

ANESTHESIOLOGY - MS PROGRAM (ANMS)

ANMS 5000 - Orientation to Anesthesia (1 Credit)

Overview of basics of anesthesia to familiarize the student to basic competencies prior to their first clinical day. Topics covered include: medical terminology, pharmacology, anesthesia machine, basic monitoring, anesthesia care plans, drug dosing and calculations. Requisite: Must be admitted to MSA Program.

Grading Basis: Letter Grade

Typically Offered: Fall.

ANMS 5001 - Introduction to Clinical Anesthesia (2 Credits)

Introduction to induction, maintenance, and emergence from anesthesia, history and types of anesthesia, universal precautions, infection control, OR layout, sterile fields and techniques, patient interaction, starting intravenous catheters and arterial cannulation, obtaining arterial blood samples, and applying ASA-standard monitors. Requisite: Must be admitted to MMS Program. Department Consent Required.

Grading Basis: Letter Grade

Typically Offered: Fall.

ANMS 5002 - Perioperative Medicine (2 Credits)

A course on preoperative evaluation of the patient based on patient and surgery risk factors. Small group application of patient history and physical taking will also be utilized to allow students to apply concepts learned in class. Requisite: Must be admitted to MMS Program. Department Consent Required.

Grading Basis: Letter Grade

Typically Offered: Fall, Summer.

ANMS 5006 - Simulation and Skills Laboratory I (1 Credit)

Exploration of pulse oximetry, capnography, blood pressure monitoring systems, anesthesia delivery systems, breathing circuits, fresh gas flow effect, theory of dilutional methods of cardiac output monitoring, and relations between mean circulatory filling pressures and central venous pressure using anesthesia simulator. Requisite: Must be admitted to MMS Program. Department Consent Required.

Grading Basis: Letter Grade

Typically Offered: Fall.

ANMS 5007 - Survey of Anatomy (2 Credits)

o Gross structures of the human body will be covered didactically and integrated with cadaver dissection demonstrations. This course will also develop the knowledge of the human anatomy necessary for the practice of anesthesiology. Requisite: Must be admitted to the MSA Program.

Grading Basis: Letter Grade

Typically Offered: Spring.

ANMS 5008 - Clinical Anesthesiology I (5 Credits)

Developmental skills and foundations of the clinical practice of anesthesia gained through one-on-one supervised instruction in the operating room and other ancillary anesthetizing locations. Participation and responsibilities increase through the year as knowledge and skills develop. Requisite: Must be admitted to MMS Program. Department Consent Required.

Grading Basis: Letter Grade

Typically Offered: Fall.

ANMS 5009 - Anesthesia Monitoring and Delivery Systems (2 Credits)

Students will learn about basic monitors related to the practice of anesthesia, including ECG, NIBP, SpO₂, respiratory gas analysis, temperature monitoring and other standard monitors. Students will be fluent in the interpretation of data from these basic monitors. They will also learn about anesthesia delivery systems including principles of ventilator function, breathing circuit configurations, and safety features of the operative setting including scavenging systems, machine checkout, and line isolation monitors.

Grading Basis: Letter Grade

Typically Offered: Fall.

ANMS 5010 - Basic Cardiac Physiology (2 Credits)

This course will cover the principles of electrocardiography, ECG interpretation as well as arrhythmias and their pharmacological treatments. Cardiac anatomy and introduction to the different cardiac monitoring devices. ACLS/BLS for adults and PALS with an introduction to pediatric heart will be covered. Introduction to different cardiac surgeries and cardiac pharmacology.

Grading Basis: Letter Grade

Typically Offered: Fall.

ANMS 5011 - Anesthesia Principles and Practice I (2 Credits)

Principles involved in the formulation of anesthetic plans based upon data obtained during the preoperative evaluation, including the formulation and practices of different anesthetic plans and techniques as related to specific surgical procedures and pathophysiology. Prerequisite: Must be admitted to MMS Program. Department Consent Required.

Grading Basis: Letter Grade

Typically Offered: Spring.

ANMS 5012 - Physiology I (2 Credits)

Physiology 1: Principles of Airway Management and Respiratory Physiology: Structure, function, pathophysiology, disease and management of the human airway and pulmonary system will be covered. Basic and advanced principles of airway management, elective and emergent will be covered, including equipment and techniques. Examination, recognition, techniques and management involved in pediatric /adult difficult airways. Specific instruction on common disease states, restrictive and obstructive pulmonary disorders, mechanical ventilation, arterial blood gas analysis and how these concepts apply to patient under anesthesia care will be covered.

