ANESTHESIOLOGY (ANES)

ANES 403. Cardiac Electrophysiology I. 1 Unit.
In this course students will learn basic and advanced Electrocardiogram interpretation using simulators and electrocardiograms to understand an overview of heart anatomy, function, and neurophysiology.

ANES 404. Cardiac Electrophysiology II. 1 Unit.
Continuation of ANES 403. Prereq: ANES 403.

ANES 440. Patient Monitoring and Instrumentation I. 2 Units.
Students are taught the proper balance between circuits and engineering concepts and the clinical application of anesthesia instrumentation. Monitors and devices used in the operating room are studied with respect to principles of operation, calibration, and interpretation of data. A hands-on laboratory is utilized to maximize direct contact to the instrumentation of the profession.

ANES 441. Patient Monitoring and Instrumentation II. 2 Units.
Continuation of ANES 440. Recommended preparation: ANES 440.

ANES 456. Applied Physiology for Anesthesiologist Assistants I. 3 Units.
Basic and applied human systems physiology with emphasis on topics and areas of special concern to the anesthetist.

ANES 458. Applied Physiology for Anesthesiologist Assistants II. 3 Units.
Continuation of ANES 456. Recommended preparation: ANES 403 and ANES 456.

ANES 460. Introduction to Anesthesia. 2 Units.
Introduction to basic concepts dealing with clinical anesthesia. Medical terminology, human anatomy, medical chart interpretation and drug dosage calculations.

ANES 461. Introduction to Clinical Experience. 3 Units.
Introduction to experience in the operating room with emphasis on the fundamental procedures and techniques used in administering an anesthetic. Preoperative assessment, IV placement techniques, airway management, intraoperative patient care and postoperative management are all emphasized in this course. BLS (basic life support) certification is required for course completion. Prereq: Enrolled in the Master of Science in Anesthesia program.

ANES 462. Anesthesia Clinical Correlation I. 1 Unit.
A series of conferences presented by students that applies to anesthetic theory as it relates to the clinical experience. Specific anesthetic situations are emphasized. Recommended preparation: ANES 460.

ANES 463. Anesthesia Clinical Experience I. 3 Units.
A continuation of the preparation, observation, and hands-on learning format initiated in ANES 461. Patient management and technical skills are refined with close attention to the didactic course work. A comprehensive clinical examination is administered at the end of the semester. ACLS (Advanced Cardiac Life Support) certification is required for course completion. Prereq: ANES 461.

ANES 464. Anesthesia Clinical Correlation II. 1 Unit.
A spectrum of case presentation conferences presented by the students dealing with basic and major problems in anesthesia management. Medical and surgical history of individual patients and the outcomes of anesthesia and surgery are emphasized. Journal Club and Morbidity and Mortality conferences are included. Recommended preparation: ANES 462.

ANES 465. Anesthesia Clinical Experience II. 4 Units.
A continuation of ANES 463. A comprehensive clinical examination is administered at the end of the semester. PALS (Pediatric Advanced Life Support) and ACLS (Advanced Cardiac Life Support) certification is required for course completion. Students are required to have BLS Certification and ACLS Certification. Prereq: ANES 463.

ANES 467. Anesthesia Clinical Experience III. 4 Units.
Extended exposure to all of the clinical subspecialties of anesthesiology (obstetrics, pediatrics, neurosurgery, cardiovascular, etc.). Students alternate through rotations at several area hospitals. Students are required to have ACLS certification and PALS certification. Prereq: ANES 465.

ANES 468. Anesthesia Clinical Correlation III. 1 Unit.
The second-year equivalent of ANES 462. Recommended preparation: ANES 464.

ANES 469. Anesthesia Clinical Experience IV. 8 Units.
A continuation of ANES 467. A comprehensive clinical examination is administered at the end of the semester. Prereq: ANES 467.

ANES 470. Anesthesia Clinical Correlation IV. 1 Unit.
The second-year equivalent of ANES 464. Recommended preparation: ANES 468.

ANES 471. Anesthesia Clinical Experience V. 8 Units.
A continuation of ANES 469. A comprehensive clinical examination is administered at the end of the semester. Prereq: ANES 469.

ANES 475. Pharmacology for Anesthesiologist Assistants I. 3 Units.
Pharmacodynamics, pharmacokinetics, uptake, distribution and action of the volatile and intravenous anesthetics, muscle relaxants, narcotics, hypnotics and other pharmaceuticals used in the administration of an anesthetic. Prereq: Consent of Department.

ANES 476. Pharmacology for Anesthesiologist Assistants II. 3 Units.
Continuation of ANES 475. Prereq: ANES 475.

ANES 477. Clinical Decision Making in Anesthesia. 3 Units.
An introduction to thinking about clinical situations and problems and coming to safe and effective solutions to these problems. This course focuses on common clinical situations where appropriate decision making is important to the outcome of the case. Numerous areas of medicine and anesthesiology will be covered to provide the student with a wide sampling of decisions made each day with patient care. This course supplements the other courses offered during the spring semester by integrating and applying basic science knowledge to the care of patients. Prereq: Consent of department.

