ANE - NURSE ANESTHESIA

ANE 701 Fundamentals of Anesthesia (3 Credit Hours)
This course provides a foundation for students in many aspects of anesthesia, science, and health care concepts as they prepare to enter the core nurse anesthesia didactic portion of the program. We will examine the fundamental laws of chemistry and physics that govern the physical and molecular processes. Emphasis will be placed on an understanding of gas laws, the process of vaporization, the dynamics of pressure and flow, and the chemical properties of substances used as anesthetic agents and drugs. An introduction to the basics of anesthesia equipment including breathing circuits, the anesthesia machine and patient monitors, which have their functional roots in the laws of physics, as well as safety in the Operating Room, whose scientific basis is likewise governed by the laws of physics. We will review medical, pharmacological, and mathematical calculations and conversion as well as reviewing some essential critical care concepts. The basic role of the nurse anesthetist, the concept of professionalism and integrity, and the practice standards and code of ethics for practice will all be introduced in this course.
Academic Level: Graduate
Enrollment is limited to students with a program in Nurse Anesthesia.

ANE 702 Basic Principles of Anesthesia I (3 Credit Hours)
This course continues the foundation to the introduction of the basic principles of anesthesia practice. Protecting the patient from peri-surgical complications and iatrogenic injury will be discussed, specifically focusing on patient positioning, preventing peripheral nerve injury, and thermoregulation. Preoperative assessment and case planning will be reviewed in this course also. Theory and techniques will be augmented by hands-on opportunities with task trainers and high-fidelity simulation. The understanding and knowledge of hospital, operating room and anesthesia safety, anesthesia equipment, and the important chemistry and physical concepts will be reviewed and advanced in this course.
Academic Level: Graduate
Enrollment is limited to students with a program in Nurse Anesthesia Completion or Nurse Anesthesia.

ANE 703 Basic Principles of Anesthesia II (3 Credit Hours)
This course builds on Basic Principles I and continues to introduce the basic principles of anesthesia practice. Emphasis will be on fluid and electrolyte balance, blood transfusion therapy, as well as in depth discussions regarding care of the obstetric and pediatric patients. Basic anesthesia set-up, induction and emergence sequences, and foundational principles for clinical practice will be discussed and practiced. POCUS or point of care ultrasound techniques and competencies are included in the course content. Theory and techniques are augmented by hands-on opportunities with task trainers and high-fidelity simulation. Assessments of specific competencies provide foundational experience prior to entering the clinical phase of the program.
Academic Level: Graduate
Enrollment is limited to students with a program in Nurse Anesthesia.

ANE 704 Advanced Pharmacology I (3 Credit Hours)
This is an advanced course providing the student with detailed information of pharmacological agents that are applicable to clinical anesthesia practice. The course will apply knowledge from advanced principles of pharmacokinetics and pharmacodynamics to anesthesia agents and adjuncts. The primary focus will be on those topics which are an integral part of modern anesthesia practice. Emphasis will be placed on the following drug classifications: inhalation anesthetics, IV induction agents, local anesthetics, neuromuscular blockers and reversal agents with a focus at the cellular and systemic level.
Academic Level: Graduate
Enrollment is limited to students with a program in Nurse Anesthesia Completion or Nurse Anesthesia.

ANE 705 Advanced Pharmacology II (3 Credit Hours)
This course builds on Advanced Pharmacology I. It is an advanced course providing the student with detailed information of pharmacological agents that are applicable to clinical anesthesia practice. The course will apply knowledge from advanced principles of pharmacology, pharmacokinetics and pharmacodynamics to anesthesia agents and adjuncts. Emphasis will be placed on adjunct medications used in the perioperative setting. Emphasis will be placed on adjunct medications, disease processes utilizing those medications, and the anesthetic considerations for those patients. This course includes antihyperglycemic medications, antihypertensives, medications used for psychotherapeutics, gastrointestinal disturbances, cancer and immunologic diagnoses, antimicrobials, anticoagulation therapies, renal diseases, and endocrine diseases.
Academic Level: Graduate
Enrollment is limited to students with a program in Nurse Anesthesia.

