ethics, responsibilities of the medical radiographer, terminology, accessory equipment and the utilization of X-ray and the processing equipment for diagnostic purposes. 3 hrs. lecture and 3 hrs. lab. Prerequisite: Admission to program major.

RAD 102 Radiographic Positioning and Technique I (4). Demonstration and practice of routine and special radiographic positioning for visualization of the bones of the skeleton, exclusive of those of the skull and visceral organs. 3 hrs. lecture and 3 hrs. lab. Prerequisite: Admission to program major.

RAD 141 Topographic Anatomy Laboratory C). Intensive laboratory study of the skeleton, hollow organs, and other body spaces normally encountered in the application of radiographic techniques. 1 hr. lab.

RAD 184 Clinical Procedures and Technique 0:3:2! Nursing care, pediatric procedures, mobile radiography, application of routine and emergency procedures in a clinical situation under the direct supervision of a registered technologist. Students must register for three semester units (if <= each of 3 consecutive semesters in the affiliated radiology hospital. 2 hrs. lecture and 4 hrs. lab. Prerequisite: Admission to program major.

RAD 203 Radiographic Pmmitiong and Technique II (41 Demonstration and practice of routine and special radiographed) procedures for x-ray, y-ray, non of the MOUSES and bones of the skull. 3 hrs. lecture and 3 rev lab. Prerequisite: Admission to program major.
RAD 204 Radiologic Positioning and Technique III (4). Demonstration and practice of routine and special radiographic procedures to include viscera, contrast media studies, fluoroscopy, image intensification, ultrasound, xeroradiography and body section radiography. 3 hrs. lecture and 3 hrs. lab. Prerequisite: RAD 102.

RAD 215 Radiologic Physics (4). Fundamentals of X-ray machine circuitry, nomenclature, accessory equipment, radiographic principles, processing techniques, and quality control required to produce quality radiographs. 3 hrs. lecture and 2 hrs. lab. Prerequisites: Admission to program major.

RAD 232 Radiation Therapy, Biology and Nuclear Medicine (3). Introduction to radiation oncology and nuclear medicine for the diagnosis and treatment of disease, effects of radiation on human tissue, radiation safety, equipment nomenclature and application. 3 hrs. lecture. Prerequisite: RAD 215, or equivalent.

RAD 252 Survey of Medical and Surgical Diseases (2). Disease processes and lesions affecting body organs and systems, mechanisms of cell death, inflammation, and tumor growth as applied by radiologic diagnostic procedures. 2 hrs. lecture. Prerequisites: BIO 135, 136, RAD 184.

RAD 285 Hospital Practicum I (12). Each student must satisfactorily complete one semester of practical application in an approved affiliated hospital department of radiology under the supervision of a registered radiologic technologist (A.R.R.T.). 40 hrs. lab. Prerequisites: First year, program major.

RAD 286 Hospital Practicum II (12). Each student must satisfactorily complete a second semester of practical application in an approved affiliated hospital department of radiology under the supervision of a registered radiologic technologist (A.R.R.T.). 40 hrs. lab. Prerequisite: RAD 285.

RAD 315 Advanced Radiologic Physics (3). Physical principles of the production and interaction of ionizing radiation. 2 hrs. lecture and 2 hrs. lab. Prerequisite: RAD 215 or equivalent.

RAD 410 Radiation Biology (3). In-depth study of the effects of radiation on the cell, organs and organisms and the regulation of radiation usage. 3 hrs. lecture. Prerequisites: BIO 135, 136, Krt or equivalent.

NURSING

Faculty: S. E. Ruybal, Departmental Chair; B. Agee, A. Benson, N. Caglivalo, B. Gendler, E. Hoffman, G. Kuhn, R. Nicolls, M. Walsh, C. Zentmyer.

Objectives

Professional nurses possess a body of scientific knowledge that enables them to carry out safe, efficient and compassionate nursing care to varied populations and in various nursing care settings. Nurses must possess the ability to make and carry out clinical judgements that are based on critical thinking and a knowledge base from the humanities, natural and behavioral sciences. Students are required to demonstrate through clinical practice knowledge in the areas of psychological and socio-cultural areas as well as safe physical care in their clinical practicums. All students must adhere to the professional code of conduct.

Bachelor of Science Degree

DEGREE REQUIREMENTS: The university offers the Bachelor of Science in Nursing degree which prepares the student to begin practice as a professional nurse. The program gives the student a basis for graduate education in nursing. The curriculum is composed of the University Liberal Studies Program and the nursing major. A total of 56 semester hours or liberal studies must be completed before the student is admitted to the Department of Nursing. The nursing major consists of 81 semester hours with the majority of hours at the upper division level. The B.S.N. degree is granted upon completion of 137 semester hours for the basic baccalaureate nursing student, and 135 semester hours for the registered nurse student.

ADMISSION REQUIREMENTS: Applicants for admission to the nursing program must meet the following requirements by February 1, of the year the applicant hopes to enter the program.