

ANESTHESIA (ANESTH)

Courses

ANESTH 5505 Anatomy for Anesthesiologist Assistants I Credit: 1

This course is designed to meet the needs of students seeking a Master of Science in Anesthesia degree at UMKC. A thorough understanding of anatomy provides a basic foundation for future coursework and for the profession of Anesthesiologist Assistant. This course covers gross anatomy from a regional (or systemic in some cases) perspective bringing together all body systems present in each defined area of study.

Prerequisites: Acceptance to the MSA program.

ANESTH 5506 Anatomy for Anesthesiologist Assistants II Credit: 1

In this course, students will learn anatomy that directly impacts clinical situations. Diagnostic skills will be enhanced through an understanding of radiologic tests, identification of common chest X-rays, and a basic understanding of transesophageal echocardiography. Students will learn to recognize the basic 4 chamber TEE views and diagnose the most common lesions and abnormalities in patients undergoing cardiac surgery. An ultrasound machine will be used to identify anatomy for a variety of clinical procedures, including intravenous line placement, central line placement, arterial line placement, and peripheral nerve block placement. Students will learn the principles of how to operate and manipulate the ultrasound monitor, and will learn the relevant anatomy and anesthetic implications and management for the most common peripheral nerve blocks used today. In addition, clinically significant anatomy case studies in anesthesia will be presented and discussed.

Prerequisites: Acceptance to the MSA program.

ANESTH 5518 Professionalism for the Anesthesiologist Asst I Credits: 0.5

Introduction to legal and ethical areas of Anesthesiologist Assistant practice; professional behavior, legal obligations of anesthetists and patient, and social and community contexts of health care.

Prerequisites: Acceptance to the MSA program.

ANESTH 5528 Professionalism for the Anesthesiologist Asst II Credits: 0.5

Special topics in Anesthesiologist Assistant practice; impact of substance abuse, cognitive deficiency and mental illness in creating an impaired provider.

Prerequisites: Acceptance to the MSA program.

ANESTH 5538 Professionalism for the Anesthesiologist Asst III Credits: 0.5

Special topics in Anesthesiologist Assistant practice; principles of evidence based medicine and approaches to mastering life long learning and maintaining professional competencies.

Prerequisites: Acceptance to the MSA program.

ANESTH 5540 Patient Monitoring and Instrumentation Credits: 3

This is a three credit hour course which integrates concepts of circuits and engineering with the clinical application of anesthesia instrumentation. To the extent possible, the material covered will be directly linked to clinical scenarios. In order for the monitors to be fully understood from a clinical management perspective, relevant physiology related to the monitors and to the field of anesthesia will be taught and practiced. In addition to the monitors, students will gain an in depth understanding of all parts of the anesthesia machine, anesthesia circuits, central line and arterial line equipment, and the properties of common intravenous and inhalational anesthetics.

ANESTH 5541 Methods of Anesthesia I Credits: 2

In this course, students will be prepared to give safe anesthesia in all types of cardiac surgery, learn how to interpret arterial blood gases, and obtain an in depth understanding of ACLS principles so that they will be prepared for any resuscitation scenario in the OR. A cardiac drug card will be administered. Videos and PPTs will be administered to help students understand the concepts of ACLS, acid base management, cardiac bypass, cardiac surgery monitoring, techniques, and anesthetic management.

Prerequisites: ANESTH 5540.

ANESTH 5548 Anesthesiologist Assistant Senior Seminar Credits: 0.5

This is 0.5 credit hour course taken in the final semester of the Master of Science in Anesthesia Program and is designed to prepare the student for their future roles. This course will prepare the student for the job market and placement and enforce the life-long learning needed within medical professions. The course will contain information on student loan payback, financial literacy after graduation, and leadership opportunities for the graduate. The course will also clinically update the students in basic life saving for the healthcare provider (BLS), advanced cardiac life saving (ACLS) and Pediatric advance life saving (PALS).

ANESTH 5556 Physiology for Anesthesiologist Assistants I Credits: 3

This course is the first of two parts of a human physiology series. The course is designed to provide an understanding of basic neurophysiology, autonomic nervous system, blood, respiratory and cardiovascular physiology. Topics of special interest to anesthesiologist assistants will be highlighted.

ANESTH 5557 Physiology for Anesthesiologist Assistants II Credits: 2

This course is the 2nd of two parts of a human physiology series. The course is designed to provide an understanding of endocrine, reproductive, neonatal, gastrointestinal, and neurophysiology. Topics of special interest to anesthesiologist assistants will be highlighted as it relates to the physiology.

Prerequisites: ANESTH 5556.

ANESTH 5558 Anesthesia & Co-existing Disease I Credits: 2

This course provides an essential anesthesia link to the basic anatomy and physiology classes in the Masters of Science in Anesthesia program. The content outline intentionally corresponds with and builds upon that of the Physiology for Anesthesiologist Assistants coursework. This course focuses on primary cardiac, respiratory and endocrine coexisting diseases that affect anesthetic care. It provides for the student a strategic plan in the management of patients with these disease processes.

