

NURSING: ANESTHESIA (NSAN)

NSAN 0671 Pharmacologic Strategies in Anesthesia Practice 3 Credits **Prerequisites:** NS 0604, NS 0670, NSAN 0673.

This course presents a comprehensive study of the pharmacokinetics, pharmacodynamics and pharmacogenetics of drugs utilized in anesthesia practice. Students will focus upon the mechanisms of action of inhalational anesthetics, intravenous anesthetics, and neuromuscular blocking agents. Special attention will be placed upon the comparative pharmacology of all anesthetic agents as well as their effects on all organ systems. Emphasis will be placed on the practical applications of the anesthetic agents through case presentations and group discussion.

NSAN 0673 Chemistry and Physics for Nurse Anesthetists 3 Credits

This course provides a detailed discussion of basic organic, inorganic and biochemical principles, and basic physical principles as they related to nurse anesthesia practice. Emphasis is placed upon the behavior of gases and the gas laws, principles of diffusion, gas flow and resistance, acid-base balance, and the biochemical processes necessary for basic cellular function. In addition, the basic physical principles of work, energy, light, electricity and radiation are discussed with a focus on operating room safety and the use of biomedical equipment. Group discussion is utilized to facilitate the application of these principles to the clinical setting.

NSAN 0675 Clinical Orientation and Specialty Rotations 1 Credit **Prerequisite:** NSAN 0671.

Clinical orientation is designed to introduce the student to the hands-on basics of nurse anesthesia practice. Emphasis will be placed on anesthesia equipment setup drug preparation, basic airway management skills and basic regional anesthesia skills. In addition, students will begin the process of developing patient specific anesthesia care plans on simulated patients utilizing current best practices. Students also take part in an orientation to the PACU, anesthesia pain service, anesthesia preoperative holding area, preoperative testing and respiratory therapy service. These rotations introduce the student to the adjunct hospital services necessary for the care of the patient during the perioperative period. Current standards of care and codes of ethical practice will also be explored.

NSAN 0676 Clinical Practicum I 1 Credit **Prerequisites:** NSAN 0675, NSAN 0678.

Clinical Practicum I is designed for the novice practitioner to integrate academic knowledge with basic practical application. Emphasis will be placed on basic airway management, function and usage of anesthesia equipment; pre-operative assessment and evaluation, intra-operative management and post-anesthesia management for healthy ASA class I and class II patients. The student works side by side with a certified anesthesia provider at all times.

NSAN 0677 Clinical Practicum II 1 Credit **Prerequisite:** NSAN 0676.

This clinical practicum provides experience for the beginning intermediate student practitioner who has demonstrated successful completion of clinical practicum I. Clinical practicum II deals with the incorporation and integration of knowledge, skills and objectives for a more comprehensive and complex range of patients and surgeries. Emphasis is placed on the development of independent critical decision making skills as the students begins to gain independence in practice.

NSAN 0678 Regional Anesthesia and Pain Management in Clinical Practice 2 Credits

Prerequisite: NSAN 0671.

This course presents a comprehensive study of the regional anesthesia techniques currently utilized in clinical practice. Basic principles of neuroscience, pharmacology of local anesthetics and ultrasound technology will be applied. Emphasis will be put on the appropriate selection and application of regional techniques to achieve optimal anesthesia and analgesia for surgery and pain management. Teaching methods will include lecture, demonstration and hands-on regional workshops.

NSAN 0680 Clinical Practicum III 2 Credits **Prerequisite:** NSAN 0677.

This course provides experience for the intermediate student practitioner in order to incorporate and integrate advanced academic knowledge, clinical skills and critical decision making for a more comprehensive range of patients. At the completion of Clinical Practicum III the student will demonstrate the ability to manage the anesthesia care of the ASA class I-V and IE-VE with supervision. Student independence is encouraged as the intermediate anesthesia provider works alone with attending physicians for healthy uncomplicated procedures and supervised for more complex cases.