Grading Basis: Letter Grade

Typically Offered: Fall.

ANMS 5013 - Patient Monitoring II (2 Credits)

More advanced monitoring including, BIS, SvO₂, arterial and central pressure monitoring, basics of ultrasound, advanced ECG and ST analysis. Prerequisite: Must be admitted to MMS Program. Department Consent Required.

Grading Basis: Letter Grade

Typically Offered: Spring.

ANMS 5016 - Simulation and Skills Laboratory II (1 Credit)

Application of patient monitoring, clinical anesthesia practice and use of a high fidelity patient simulation environment will be covered. Students will utilize critical thinking skills to fully integrate didactic knowledge in patient care situations. Prerequisite: Must be admitted to MMS Program. Department Consent Required.

Grading Basis: Letter Grade

Typically Offered: Spring.

ANMS 5018 - Clinical Anesthesiology II (5 Credits)

Developmental skills and foundations of the clinical practice of anesthesia gained through one-on-one supervised instruction in the operating room and other ancillary anesthetizing locations. Participation and responsibilities increase through the year as knowledge and skills develop. Prerequisite: Must be admitted to MMS Program. Department Consent Required.

Grading Basis: Letter Grade

Typically Offered: Spring.

ANMS 5021 - Anesthesia Principles and Practice II (2 Credits)

Practical principles, application, and interpretation of various monitoring modalities including ECG, invasive and non-invasive blood pressure, oximetry, cardiac output, respiratory gas analysis, respiration, and instrumentation as they pertain to anesthesia practice. Prerequisite: Must be admitted to MMS Program. Department Consent Required.

Grading Basis: Letter Grade

Typically Offered: Summer.

ANMS 5026 - Simulation and Skills Laboratory III (1 Credit)

Application of patient monitoring, clinical anesthesia practice and use of a high fidelity patient simulation environment will be covered. Students will utilize critical thinking skills to fully integrate didactic knowledge in patient care situations. Prerequisite: Must be admitted to MMS Program. Department Consent Required.

Grading Basis: Letter Grade

Typically Offered: Summer.

ANMS 5028 - Clinical Anesthesiology III (7.5 Credits)

Developmental skills and foundations of the clinical practice of anesthesia will be gained through one-on-one supervised instruction in the operating room and other ancillary anesthetizing locations. Participation and responsibilities increase through the year as knowledge and skills develop. Prerequisite: Must be admitted to MMS Program. Department Consent Required.

Grading Basis: Letter Grade

Typically Offered: Summer.

ANMS 5200 - Pharmacology I (2 Credits)

General pharmacologic concept, membrane receptor, transport, biotransformation, pharmacokinetics and pharmacodynamics will be covered. Prerequisite: Must be admitted to MMS Program. Department Consent Required.

Grading Basis: Letter Grade

Typically Offered: Spring.

ANMS 5210 - Pharmacology II (2 Credits)

Covers drugs that include inhaled anesthetics, opioids, barbiturates, benzodiazepines, anticholinesterases and anticholinergics, neuromuscular blockers, adrenergic agonists and antagonists, non-steroidal anti-inflammatory drugs, antiarrhythmics, calcium channel blockers, diuretics, anticoagulants, antihistamines, and antimicrobials. Prerequisite: Must be admitted to MMS Program. Department Consent Required.

Grading Basis: Letter Grade

Typically Offered: Summer.

ANMS 5501 - Anesthesia and Co-Existing Diseases I (2 Credits)

This course focuses on the anesthetic considerations that must be accounted for in patients with co-existing diseases due to physiological changes. Disease states include substance abuse, obesity, obstructive sleep apnea, asthma, COPD, etc. Prerequisite: Must be admitted to MMS Program. Department Consent Required.

Grading Basis: Letter Grade

Typically Offered: Summer.

ANMS 5502 - Anatomical Imaging II (2 Credits)

Gross structures of the human body will be covered with emphasis placed on imaging modalities, imaging interpretation, and clinical correlation. This course will further develop the knowledge and hands-on skills necessary for the practice of anesthesiology and related procedures. Prerequisite: Student must be admitted to MSA Program.

