UMKC Masters of Science in Anesthesia (MSA) Curriculum Outline *

	Credit Hours
Semester 1 (January to May) (15 credit hours; 40 clinical hours)	
ANES 5503 – Physical Methods for Anesthesiologist Assistants I	2
ANES 5505 - Anatomy for Anesthesiologist Assistants I	3
ANES 5540 – Patient Monitoring and Instrumentation	2
ANES 5556 – Applied Physiology for Anesthesiologist Assistants I	3
ANES 5560 – Introduction to Anesthesia	2
ANES 5561 – Orientation to Clinical Experience (Basic Life Support Certification)	3
Semester 2 (May to August) (12 credit hours; 120 clinical hours)	
ANES 5558 – Applied Physiology for Anesthesiologist Assistants II	3
ANES 5575 – Pharmacology for Anesthesiologist Assistants	3
ANES 5563 – Anesthesia Clinical Experience I (Advanced Cardiac Life Support Certification)	3
ANES 5585 – Introduction to Physiological Model-based Simulation	1
ANES 541 – Patient Monitoring and Instrumentation II	2
Semester 3 (August to December) (12 credit hours; 180 clinical hours)	
ANES 5506 - Anatomy for Anesthesiologist Assistants II	2
ANES 5565 – Anesthesia Clinical Experience II	3
ANES 5577 – Advanced Cardiovascular Monitoring	2
ANES 5562 – Anesthesia Clinical Correlation I	1
ANES 5580 – Fundamentals of Anesthetic Sciences I	1
ANES 586 – Physiological Model-based Simulation I	1
Semester 4 (January to May) (8 credit hours; 260 clinical hours)	
ANES 5564 – Anesthesia Clinical Correlation II	1
ANES 5567 – Anesthesia Clinical Experience III (Pediatric Advanced Life Support Certification)	4
ANES 5580 – Fundamentals of Anesthetic Sciences I	1
ANES 5587 – Physiological Model-based Simulation II	2

* subject to change

Semester 5 (May to August) (6 credit hours; 410 clinical hours)	
ANES 5569 – Anesthesia Clinical Experience IV	4
ANES 5588 – Ethics, Law & Diversity for Anesthesiologist Assistants	2
Semester 6 (August to December) (11 credit hours: 500 clinical hours)	
ANES 5568 – Anesthesia Clinical Correlation III	1
ANES 5580 – Fundamentals of Anesthetic Sciences II	1
ANES 5571 – Anesthesia Clinical Experience V	8
ANES 5589 – Physiological Model-based Simulation III	1
Semester 7 (January to May) (11 credit hours; 500 clinical hours)	
ANES 5570 – Anesthesia Clinical Correlation IV	1
ANES 5580 – Fundamentals of Anesthetic Sciences II	1
ANES 5571 – Anesthesia Clinical Experience V	8
ANES 5589 – Physiological Model-based Simulation III	1
Total program credit hours	73
Total program clinical hours	2010
*Vacation time built into semesters	

* subject to change

UMKC Masters of Science in Anesthesia (MSA) Course descriptions

ANES 5503 – Physical Methods for Anesthesiologist Assistants I
This two credit hour course provides students with basic concepts underlying anesthesia delivery equipment, proper functioning, environmental factors, and safety. Physical science concepts in electricity, gas/liquid interfaces, statistics, and computer systems applicable to anesthesiology work will be covered.

ANES 5505 and 5506 - Anatomy for Anesthesiologist Assistants I and II
Gross anatomy and histology of human body systems. Anatomical terms, structures, and relationships emphasizing functional significance in problem solving situations. Laboratory provides demonstrations using models and other learning modalities.

ANES 5540 – Patient Monitoring and Instrumentation
This is a two credit hour course which integrates concepts of circuits and engineering with 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 used to maximize direct contact to the instrumentation of the profession.

ANES 5556 – Applied Physiology for Anesthesiologist Assistants I
This is a two hour basic science course for the Masters of Anesthesia Program. Students learn basic and applied human systems physiology with emphasis on topics and areas of special concern to the anesthetist.

ANES 5560 – Introduction to Anesthesia
This two credit hour course prepares students for practice in anesthesia by introducing basic concepts and necessary skills. It provides intensive instruction regarding: Medical terminology and abbreviations, medical record and medical history interpretation, documentation skills, human anatomy for anesthesiology assistants, and drug dosage calculations.

ANES 5561 – Orientation to Clinical Experience
This three hour clinical course is an introduction to the student's clinical experience in the operating room. The goal of this course is to rapidly engage students in anesthesia patient care. Fundamental procedures and techniques used in administering anesthesia will be emphasized. It combines simulated clinical teaching models and hands-on learning with actual patient cases in the operating room (OR). Simulated clinical models are used to allow students to first practice anesthesia care in a safe, controlled, low-pressure environment. This prepares them for the rapid immersion into patient care. Preoperative assessment, IV placement techniques, airway management, intraoperative patient care, and postoperative management are all emphasized in this course.

