

an emphasis on quality standard setting, system design and organizational change strategies, reporting mechanisms, and effectiveness assessment. The relationship between quality improvement programs, risk management, and utilization review will be emphasized. In particular, this course will examine challenges facing the health care service industry to include waste and quality in the health care environment, application of the Toyota Way to the health care industry, and building the health care industry of the future. Three credits.

HSL 610 Strategic Management of Complex Organizations

Strategic management involves utilizing the tools and techniques of strategic analysis to craft, implement, and execute organizational strategies. An organization's chances for sustained success are greatly improved when managers (1) develop an astute, timely strategic "game plan" for running the organization and, then (2) implement and execute the strategic plan with great proficiency. The pedagogical objectives of this course are to sharpen students' abilities to "think strategically" in a lean environment, to evaluate an organization's situation from the perspective of its competitiveness and performance prospects, and to draw sound conclusions about what actions an organization's management needs to take in light of all the relevant circumstances. May only be taken after completing 24 credits in the program. Three credits.

HSL 615 Effective Marketing Communication (Elective)

Successful leaders understand how to leverage internal communication, public relations, marketing, and communication strategy. This course will examine innovative communication methods to include the power of storytelling and internet marketing technologies as well as best practices from leading non-profit and for-profit organizations such as Disney. Three credits.

HSL 650 Directed Research

Individual research project applying and integrating knowledge gained in the program. Emphasis on action research and the development of evidence based programs and practices in health care settings. Must be taken as the final course in the program. Transfer credit cannot be earned for this course. Three credits.

Master of Science in Health Sciences

Nurse Anesthetist Program

Bettie A. Davis, Ph.D., Coordinator

*James Barnett, Bettie A. Davis, Michael Rhodes, Michael Sierk
Adjunct Faculty: Howard Armour, Mike DeBroeck, Daniel Stairs*

This program is designed to prepare practitioners in the area of anesthesia, to prepare nurse anesthetists to serve as leaders, educators and role models in anesthesia and health care teams, to prepare specialists who are able to facilitate managerial improvement in the delivery of anesthesia service.

Upon completion of the master's level nurse anesthetist program, the students will be able to demonstrate in-depth knowledge of the fundamental sciences to insure greater competence in anesthesia practice, engage in collateral reading in anatomy, physiology, chemistry, pharmacology and clinical subjects related to the field of anesthesia. The program will help the student to assume a leadership role in collaboration with health care team members, function as a resource person in the training of paramedical personnel and in nursing care of the acutely ill. The student will be able to apply principles of research to the clinical anesthesia setting, design, evaluate and implement an anesthetic care plan for a patient, utilize appropriate scientific principles related to asepsis, anesthesia and respiratory technique, apply knowledge of nursing theories and modes in advanced nursing and specialty areas of nurse anesthesia.

The program requires 57 credits of courses taken in the following sequence:

Fall: Year One

HSC 001	Professional Aspects of Anesthesia Practice
HSC 500	Pharmacology I
HSC 503	Organic and Medicinal Chemistry
HSC 505	Introduction to Principles of Anesthesia
HSC 515	Physical Assessment
HSC 521	Anatomy, Physiology and Pathophysiology I

Spring: Year One

HSC 501	Pharmacology II
HSC 504	Biochemistry
HSC 522	Anatomy, Physiology and Pathophysiology II
HSC 530	Didactics I

Summer: Year One

HSC 510	Nursing Research I (first six weeks)
HSC 512	Medical Physics (second six weeks)

Fall: Year Two

HSC 612	Nursing Research II
HSC 630	Didactics II

Spring: Year Two

HSC 655	Advanced Theory and Practice of Anesthesia
HSC 700	Leadership and Management for the Nurse Anesthetist

HSC 001 Professional Aspects of Anesthesia Practice

This course includes an introduction to the ethics, psychology, and professional adjustments associated with a career in anesthesia. The history of anesthesia and nurse anesthesia is presented as well as a discussion of the role of the CRNA in department management and organization. Zero credits.

HSC 500 Pharmacology I Three credits**HSC 501 Pharmacology II Three credits**

This is a two-semester course which will cover the basic principles of pharmacology needed in daily practice. This includes drug effect, mechanism and interactions. In most cases, emphasis will be on the **pharmacological action of drugs on specific organ systems**. In some instances, drugs will be discussed in relation to their clinical use in anesthesia. Three credits.