Grading Basis: Letter Grade with IP

Typically Offered: Fall.

ANMS 6007 - Anatomical Imaging I (2 Credits)

Gross structures of the human body will be covered with emphasis placed on imaging modalities and clinical correlation. This course will also develop the knowledge of the human anatomy necessary for the practice of anesthesiology and related procedures. Prerequisite: Must be admitted to MSA Program.

Grading Basis: Letter Grade

Typically Offered: Summer.

ANMS 6012 - Physiology II (4 Credits)

Structure, function, anatomy, pathophysiology, disease, and management of the human cardiovascular, neurological and renal systems. Covers the principles of cardiovascular, renal and neurological physiology and how it applies to a patient's anesthetic as well as anesthetic risk. Pediatric physiology included.

Grading Basis: Letter Grade

Typically Offered: Spring.

ANMS 6031 - Anesthesia Principles and Practice III (2 Credits)

This is a course on improving system-based learning and practice.

Prerequisite: Must be admitted to MMS Program. Department Consent Required.

Grading Basis: Letter Grade

Typically Offered: Fall.

ANMS 6038 - Clinical Anesthesiology IV (7.5 Credits)

Developmental skills and foundations of the clinical practice of anesthesia gained through one-on-one supervised instruction in the operating room and other ancillary anesthetizing locations. Participation and responsibilities increase through the year as knowledge and skills develop. Prerequisite: Must be admitted to MMS Program. Department consent required.

Grading Basis: Letter Grade

Typically Offered: Fall.

ANMS 6048 - Clinical Anesthesiology V (10 Credits)

Clinical experience in required rotations through anesthesia subspecialty areas. Two-week and four-week interval rotations assigned, and will require call during some nights and weekends. Clinical practice is gained through one-on-one supervised instruction in operating room and other ancillary anesthetizing locations. Prerequisite: Must be admitted to MMS Program. Department Consent Required.

Grading Basis: Letter Grade

Typically Offered: Spring.

ANMS 6058 - Clinical Anesthesiology VI (10 Credits)

Clinical experience in required rotations through subspecialty anesthesia areas. Rotations assigned in two-week and four-week intervals, and will require call during some nights and weekends. Clinical practice gained through one-on-one supervised instruction in operating room and other ancillary anesthetizing locations. Prerequisite: Must be admitted to MMS Program. Department Consent Required.

Grading Basis: Letter Grade

Typically Offered: Summer.

ANMS 6068 - Clinical Anesthesiology VII (10 Credits)

Clinical experience in required rotations through anesthesia subspecialty areas. Rotations assigned in two#week and four#week intervals, and require call during some nights and weekends. Clinical practice gained through one#on#one supervised instruction in the operating room and other ancillary anesthetizing locations. Prerequisite: Must be admitted to MMS Program. Department Consent Required.

Grading Basis: Letter Grade

Typically Offered: Fall.

ANMS 6110 - Hepatic and Maternal-Fetal Physiology (2 Credits)

Pathophysiology in a systems approach: cardiovascular, emphasizing hemodynamics, Starling forces, pulmonary responses, renal hemodynamics, temperature regulation, blood gases/pH, and maternal and fetal physiology. Emphasizes systems which affect evaluation and planning for anesthesia and systems affected by anesthesia administration. Prerequisite: Must be admitted to MMS Program.

Department Consent Required.

Grading Basis: Letter Grade

Typically Offered: Fall.

ANMS 6201 - Senior Project I (1 Credit)

Each student will develop a senior year project with the help of a faculty mentor. Project will be research, process, or quality improvement related. Prerequisite: Must be admitted to MMS Program. Department Consent Required.

Grading Basis: Letter Grade

Typically Offered: Spring.

ANMS 6212 - Senior Project II (1 Credit)

Each student will develop a senior year project with the help of a faculty mentor. Project will be research, process, or quality improvement related. Prerequisite: Must be admitted to MMS Program. Department Consent Required.

Grading Basis: Letter Grade

Typically Offered: Summer.

ANMS 6220 - Pharmacology III (2 Credits)

This is a continuation of anesthesia specific pharmacology. Prerequisite: Must be admitted to MMS Program. Department Consent Required.

Grading Basis: Letter Grade

Typically Offered: Fall.