ANES 5558 – Applied Physiology for Anesthesiologist Assistants II
This is a two hour basic science course for the Masters of Anesthesia Program. This is a continuation from the previous semester; students learn basic and applied human systems physiology with emphasis on topics and areas of special concern to the anesthetist. This advanced course also addresses special patient populations and types of surgery.

* subject to change

ANES 5575 – Pharmacology for Anesthesiologist Assistants
This is a two hour basic science course for the Masters of Anesthesia Program. It will introduce the student to basic concepts in pharmacology: principles of drug action, receptor theory, pharmacokinetics, and pharmacodynamics. The course will emphasize those medication classes most commonly encountered within the practice of an anesthesiologist assistant including autonomics, analgesics, cardiovascular agents, pulmonary drugs, GI drugs, CNS agents, anti-infectives, and drugs acting on the hematological system. Special attention will be given to anesthetic agents including inhaled anesthesia, intravenous anesthesia, and local anesthetics.

ANES 5563 – Anesthesia Clinical Experience I
A continuation of 5561 with increased clinical experience.

ANES 5585 – Introduction to Physiological Model-based Simulation
This is a one credit hour course, which introduces students to physiological model-based simulation and procedure simulation with emphasis on improving appropriate anesthesia-associated basic science knowledge in a laboratory setting. Students begin to learn manual skills in: anesthesia machine checkout, anesthesia materials and equipment setup and deliver anesthesia for uncomplicated surgical cases using clinical doll models and simulators.

ANES 541 – Patient Monitoring and Instrumentation II
This is a two credit hour course which is a continuation from the previous semester. The course addresses intraoperative monitoring for complicated surgeries or patients. Advanced and supplemental 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 used to maximize direct contact to the instrumentation of the profession.

ANES 5565 – Anesthesia Clinical Experience II
This three hour clinical course is a continuation of the student's preparation, observation and hands-on learning format initiated in ANES 561/563. Laboratory work focuses on refining patient management skill, establishing independence in performing basic tasks and introducing advanced skills. Students gain additional clinical experience in the operating room. In this course it is expected students will be successful in performing basic clinical competencies with minimal assistance from clinical instructors, while attempting advanced competencies with frequent assistance.

ANES 5577 – Advanced Cardiovascular Monitoring
This is a two credit hour course which focuses on diagnosis and practical applications of electrocardiography (ECG), echocardiography and other advanced cardiovascular monitoring techniques used in the operating room.

ANES 5562, 5564, 5568, 5570 – Anesthesia Clinical Correlation I to IV
This one hour course is a series of conferences presented by anesthesia clinical faculty, anesthesiology medical residents, and student anesthesiology assistants. The conferences involve application of anesthetic theory as it relates to the clinical experience and are based on clinical cases.

* subject to change

ANES 5580 – Fundamentals of Anesthetic Sciences I
This one hour course is a continuum of basic science conferences that cover a series of topics in basic medical science with special emphasis on the effect of anesthetics on normal physiology. They are presented by anesthesia clinical faculty and anesthesiology medical residents.

ANES 5586 – Physiological Model-based Simulation I
This is a one credit hour course which utilizes physiological model-based simulation and procedure simulation to integrate anesthesia-associated basic science knowledge into a laboratory setting. Students continue to practice basic manual skills in: anesthesia machine checkout, anesthesia materials and equipment setup and performing anesthesia for uncomplicated surgical cases using clinical models and simulators. Students are also introduced to anesthesia machine troubleshooting and crisis management.

ANES 5567 – Anesthesia Clinical Experience III
This is a four credit hour clinical course. As a continuation of 5565 the schedule is switched to 2 days in the laboratory and classroom and students are in the operating room (OR) three days per week. Students are expected to perform basic clinical competencies with minimal to no assistance from clinical instructors, while attempting advanced competencies with frequent assistance.

ANES 5587 and 5589 – Physiological Model-based Simulation II & III
This is a one credit hour course that will emphasize clinical application of didactic knowledge to simulated scenarios. Students will practice physical techniques and aspects of crisis management, teamwork and rescue in anesthesia, including review of Basic Life Support (BLS) and Advanced Cardiac Life Support (ACLS) skills.

ANES 5569 and 5571 – Anesthesia Clinical Experience IV and V
These are 4 or 8 credit hour clinical clerkships (respectively). 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 area hospitals to gain experience with general surgery, obstetrics, pediatrics, trauma surgery, neurosurgery, cardiovascular surgery, orthopedic surgery, and others. Students are expected to perform basic clinical competencies with minimal to no assistance from clinical instructors, while attempting advanced competencies with frequent assistance.

ANES 5588 – Ethics, Law & Diversity for Anesthesiologist Assistants
This is a two credit hour course which involves detailed study into special areas of Anesthesiologist Assistant practice; psychological considerations in providing anesthesia care, ethical considerations in medicine, and diversity, legal obligations of anesthetists and the rights of their patients, and the social and community contexts of health care.

* subject to change