# ANESTHESIOLOGY - MS PROGRAM (ANMS)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Typically Offered</th>
<th>Grading Basis</th>
<th>Consent Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANMS 5000</td>
<td>Orientation to Anesthesia</td>
<td>1</td>
<td>Fall</td>
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<tr>
<td>ANMS 5001</td>
<td>Introduction to Clinical Anesthesia</td>
<td>2</td>
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<tr>
<td>ANMS 5002</td>
<td>Perioperative Medicine</td>
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<td>ANMS 5003</td>
<td>Patient Monitoring I</td>
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<td>ANMS 5004</td>
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<td>ANMS 5005</td>
<td>Principles of Airway Management</td>
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<td>ANMS 5006</td>
<td>Simulation and Skills Laboratory I</td>
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<td>ANMS 5007</td>
<td>Fundamentals of Anatomy &amp; Physiology for Anesthetists</td>
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<td>ANMS 5008</td>
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<td>ANMS 5009</td>
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<td>ANMS 5010</td>
<td>Fundamentals of Anatomy &amp; Physiology for Anesthetists</td>
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<td>ANMS 5011</td>
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<td>ANMS 5013</td>
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<td>ANMS 5014</td>
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<td>ANMS 5018</td>
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<td>Letter Grade</td>
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**Overview:**
- **ANMS 5000 - Orientation to Anesthesia:** 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:** 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:** 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.
- **ANMS 5003 - Patient Monitoring I:** Emphasizes basic monitors related to the practice of anesthesia, including ECG, NIBP, arterial line, Spo2 and respiratory gas analysis. Requisite: Must be admitted to MMS Program. Department Consent Required. Grading Basis: Letter Grade. Typically Offered: Fall.
- **ANMS 5004 - Intro to Anesthesia Delivery Systems:** Students will undertake classroom and coincident laboratory experiences concerning anesthesia delivery systems and methods for evaluating patient safety issues including equipment and monitoring systems failures. Requisite: Must be admitted to MMS Program. Department Consent Required. Grading Basis: Letter Grade. Typically Offered: Fall.
- **ANMS 5005 - Principles of Airway Management:** Structure, function, pathophysiology, disease and management of the human airway. 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. Includes lab. Requisite: Must be admitted to MMS Program. Department Consent Required. Grading Basis: Letter Grade. Typically Offered: Fall.
- **ANMS 5006 - Simulation and Skills Laboratory I:** 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 - Fundamentals of Anatomy & Physiology for Anesthetists:** Gross structures of the human body will be covered while integrating topographic and radiographic anatomy to stress the application and importance of clinical anatomy. This course will also develop the knowledge of the human anatomy necessary for the practice of anesthesiology. Requisite: Must be admitted to MMS Program. Grading Basis: Letter Grade. Typically Offered: Spring.
- **ANMS 5008 - Clinical Anesthesiology I:** 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 - Clinical Anesthesiology II:** 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. Requisite: Must be admitted to MMS Program. Department Consent Required. Grading Basis: Letter Grade. Typically Offered: Spring.
- **ANMS 5010 - Anesthesia Principles and Practice I:** 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: Spring.
- **ANMS 5011 - Anesthesia Principles and Practice II:** 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. Requisite: Must be admitted to MMS Program. Department Consent Required. Grading Basis: Letter Grade. Typically Offered: Spring.
- **ANMS 5012 - Anesthesia Principles and Practice III:** 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: Spring.
- **ANMS 5013 - Anesthesia Principles and Practice IV:** 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: Spring.
- **ANMS 5014 - Anesthesia Principles and Practice V:** 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: Spring.
- **ANMS 5015 - Anesthesia Principles and Practice VI:** 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: Spring.
- **ANMS 5016 - Simulation and Skills Laboratory II:** 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. Requisite: Must be admitted to MMS Program. Department Consent Required. Grading Basis: Letter Grade. Typically Offered: Spring.
- **ANMS 5017 - Clinical Anesthesiology II:** 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: Spring.
- **ANMS 5018 - Clinical Anesthesiology III:** 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: 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 (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 5029 - 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: Fall.

ANMS 5100 - Cardiovascular Physiology (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 5206 - 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 5207 - Anatomy Laboratory III (2 Credits)
Gross structures of the human body will be covered while integrating topographic and radiographic anatomy to stress the application and importance of clinical anatomy. This course will also develop knowledge of human anatomy necessary for the practice of the Anesthesiologist.
Prerequisite: Must be admitted to MMS Program.
Grading Basis: Letter Grade
Typically Offered: Fall.

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 5300 - Applied Neurophysiology (2 Credits)
Basic science instruction utilizing systems based approach on human physiology. Requisite: Must be admitted to MSA Program.
Grading Basis: Letter Grade
Typically Offered: Fall.

ANMS 5400 - Respiratory Physiology (2 Credits)
Physiology and pathophysiology of disease associated with the pulmonary system. 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. Prerequisite: Must be admitted to MMS Program. Department Consent Required.
Grading Basis: Letter Grade
Typically Offered: Summer.

ANMS 5500 - Liver, Endocrine, and Renal Physiology (2 Credits)
Physiology and pathophysiology of disease associated with the renal system. This includes specific instruction on common disease states, pre renal, intra renal and post renal failure. Prerequisite: Must be admitted to MMS Program. Department Consent Required.
Grading Basis: Letter Grade
Typically Offered: Sumner.

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 6001 - Medical Spanish for Anesthesia Providers (1 Credit)
This is a one credit hour course designed to prepare future Anesthesiologist Assistant providers to communicate with Spanish speaking individuals in the medical field. This course will provide the tools for an Anesthesiologist Assistant to perform a basic physical exam, obtain a basic medical history, and give basic commands to the Spanish speaking patient. An online Spanish course will accompany this course to give students an understanding of the basic grammar and vocabulary necessary to communicate with Spanish speaking individuals. Prerequisite: Must be admitted to MMS Program. Department consent required.
Grading Basis: Pass/Fail Only
Typically Offered: Fall.
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<th>Course Code</th>
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<th>Credits</th>
<th>Prerequisites</th>
<th>Offered</th>
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<tr>
<td>ANMS 6002</td>
<td>Wellness and Professionalism</td>
<td>1</td>
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<td>Fall</td>
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<td>ANMS 6007</td>
<td>Applied Clinical Anatomy &amp; Physiology for Anesthetists</td>
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<td>ANMS 6031</td>
<td>Anesthesia Principles and Practice III</td>
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<td>ANMS 6036</td>
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<td>ANMS 6038</td>
<td>Clinical Anesthesiology IV</td>
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<td>ANMS 6048</td>
<td>Clinical Anesthesiology V</td>
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<td>ANMS 6058</td>
<td>Clinical Anesthesiology VI</td>
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<td>ANMS 6068</td>
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<td>ANMS 6084</td>
<td>Clinical Anesthesiology V Independent Study</td>
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<td>ANMS 6110</td>
<td>Hepatic and Maternal-Fetal Physiology</td>
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<td>ANMS 6201</td>
<td>Senior Project I</td>
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<td>ANMS 6212</td>
<td>Senior Project II</td>
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<td>ANMS 6220</td>
<td>Pharmacology III</td>
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<td>ANMS 6284</td>
<td>Pharmacology III</td>
<td>2</td>
<td>Must be admitted to MMS Program. Department consent required.</td>
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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.

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. Prerequisite: Must be admitted to MSA Program.
Grading Basis: Letter Grade
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. Prerequisite: Must be admitted to MSA Program.
Grading Basis: Letter Grade
Typically Offered: Spring.