ANE 706 Advanced Anatomy & Physiology I (3 Credit Hours)
This course will educate the student in the comprehensive study of human anatomy and physiology and the concept of the human body as an interrelated set of organ systems. The course examines the body in a systems approach, with emphasis on those most relevant to the nurse anesthetist. Basic physiological concepts of homeostasis and control, fundamental function, and mechanics will be reviewed for each body system. This course encompasses a sequence of anatomy and physiology topics that complement the topics presented in Pathophysiology I and Pharmacology I. Cadaver lab sessions will be utilized to emphasize specific anatomical content of this course.
Academic Level: Graduate
Enrollment is limited to students with a program in Nurse Anesthesia Completion or Nurse Anesthesia.

ANE 707 Advanced Anatomy & Physiology II (3 Credit Hours)
This course builds on Advanced Physiology I. The comprehensive study of human anatomy physiology from the molecular to the cellular to the systems level will continue. Basic physiological concepts of homeostasis and control, fundamental function, and mechanics will be reviewed for each body system. This course encompasses a sequence of physiology topics that complement the topics presented in Pathophysiology II and Pharmacology II including normal physiology of the cardiac, gastrointestinal, renal, and endocrine systems. Pregnancy and neonatal physiology are included. Students will have cadaver lab sessions that reflect the current body system studied.
Academic Level: Graduate
Enrollment is limited to students with a program in Nurse Anesthesia.

ANE 708 Advanced Pathophysiology I (3 Credit Hours)
This course provides a comprehensive study of diseases processes impacting major organ systems with an emphasis on clinical symptoms, treatment, and implications for anesthesia practice. In addition to text material this course makes use of readings from the primary and secondary scientific literature. It encompasses a sequence of pathophysiology topics that complement the topics presented in Advanced Anatomy and Physiology I and Advanced Pharmacology I including congenital and genetic diseases associated with anesthesia, cancers, immunology, disorders of brain and motor functions, and respiratory pathologies.
Academic Level: Graduate
Enrollment is limited to students with a program in Nurse Anesthesia Completion or Nurse Anesthesia.

ANE 709 Advanced Pathophysiology II (3 Credit Hours)
This course provides a comprehensive study of diseases processes impacting major organ systems with an emphasis on clinical symptoms, treatment, and implications for anesthesia practice. In addition to text material this course makes use of readings from the primary and secondary scientific literature. It encompasses a sequence of pathophysiology topics that complement the topics presented in Advanced Physiology II and Advanced Pharmacology II including cardiac, renal, gastrointestinal, and musculoskeletal disorders. Endocrine, hematology and hepatic disease processes are included.
Academic Level: Graduate
Enrollment is limited to students with a program in Nurse Anesthesia.

ANE 710 Airway Management (2 Credit Hours)
The anatomy and physiology of the airway will be reviewed in this course. Students will participate in the UNE Cadaver lab to advance airway anatomy and airway assessment understanding. Equipment, techniques, troubleshooting, and complications related to airway management will be discussed and demonstrated. Students will gain a thorough understanding of the many airway management options available, be exposed to advanced airway management techniques, and thoroughly discuss difficult airway algorithms and preparations. Specific airway challenges will be explored, such as obstetric and pediatric populations, and in patients across the lifespan. Students will have opportunity to work hands on with anesthesia airway equipment and practice airway management skills with task trainers, high fidelity simulation, using a wide variety of airway management equipment.
Academic Level: Graduate
Enrollment is limited to students with a program in Nurse Anesthesia Completion or Nurse Anesthesia.