Prerequisites: ANESTH 5556.

ANESTH 5559 Anesthesia & Co-existing Disease II Credits: 2

This is the second course that establishes an essential anesthesia link to the basic anatomy and physiology classes in the Masters of Science in Anesthesia program. The content outline intentionally corresponds with and builds upon that of the Physiology for Anesthesiologist Assistants coursework. This course focuses on a variety of coexisting diseases states but all focuses on pediatric and obstetric co-existing disease and how they affect anesthesia management.

Prerequisites: ANESTH 5558.

ANESTH 5560 Introduction to Anesthesia Credits: 2

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

ANESTH 5561 Orientation to Simulation and Clinical Application Credits: 5

This skills based course is an introduction to the student's clinical experience in the operating room. The goal is to rapidly engage students in anesthesia patient care. Fundamental procedures and techniques used in administering anesthesia will be emphasized. Simulated clinical models are used to allow students to first practice anesthesia care in a safe, controlled, low pressure environment. Students are prepared for quality immersion into patient care. Operating room set up and etiquette, pre-operative assessment, IV placement techniques, airway management, intraoperative care, and postoperative management are emphasized. Course includes hands on introduction to the operating room and anesthetic management and students obtain 80-100 hours of clinical contact time.

ANESTH 5563 Anesthesia Clinical Experience I Credits: 4

During this course students gain clinical and professional experience in the operating room. In this course students are expected to perform program competencies with the level of assistance developed in the programs goals for skills development. Students will be one on one with a Certified Anesthesiologist Assistant or Anesthesiologist clinical supervisor while obtaining these goals. Students will complete a specific IV, pre-surgical testing and post anesthesia care unit rotation during their clinical experience courses.

Prerequisites: ANESTH 5561.

ANESTH 5564 Anesthesia Clinical Correlation II Credit: 1

This one credit course is designed to help students understand how to effectively research and apply current anesthesia journal articles, and to prepare for the NCCAA certification examination. The students will spend the entire semester studying 6 (Principles of anesthesia/ Instrumentation and monitoring, anesthesia delivery systems, physics / renal, genital urologic / respiratory system / clinical subspecialties) of the 16 topics that are included on the NCCAA certification examination. Homework will include submission of test questions based on their presentations and the 6 assigned NCCAA testing topics. The students will also receive an assignment to find and summarize a journal article from one of the 6 assigned topics. The students will cap off the semester with a clinical final examination, which includes submitted questions from assigned topics.

Prerequisites: ANESTH 5562.

ANESTH 5565 Anesthesia Clinical Experience II Credits: 8

During this course students gain clinical and professional experience in the operating room. In this course students are expected to perform program competencies with the level of assistance developed in the programs goals for skills development. Students will be one on one with a Certified Anesthesiologist Assistant or Anesthesiologist clinical supervisor while obtaining these goals. Students will complete a specific IV, pre-surgical testing and post anesthesia care unit rotation during their clinical experience courses.

ANESTH 5567 Anesthesia Clinical Experience III Credits: 16

Clinical clerkship component of program clinical phase. Students are in the operating room (OR) five days per week and through the combined clinical experience clerkships will receive extended exposure to all clinical subspecialties. Students complete 4 week or 8 week rotations at several hospitals to gain experience with general surgery, obstetrics, pediatrics, trauma surgery, neurosurgery, cardiovascular surgery, orthopedic surgery, intensive care unit and others. Students are expected to perform program competencies with the level of assistance developed in the programs goals for skills development. Students will be one on one with a Certified Anesthesiologist Assistant or Anesthesiologist clinical supervisor while obtaining these goals.

Prerequisites: ANESTH 5565, ACLS and PALS certification.

ANESTH 5568 Anesthesia Clinical Correlation III Credit: 1

This one credit course is designed to help students understand how to effectively research, apply, and prepare for the NCCAA certification examination. The students will spend the entire semester studying 4 (cardiovascular/ Hematology coagulation / Metabolism endocrine / Neurosciences neuromuscular) of the 16 topics that are included on the NCCAA certification examination. Homework will include submission of test questions based on the 4 assigned NCCAA testing topics. The students will cap off the semester with a clinical final examination, which includes submitted questions from the assigned topics. This course also includes a one week in person session where will identify risk management issues for anesthesia providers, learn key strategies when applying for a job and demonstrate key points of patient assessment in the ICU. Recertification for Basic Life Support (BLS) occurs during this course.

Prerequisites: ANESTH 5564.

ANESTH 5569 Anesthesia Clinical Experience IV Credits: 12

Clinical clerkship component of program clinical phase. Students are in the operating room (OR) five days per week and through the combined clinical experience clerkships will receive extended exposure to all clinical subspecialties. Students complete 4 week or 8 week rotations at several hospitals to gain experience with general surgery, obstetrics, pediatrics, trauma surgery, neurosurgery, cardiovascular surgery, orthopedic surgery, intensive care unit and others. Students are expected to perform program competencies with the level of assistance developed in the programs goals for skills development. Students will be one on one with a Certified Anesthesiologist Assistant or Anesthesiologist clinical supervisor while obtaining these goals.