HSC 503 Organic and Medicinal Chemistry

This is a one-semester survey course in organic chemistry organized around functional groups of compounds. Aspects of organic chemistry pertinent to health, environment, and biochemistry are stressed. Time permitting; classes of drug molecules will also be examined. Because concepts such as spatial orientation and geometric, optical and conformational isomerisms are essential to an understanding of drug action, these concepts are essential to the course. Three credits.

HSC 504 Biochemistry

This introduction to the chemistry of living organisms includes a discussion of cellular macromolecules, metabolic pathways, energy transformation and respiratory mechanisms. The composition of body fluids is also considered. The effects of anesthesia on body fluids, on the function of major organs, and on the activity of specialized molecules is also considered. Finally, the major theories of narcosis and their biochemical implications will be covered. Four credits.

HSC 505 Introduction to Principles of Anesthesia

This introductory course will introduce the basics of anesthesia for the beginning nurse anesthesia student. Methods of anesthesia and specialized equipment will be introduced. Students will be afforded the opportunity to practice basic anesthesia techniques on the computerized human simulator. Two credits.

HSC 510 Research Methodology

This course will critically examine the steps of the research process. Emphasis will be placed on research needs and the identification of researchable problems in nursing. Utilization of research knowledge as applied in nursing practice will be discussed. Students will develop skills in evaluating and critically analyzing nursing research. Three credits.

HSC 512 Medical Physics

This course deals with a basic review of math, the metric system, organic chemistry and physics. The instructor will attempt to demonstrate the anesthetic applications of these basic concepts. Specific topics to be covered include, but are not limited to, pressure, hydrostatics, hydrodynamics, ideal gas laws, osmosis, vaporization, heat and temperature, fire and explosions, CO₂ absorption, Archimedes principle, flow meters, diffusion, acid-base, and a review of chemistry. Four credits.

HSC 515 Physical Assessment

This course in physical assessment provides the nurse anesthesia student with the needed skills and knowledge to perform a thorough preoperative assessment and evaluations of the surgical patients. History taking and physical examination presented in this course will enable the nurse anesthesia student to develop the strong assessment skills that are required of a certified registered nurse anesthetist. Two credits.

HSC 521 Human Anatomy, Physiology and Pathophysiology I

This course is a study of the principles of structure and function of the human body. It deals primarily with the muscle, nervous, and cardiovascular systems. The thorough investigation of these systems in the healthy body enables the student to study the pathophysiology of the above systems. Five credits.

HSC 522 Human Anatomy, Physiology and Pathophysiology II

This course is a continuation of HSC 521, Human Anatomy, Physiology and Pathophysiology I. The cardiovascular, respiratory, renal, hepatic and endocrine systems will be studied. Representative pathophysiology of each system will also be discussed. Five credits.

HSC 530 Didactics

Anesthesia didactics integrates previous classes that the anesthesia student has taken with new material in a seminar fashion. Six credits.

HSC 612 Research II

This second research course is designed to provide the student with the opportunity to apply theoretical concepts and skills derived from the first research course to the development of a thesis or an alternate research activity. The student is assisted in the preparation of a thesis/project specific to a phenomenon related to nursing practice. Particular emphasis is placed on responsibility of participation in scientific inquiry and on adhering to ethics in the design and conduct of research. Three credits.

HSC 630 Didactics II

This is a continuation of Didactics I. This course will increase the level of information and integration. Six credits.

HSC 655 Advanced Theory and Practice of Anesthesia

This course is designed to build upon the students' basic knowledge and skills. It will encompass and integrate a variety of input for medical and anesthetic management. It will focus on a greater depth of understanding and the ability to analyze concurrent problems that can arise in patient care and propose and appropriate course of management. Four credits.

HSC 700 Leadership and management for the Nurse Anesthetist

This course will explore critical topics in healthcare organizational and systems leadership as relevant to the nurse anesthetist. The course will emphasize the primacy of clinical work, quality models, and continuous healthcare quality improvement. Leadership and managerial communication strategies necessary to move interdisciplinary groups toward common goals and objectives will be studied. Students will learn to create missions and visions for cultures of excellence in healthcare organizations. Leadership models and their effects on healthcare organizational structure will be examined. Three credits.