ANE 712 Prof Role Dev of the CRNA (3 Credit Hours)
This course will focus on the necessary knowledge for critical care nurses to become nurse anesthetists. The importance of the professional components of nurse anesthesia practice will be emphasized, as well as ethical, medical, and legal responsibilities. The respect for patient confidentiality and dignity will be reinforced, as will the importance of appropriate interprofessional and interpersonal communication skills. The history of the anesthesia and nurse anesthetists will be reviewed. This course will highlight the importance of wellness for anesthesia providers, patients, and other professionals. Multicultural and multigenerational care concerns are also discussed. Areas of professional responsibility and potential professional roles will be addressed including APRN, educator, military member, consultant, self-employed practitioner, CRNA clinician, leader, change agent, organizational leadership position and administrator.
Academic Level: Graduate
Enrollment is limited to students with a program in Nurse Anesthesia Completion or Nurse Anesthesia.

ANE 714 Advanced Health Assessment Across the Lifespan (3 Credit Hours)
This course is designed to provide the nurse anesthesia student with the skills needed to perform a comprehensive health assessment for patients across the lifespan. The health assessment will include the major components of a health history and physical assessment emphasizing particular matters relevant to nurse anesthesia and the perioperative management of the patient. Students will be required to perform comprehensive physical assessments on standardized patients.
Academic Level: Graduate
Enrollment is limited to students with a program in Nurse Anesthesia.

ANE 715 Advanced Principles of Anesthesia I (3 Credit Hours)
This course is designed to present the student with an overview of advanced principles of nurse anesthesia. Techniques for anesthetic administration and technologies related to various surgical and diagnostic interventions will be discussed. The focus of the course relates anesthetic techniques and perioperative management for surgical and diagnostic procedures in patient populations across the lifespan. Specific topics include obesity, geriatrics, and procedures related to surgical procedures of the GU/Renal, Biliary, GI, Endocrine, EENT and Head and Neck systems. Classes will consist primarily of lectures, which may be disseminated in a distance learning format. Discussion and application of course concepts take place via group discussions and case scenario presentations. Simulation sessions will focus on surgical procedures and anesthetic plans and interventions for specific body systems.
Academic Level: Graduate
Enrollment is limited to students with a program in Nurse Anesthesia.

ANE 716 Advanced Principles of Anesthesia II (3 Credit Hours)
This course continues the presentation of the advanced principles of nurse anesthesia. It will discuss techniques for anesthetic administration and technologies related to various surgical and diagnostic interventions for more complex surgical and diagnostic procedures. The focus of the course relates anesthetic techniques and perioperative management for surgical and diagnostic procedures in patient populations across the lifespan. Specific topics include procedures related to surgical procedures of the vascular and thoracic anatomical systems to include open heart procedures, and procedures for congenital syndromes. This course also presents anesthesia care related to patients with burns, trauma, neurological diagnoses and injury, multisystem organ failure, organ retrieval and transplant and procedures involving the liver and spleen. Classes will consist primarily of lectures, which may be disseminated in a distance learning format. Discussion and application of course concepts take place via group discussions and scenario presentations. Simulation sessions will focus on surgical procedures and anesthetic plans and interventions for specific body systems, diagnoses, and injuries.
Academic Level: Graduate
Enrollment is limited to students with a program in Nurse Anesthesia Completion or Nurse Anesthesia.

ANE 717 Pain Theory&Mgmt in Clin Pract (4 Credit Hours)
An in-depth overview of the pain processes and pathways will be presented and reinforced with cadaver lab sessions. Principles of ultrasound and understanding of imaging studies will also be examined. Students will use their understanding of pain to develop advanced assessment and diagnostic skills. The neurophysiologic basis of pain will be discussed, and targeted and global pharmacological therapies will be presented with a focus on acute pain for the perioperative and obstetric patients. Students will learn about enhanced recovery after surgery protocols and other methods to improved postoperative outcomes and reduce perioperative opioid use. Discussion and demonstration will include neuraxial anesthesia, image based, ultrasound guided interventional techniques and other acute pain management techniques will be explored. Pharmacology regarding local anesthetics will be reviewed. Theory and techniques will be reinforced by hands-on opportunities with task trainers and high-fidelity simulation. Cadaver lab sessions will be utilized for anatomical review.
Academic Level: Graduate
Enrollment is limited to students with a program in Nurse Anesthesia.