NSAN 0682 Clinical Practicum IV 2 Credits **Prerequisites:** NSAN 0680.

This clinical practicum is designed to allow the advanced student practitioner to integrate all previously attained knowledge and clinical skills into anesthesia practice for all elective and emergency ASA class I-V patients. At the completion of Clinical Practicum IV the Advanced Student Practitioner will be able to formulate, implement and evaluate a plan for perioperative anesthesia care for adult and pediatric ASA I-V patients and ASA IE-VE patients with supervision, demonstrate critical thinking skills in a diverse range of clinical situations, including off-site anesthesia locations and as a member of the "code team", work in a collaborative effort with other members of the anesthesia and surgical care teams, exhibit ethical and professional behavior in anesthesia practice and function as a patient advocate.

NSAN 0683 Clinical Correlation Conference 2 Credits **Corequisite:** NSAN 0685.

Prerequisite: NSAN 0682.

This course provides students with the opportunity to integrate knowledge necessary for professional nurse anesthesia practice utilizing comprehensive case presentations, which integrate and discuss current anesthesia topics, equipment, techniques and practices involved in current anesthesia case management. Ethical considerations as they apply to specific case management will be discussed. This review will utilize a combination of didactic lectures, exams, case presentations and seminar discussions. An emphasis will be placed on neuroanesthesia and the anesthetic management for major coexisting disease in preparation for the national certification exam.

NSAN 0685 Clinical Practicum V **2 Credits**

Prerequisite: NSAN 0682.

This final clinical practicum is designed to allow the Complex Practitioner to demonstrate the integration of all previous knowledge, skills and objectives, for the anesthetic management of all ASA I-V and ASA IE-IVE patients. At the completion of Clinical Practicum V the student will be able to function as an independent practitioner and will have met all of the requirements in order to sit for the national certification examination. The complex practitioner will be able to formulate, implement and evaluate a plan for perioperative anesthesia care for adult and pediatric ASA I-V and ASA IE-VE patients, demonstrate critical thinking skills in all clinical situations and patient care venues, work in a collaborative effort with other members of the anesthesia and surgical care team, function as a team leader and collaborative member in cardiopulmonary resuscitation, and exhibit ethical and professional behavior in anesthesia practice.

NSAN 0686 Principles of Nurse Anesthesia Practice I **3 Credits**

Prerequisites: NS 0604, NS 0670, NSAN 0673.

This course provides an in-depth introduction to the basic principles of anesthesia practice as they apply to the general perioperative management of patients across the lifespan. Emphasis is placed on pre-anesthesia assessment, anesthesia equipment, patient monitoring, airway management and basic regional anesthesia techniques. Students analyze current best practices in the development of the general anesthesia plan of care.

NSAN 0687 Principles of Nurse Anesthesia Practice II **3 Credits**

Prerequisites: NSAN 0671, NSAN 0686.

This course provides an in-depth discussion of the anesthetic management for specific patient populations, coexisting disease states and surgical procedures. Emphasis will be placed on the related pathophysiology, as well as the practical clinical considerations involved in administering anesthesia and providing appropriate patient monitoring in specialty anesthesia practice. Focus is placed on the management of patients undergoing intra-abdominal, thoracic, cardiac, neurosurgical, and head and neck procedures, and the associated disease states.

NSAN 0688 Principles of Nurse Anesthesia Practice III **2 Credits**

Prerequisite: NSAN 0687.

This course continues the in-depth discussion of the anesthetic management for specific patient populations, coexisting disease states and surgical procedures. Emphasis will be placed on the related pathophysiology, as well as the practical clinical considerations involved in administering anesthesia and providing appropriate patient monitoring in specialty anesthesia practice including pediatric and obstetric anesthesia care. The management of neuromuscular and endocrine disorders, burn injuries, organ transplantation and diagnostic/therapeutic procedures will be discussed.