Prerequisites: ANESTH 5567.

ANESTH 5570 Anesthesia Clinical Correlation IV Credit: 1

This one credit course is designed to help students understand how to effectively research and apply current anesthesia journal articles, and to prepare for the NCCAA certification examination. The students will spend the entire semester studying 6 (Peds the Neonatal Period / Pharmacology / Regional Anesthesia Pain Management/ GI Hepatic/ OB Perinatal Management) of the 16 topics that are included on the NCCAA certification examination. Homework will include submission of test questions based on their presentations and the 6 assigned NCCAA testing topics. The students will also receive an assignment to find and summarize a journal article from one of the 6 assigned topics. The students will cap off the semester with a clinical final examination, which includes submitted questions from assigned topics.

Prerequisites: ANESTH 5568.

ANESTH 5571 Anesthesia Clinical Experience V Credits: 16

Clinical clerkship component of program clinical phase. Students are in the operating room (OR) five days per week and through the combined clinical experience clerkships will receive extended exposure to all clinical subspecialties. Students complete 4 week or 8 week rotations at several hospitals to gain experience with general surgery, obstetrics, pediatrics, trauma surgery, neurosurgery, cardiovascular surgery, orthopedic surgery, intensive care unit and others. Students are expected to perform program competencies with the level of assistance developed in the programs goals for skills development. Students will be one on one with a Certified Anesthesiologist Assistant or Anesthesiologist clinical supervisor while obtaining these goals.

Prerequisites: ANESTH 5569.

ANESTH 5573 Anesthesia Clinical Experience VI Credits: 16

Clinical clerkship component of program clinical phase. Students are in the operating room (OR) five days per week and through the combined clinical experience clerkships will receive extended exposure to all clinical subspecialties. Students complete 4 week or 8 week rotations at several hospitals to gain experience with general surgery, obstetrics, pediatrics, trauma surgery, neurosurgery, cardiovascular surgery, orthopedic surgery, intensive care unit and others. Students are expected to perform program competencies with the level of assistance developed in the programs goals for skills development. Students will be one on one with a Certified Anesthesiologist Assistant or Anesthesiologist clinical supervisor while obtaining these goals.

Prerequisites: ANESTH 5571.

ANESTH 5575 Pharmacology for Anesthesiologist Assistants I Credits: 2

Basic concepts in pharmacology: principles of drug action, receptor theory, pharmacokinetics, pharmacodynamics and drug dose calculations. The course will emphasize the primary medications used to provide anesthesia and to support patients during the perioperative period.

ANESTH 5576 Pharmacology for Anesthesiologist Assistants II Credit: 1

This is a one credit hour course designed for the M.S. in Anesthesia Program. The course prepares students to apply knowledge of pharmacotherapy to anesthesia care by taking into account type of surgery and patient coexisting diseases.

ANESTH 5577 Methods of Anesthesia II Credits: 3

In this course, students will be prepared to manage anesthetics for more complex situations. Anesthetic management for certain patient conditions will include permanent implantable pacemakers, fluid electrolyte abnormalities, and congenital heart disease. Clinical management for individual patient populations will include obstetrics and pediatric advanced life support (PALS). In addition, clinically relevant information regarding advanced equipment and techniques will include 12 lead ECG interpretation, ultrasound guided peripheral nerve blocks, neuraxial anesthesia, and physics for anesthesiologist assistants.

ANESTH 5578 Pharmacology for Anesthesiologist Assistants III Credits: 2

This is a two credit hour course designed for the M.S. in Anesthesia Program. The course prepares students to apply knowledge of pharmacotherapy to anesthesia care by taking into account type of surgery and patient coexisting diseases.

Prerequisites: ANESTH 5575, ANESTH 5576.

ANESTH 5585 Physiological Model-based Simulation I Credits: 2

This is a two credit hour course, which utilizes physiological model-based simulation and procedure simulation to integrate anesthesia-associated basic science knowledge into a laboratory setting. The focus for this semester is designed to help student become proficient in central lines, pulmonary artery monitoring, epidural and spinal placement, and managing more complex anesthetic cases involving trouble shooting and crisis management via simulation. Advanced Cardiac Life Saving is obtained during this course.

ANESTH 5586 Physiological Model-based Simulation II Credits: 2

This is a two credit hour course, which builds upon the technical skills learned in ANES 5585. Students will be asked to manage complex anesthetic cases involving multiple co- existing diseases and methods of anesthesia. Pediatric Advanced Lifesaving Saving (PALS) is a certification required to be obtained during this course.

Prerequisites: ANESTH 5585.

ANESTH 5590 Special Topic Credits: 0.5-3

An opportunity to explore new topics or existing topics in greater detail and are not included in the usual course offerings.