ANE 718 Patho&Mgmt of Pat w/Chr Pain (2 Credit Hours)
During this course the student will build upon the knowledge and skills learned in Pain Theory and Management in Clinical Practice while focusing on the problem of chronic pain. The mechanism of chronic pain will be discussed. Therapies for patients with chronic pain diagnoses will be explored. Students will examine the use of opioids for and by patients and discuss the implication of caring for patients with chronic opioid and substance use disorders.
Equivalent to ANE 746.
Academic Level: Graduate
Enrollment is limited to students with a program in Nurse Anesthesia.

ANE 719 Economics Ethics Health Policy (3 Credit Hours)
This course presents the concepts of health care policy from various perspectives and includes ethical, legal, and political development. The student will learn how to influence and educate policy makers and others on topics such as advanced practice nursing, policy affecting patient care, safety, and quality outcomes. It will allow for advocacy within the policy communities in the development of social justice, equity, and ethical policies that affect various populations and the enhancement of the provision of quality healthcare. Foundational underpinnings will include aspects of leadership required to develop and implement change policy. The student will develop skills concerning planning, budgeting, and evaluation in meeting the financial challenges of today's complex health care arena including understanding the market as related to development of new patient care services, practitioner credentialing, and governing regulations including state laws, board of nursing regulations, and hospital and facility requirements.
Academic Level: Graduate
Enrollment is limited to students with a program in Nurse Anesthesia Completion or Nurse Anesthesia.

ANE 720 Leadshp Adv Prac Nurs HC Sys (3 Credit Hours)
This course presents leadership principles and organizational behaviors and theories pertinent to health care systems. It prepares the student for a leadership role in the complex health care system by developing critical thinking skills and evidence-based decision-making to assess and effect change to transform environments, to manage change, and enhance the quality of healthcare delivery systems. Informational literacy includes electronic systems and interprofessional collaboration will enhance quality outcomes, safety, ethical decision making, and cost effectiveness of patient care. This class will also discuss the many factors that affect APN Practice, such as political, legal, social, and cultural concerns and promote the APN as a teacher to both patients and other professionals. Focus on the patient, providing ethical and multicultural care, maintaining their dignity, rights, and privacy will be emphasized. The history of the APN and nurse anesthesia specifically, will be discussed, with an emphasis on current safe nurse anesthesia practice and adherence to the Code of Ethics for the CRNA.
Academic Level: Graduate
Enrollment is limited to students with a program in Nurse Anesthesia Completion or Nurse Anesthesia.

ANE 722 Epidemiology, Pop Hlth Prevent (3 Credit Hours)
This course will offer an overview of epidemiological concepts applicable to advanced practice nursing. It will encompass the diverse populations including the underserved, and those with chronic or acute disease or injury and the ways that public policies and the economics of healthcare affect them. Preventative concepts and theories in population and public health will be underscored to improve access to care and help status. Health promotion, primary and secondary prevention and risk reduction strategies and their research base are examined.
Academic Level: Graduate
Enrollment is limited to students with a program in Nurse Anesthesia Completion or Nurse Anesthesia.

ANE 723 Informatics Imprv HC Qual Safe (3 Credit Hours)
This course explores various applications of informatics as well as current trends for health care delivery across a variety of settings. Students will assess and analyze healthcare informatics and information systems and their role in generating data driven decisions to improve healthcare quality and safety. Legal and ethical issues related to information systems and patient care technology will be explored.
Academic Level: Graduate
Enrollment is limited to students with a program in Nurse Anesthesia Completion or Nurse Anesthesia.

Enrollment limited to students in the DNP program.

ANE 724 Senior Symposium (1 Credit Hours)
This course is designed to educate the student in anesthesia business concepts and leadership components that are important approaching program completion. Professional socialization into the role of the Certified Registered Nurse Anesthetist, health policy, reimbursement, anesthesia practice models, business plans, organizational development, and legal issues will be discussed with expert speakers. Students will participate in activities engaged in by CRNAs such as M&M meetings and journal club type discussions. Students will work towards passing the National Certification Examination via content review, guided studies, and other preparations to include taking the SEE exam.
Academic Level: Graduate
Enrollment is limited to students with a program in Nurse Anesthesia.