ANES 478. Clinical Decision Making in Anesthesia II. 3 Units.
Guided and targeted discussion on common anesthetic considerations relegated by co-existing disease, comorbidity, anatomy, surgical procedures and common practice. Prereq: ANES 477.

ANES 485. Introduction to Physiological Model-Based Simulation. 1 Unit.
Introduction to physiological model-based simulation using on-screen computer simulation and mannequins. Emphasis is placed on improving appropriate anesthesia-related basic science knowledge, manual skills in anesthesia machine checkout, drug and equipment setup, safety inspections, and performing anesthesia for uncomplicated surgical cases.

ANES 486. Physiological Model-Based Simulation I. 1 Unit.
An extension of ANES 485 with emphasis on improving or exercising knowledge of anesthesia-appropriate basic science, the use of more advanced equipment and techniques for uncomplicated surgical cases with an introduction to crisis management. Recommended preparation: ANES 485.

ANES 487. Physiological Model-Based Simulation II. 1 Unit.
An extension of ANES 486 emphasizing the physical techniques aspects of crisis management, team work and rescue in anesthesia, including support for and review of training in Basic Life Support and Advanced Cardiac Life Support. Recommended preparation: ANES 486.

ANES 488. Anesthesia Non-Technical Skills Lab. 1 Unit.
In this course the student will learn anesthesia non-technical skills, which are used integrally with medical knowledge and clinical techniques. They encompass both interpersonal skills (e.g. communication, team working, leadership) and cognitive skills (e.g. situation awareness, decision making). This course uses modified Crew Resource Management techniques taught in the aviation industry and considers the limitations of human performance and the nature of human error. The goals are to train individuals to avoid, capture and mitigate against the consequences of error. During the course, behaviors shown to minimize errors and maximize patient safety are highlighted and then practiced, with feedback being given to students on their performance.

ANES 490. Ethics, Law and Diversity for Anesthesiologist Assistants. 2 Units.
This course will focus on three topics. First, a discussion of legal practice as it applies to health care including basics of medical jurisprudence, negligence, and how to avoid a lawsuit. Second, a discussion of ethical theory including the principles of medical ethics, do not resuscitate, truth telling, and assessment of competence. Last, a discussion on diversity that will focus on the differences and similarities among people and how these factors influence patient care. The final grade will be based on an essay and a multiple choice exam.

ANES 499. Clinical Remediation. 1 - 10 Units.
(Credit as arranged.) Course offered to the student one time during the program of study which remediates "C" or below work in a clinical course.

ANES 580. Principles of Anesthesia Safety and Science Review I. 1 Unit.
A continuum of online courses over the fall and spring semesters that covers a series of topics in basic medical science with special emphasis in the specialty of anesthesia. Using well-defined virtual platform, the course combines high-quality realistic practice questions, cognitive research, and individualized student testing behaviors to guide learning and increase performance on high stake medical exams. Regularly scheduled examinations throughout the semester are administered.

ANES 581. Principles of Anesthesia Safety and Science Review II. 1 Unit.
A continuum of online courses over the fall and spring semesters that covers a series of topics in basic medical science with special emphasis in the specialty of anesthesia. Using a well-defined virtual platform, the course combines high-quality realistic practice questions, cognitive research, and individualized student testing behaviors to guide learning and increase performance on high stake medical exams. Regularly scheduled examinations throughout the semester are administered. Prereq or Coreq: ANES 580.

ANES 584. Physiological Model-Based Simulation III. 1 Unit.
An extension of ANES 487 emphasizing the physical techniques and aspects of crisis management, team work, and rescue in anesthesia. Prereq: ANES 487.

ANES 585. Physiological Model-Based Simulation IV. 1 Unit.
Extension of ANES 584 emphasizing the physical techniques and aspects of crisis management, team work, and rescue in anesthesia. Prereq: ANES 584.

ANES 590. Advanced Personal and Professional Development. 0 Unit.
Students will complete these activities on their own, in a self-guided manner. Students will seek the assistance of their team (faculty advisor and/or Program Director) to complete the required activities. The student will register for this course during first year, fall and spring semesters, and during the summer, fall and spring semesters of their second year. Students will need to complete activities in the following three components: 1) Career Planning, e.g. curriculum vitae building, job interview preparation and job interview participation, 2) Academic Enrichment, e.g. personal portfolio construction, and 3) Personal Wellness, e.g. engage in rest and relaxation to decrease stress and promote internalization and consolidation of lessons learned. Prereq: Enrolled in the Master of Science in Anesthesia program.

ANES 599. Clinical Remediation. 1 - 10 Units.
(Credit as arranged.) Course offered to the student one time during the program of study which remediates "C" or below work in a clinical course.