ANMS 6221 - Senior Project III (1 Credit)

Each student will develop a senior year project with the help of a faculty mentor. Project will be research, process, or quality improvement related. Prerequisite: Must be admitted to MMS Program. Department Consent Required.

Grading Basis: Letter Grade

Typically Offered: Fall.

ANMS 6301 - Senior Seminar I (2 Credits)

Each student will be required to research, prepare, and present on clinical challenges of different clinical scenarios. Each case will be analyzed and discussed by the group with faculty participation. Prerequisite: Must be admitted to MMS Program. Department Consent Required.

Grading Basis: Letter Grade

Typically Offered: Spring.

ANMS 6311 - Senior Seminar II (2 Credits)

Each student will be required to research, prepare and present on clinical challenges of different clinical scenarios. Each case will be analyzed and discussed by the group with faculty participation. Prerequisite: Must be admitted to MMS Program. Department Consent Required.

Grading Basis: Letter Grade

Typically Offered: Summer.

ANMS 6321 - Senior Seminar III (2 Credits)

Each student will be required to research, prepare and present on clinical challenges of different clinical scenarios. Each case will be analyzed and discussed by the group with faculty participation. Prerequisite: Must be admitted to MMS Program. Department Consent Required.

Grading Basis: Letter Grade

Typically Offered: Fall.

ANMS 6511 - Anesthesia and Co-Existing Diseases II (2 Credits)

Continuation of Anesthesia and Co-Existing Diseases I. Focuses on anesthetic considerations that must be accounted for in patients with co-existing diseases due to physiological changes. Disease states include ischemic heart disease, valvular heart disease, systemic hypertension, pulmonary hypertension, coagulation disorders, etc. Prerequisites: Must be admitted to MMS Program. Department Consent Required.

Grading Basis: Letter Grade

Typically Offered: Fall.

ANMS 6701 - Anesthesia Non-Technical Skills & Wellness I (1 Credit)

(ANTS) will examine and develop an understanding of medical errors, situational awareness, decision making, leadership, management of stress and fatigue. In addition this course will cover pedagogical principles in medical education and professionalism. All of which are integral in developing well-rounded and adaptable clinicians. Requisite: Must be admitted to MSA Program.

Grading Basis: Pass Fail with IP

Typically Offered: Fall.

ANMS 6711 - Anesthesia Non-Technical Skills & Wellness II (1 Credit)

(ANTS) will examine and develop an understanding of medical errors, situational awareness, decision making, leadership, management of stress and fatigue. In addition this course will cover pedagogical principles in medical education and professionalism, all of which are integral in developing well-rounded and adaptable clinicians. Requisite: Must be admitted to MSA Program.

Grading Basis: Pass Fail with IP

Typically Offered: Spring.

ANMS 6801 - MSA-1 Seminar 1 (1 Credit)

An introductory course into Senior Seminar, each student will observe, participate, and be tested over a presentation/PBLD conducted by a Senior Student. This course will not only discuss challenges presented in the clinical environment, but it will also prepare the student for Senior Seminar.

Grading Basis: Letter Grade

Typically Offered: Fall.

ANMS 6811 - MSA-1 Seminar II (1 Credit)

An introductory course into Senior Seminar, each student will observe, participate, and be tested over a presentation/PBLD conducted by a Senior Student. This course will not only discuss challenges presented in the clinical environment, but it will also prepare the student for Senior Seminar. Requisite: Must be admitted to MSA Program.

Grading Basis: Letter Grade

Typically Offered: Spring.

ANMS 6821 - MSA-1 Seminar III (1 Credit)

An introductory course into Senior Seminar, each student will observe, participate, and be tested over a presentation/PBLD conducted by a Senior Student. This course will not only discuss challenges presented in the clinical environment, but it will also prepare the student for Senior Seminar.

Grading Basis: Letter Grade

Typically Offered: Summer.

ANMS 6831 - MSA-1 Seminar IV (1 Credit)

An introductory course into Senior Seminar, each student will observe, participate, and be tested over a presentation/PBLD conducted by a Senior Student. This course will not only discuss challenges presented in the clinical environment, but it will also prepare the student for Senior Seminar. Requisite: Must be admitted to MSA Program

Grading Basis: Letter Grade

Typically Offered: Fall.