ANE 725 Senior Symposium II (1 Credit Hours)
This course is designed to continue the work in Senior Symposium I in education and socialization into the role of the Certified Registered Nurse Anesthetist. Students will be encouraged to explore clinical concerns and questions as they arise in their practice. Students will participate activities they will engage in as CRNAs such as M&M meetings and journal club type discussions. Clinical case scenarios and case studies will be presented and discussed. Professionalism is addressed with emphasis on care for patients across the lifespan, maintaining patients' dignity, and with an awareness of ethical and cultural principles.
Academic Level: Graduate
Enrollment is limited to students with a program in Nurse Anesthesia Completion or Nurse Anesthesia.

ANE 726 Trans Res & Evid Based Pract (3 Credit Hours)
This course will provide an introduction to the concepts of quantitative and qualitative research methods including the critical analysis and development of research concepts. Practiced based clinical inquiry methods and strategies to promote translation of science are explored for application in the DNP role. The students will learn how to carry out research including: setting up a rationale for a research project, creating a competent methodology, collecting data, analyzing data and interpreting results. The course will take the student through the steps of the research process and will conclude with the discussion of a research proposal and dissemination of scholarly work.
Academic Level: Graduate
Enrollment is limited to students with a program in Nurse Anesthesia Completion or Nurse Anesthesia.

ANE 727 Intro to Schol Proj (2 Credit Hours)
During this course, the student will apply the skills learned in previous research courses to complete a scholarly project. The project is a student initiated, faculty-guided scholarly experience that provides evidence of critical thinking and ability to apply action research principles through problem identification, plan development, implementation, and evaluation of a clinical problem. This course builds upon Translational Research and Evidence-based Practice and engages the student in the actual project implementation including gaining IRB approval if appropriate. This course also provides the student the opportunity to act as the practice specialist/consultant in interprofessional collaboration projects. This course continues the activities of choosing a topic, writing a researchable question, choosing the framework and methodology, conducting a literature search and review, and building their literature review table. All scholarly project work will be compiled into a portfolio for later evaluation and dissemination.
Academic Level: Graduate
Enrollment is limited to students with a program in Nurse Anesthesia Completion or Nurse Anesthesia.

ANE 729 DNP Scholarly Proj II (2 Credit Hours)
This course continues the work and knowledge of previous research courses. Students will continue to assimilate the information and knowledge gained in Translational Research and Evidence-based Practice, and Introduction to the Scholarly project as they advance and complete their scholarly project portfolio. Students, working closely with and receiving guidance from their Scholarly Project Committee Chair, will use the information and work from their literature review table to complete a full literature review. Using this and their previous work, they will complete the scholarly project manuscript and submit their Scholarly Work Portfolio.
Academic Level: Graduate
Enrollment is limited to students with a program in Nurse Anesthesia Completion or Nurse Anesthesia.

ANE 730 DNP Scholarly Proj III (1 Credit Hours)
This course continues the work and knowledge of previous research courses. The activities focus on disseminating the knowledge and evidence gained through their scholarly project into nurse anesthesia practice changes and improvements. Students will submit a means of dissemination of their choice, examples include publication submission, State, Regional, or National meeting speaking or scientific poster submission. The scholarly project culminates with dissemination of scholarly work via UNE Research Day and submission of their portfolio to the digital UNE repository, DUNE. This course continues the work and knowledge of previous research courses. The activities focus on disseminating the knowledge and evidence gained through their scholarly project into nurse anesthesia practice changes and improvements. Students will submit a means of dissemination of their choice, examples include publication submission, State, Regional, or National meeting speaking or scientific poster submission. The scholarly project culminates with dissemination of scholarly work via UNE Research Day and submission of their portfolio to the digital UNE repository, DUNE.
Academic Level: Graduate
Enrollment is limited to students with a program in Nurse Anesthesia Completion or Nurse Anesthesia.

ANE 732 Clinical Practicum I (2 Credit Hours)
This course introduces Student Registered Nurse Anesthetists to clinical anesthesia care. It is designed to cultivate the Novice Student Registered Nurse Anesthetist under the direct supervision of anesthesia clinical instructors. Emphasis is on basic skills, such as airway management, pre-operative assessment, anesthesia care-plan construction, and documentation. It begins to focus on internalizing theoretical concepts and techniques and their applications in anesthetic management toward achieving the Course Behavioral Objectives. Mastery of specific levels of competency is required within a specific timeframe.
Academic Level: Graduate
Enrollment is limited to students with a program in Nurse Anesthesia.

ANE 734 Clinical Practicum II (2 Credit Hours)
This course continues the integration and application of theoretical foundations and development of skills in nurse anesthesia practice under close direction of anesthesia clinical instructors. It is designed to cultivate the Advanced Beginner Student Registered Nurse Anesthetist, focusing on setting priorities in clinical situations. It continues to focus on internalizing theoretical concepts and techniques and their applications in anesthetic management toward achieving the Course Behavioral Objectives. Mastery of specific levels of competency is required within the timeframe.
Academic Level: Graduate
Enrollment is limited to students with a program in Nurse Anesthesia Completion or Nurse Anesthesia.

ANE 736 Clinical Practicum III (2 Credit Hours)
This course continues the integration and application of theoretical foundations and development of skills in nurse anesthesia practice under the guidance of anesthesia clinical instructors. It is designed to cultivate the Competent Student Registered Nurse Anesthetist, focusing on combining didactic and technical skills in a broader range of clinical situations and prioritizing care in a broader range of clinical situations. It continues to focus on internalizing theoretical concepts and techniques and their applications in anesthetic management toward achieving the Course Behavioral Objectives. Mastery of specific levels of competency is required within the timeframe.
Academic Level: Graduate
Enrollment is limited to students with a program in Nurse Anesthesia.

ANE 738 Clinical Practicum IV (2 Credit Hours)
This course continues the integration and application of theoretical foundations and development of skills in nurse anesthesia practice. It is designed to cultivate the Proficient Student Registered Nurse Anesthetist, focusing on performing with speed and flexibility in a broad range of clinical situations and perceiving situations, rather than fragmented parts, with little guidance from the anesthesia clinical instructors. It continues to focus on internalizing theoretical concepts and techniques and their applications in anesthetic management toward achieving the Course Behavioral Objectives. Mastery of specific levels of competency is required within the timeframe.
Academic Level: Graduate
Enrollment is limited to students with a program in Nurse Anesthesia.

ANE 740 Clinical Practicum V (2 Credit Hours)
This course continues the integration and application of theoretical foundations and development of skills in nurse anesthesia practice with minimal guidance and consultation from anesthesia clinical instructors. It is designed to cultivate the Novice Practitioner Student Registered Nurse Anesthetist, focusing on performing all facets of clinical anesthesia in a skillful and consistent manner. It continues to focus on internalizing theoretical concepts and techniques and their applications in anesthetic management toward achieving the Course Behavioral Objectives. Mastery of specific levels of competency is required within the timeframe.
Academic Level: Graduate
Enrollment is limited to students with a program in Nurse Anesthesia Completion or Nurse Anesthesia.

ANE 742 Ane Disaster Crisis Resrs Mgmt (1 Credit Hours)
This course will be based on the student functioning in a simulated disaster scene and various anesthesia crisis scenarios. The student will complete assignments which will focus on crisis management in the perioperative setting. A thorough review of crisis resource management and debriefing skills will be discussed before the student enters the simulation environment. Each student will participate in the high-fidelity simulation lab and debriefing exercises afterwards to prepare them for the clinical setting after graduation.
Academic Level: Graduate
Enrollment is limited to students with a program in Nurse Anesthesia Completion or Nurse Anesthesia.