



MTSA ULTRASOUND + PAIN MANAGEMENT

NDREG 600: Regional Anesthesia Foundations Syllabus Fall 2026

COURSE NAME AND NUMBER: NDREG 600: Foundations of Regional Anesthesia

COURSE FACULTY:

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MTSA Office Hours: Monday through Thursday – 8 am to 6 pm CT
Please contact aspmf@mtsa.edu to schedule an appointment.

Response time to email and phone messages: Every attempt will be made to respond to your email or Teams message within 24-48 hours. Please note that messages left after noon on Friday may not be retrieved until Monday morning.

COURSE DESCRIPTION:

The Regional Anesthesia Foundations Class is a comprehensive 15-week post-graduate course designed for CRNAs seeking to broaden their scope of practice by incorporating regional anesthesia. This course covers a wide variety of regional anesthesia related topics, including ultrasound principles, neuromuscular functional assessment, local anesthetic dosing, peripheral nerve blocks commonly used in the perioperative management of patients, and postoperative considerations. It combines online didactic lectures and interactive synchronous events to ensure a thorough learning experience. The course culminates in a hands-on cadaveric workshop, providing a practical application to reinforce your understanding of anatomy, physiology, and pharmacology specific to regional anesthesia.

COURSE CREDIT: 3 credit hours

REQUIRED TEXTS:

- Hadzic, A. (2017). [Hadzic's Textbook of Regional Anesthesia and Acute Pain Management: Self-Assessment and Review](#) (2nd ed.). McGraw Hill / Medical.
- Hadzic, A. (2021). [Peripheral Nerve Blocks and Anatomy for Ultrasound-Guided Regional Anesthesia](#) (3rd ed). McGraw Hill / Medical.
- Karmakar, M. (2017). [Atlas of Sonoanatomy for Regional Anesthesia and Pain Medicine](#) (1st ed.). McGraw Hill / Medical.
- Hansen, JT. Netter's Anatomy Flash Cards (Netter Basic Science). (6rd Ed.). Elsevier; 2022.

SUGGESTED TEXTS OR ADDITIONAL SUGGESTED READING MATERIAL:

- Elisha, S., Heiner, J.S., Nagelhout, J.J. (2022). *Nurse Anesthesia* (7th ed). Elsevier.
- Hansen, JT. Netter's Anatomy Coloring Book (Netter Basic Science). (3rd Ed.). Elsevier; 2021.

COURSE OBJECTIVES:

1. Conduct an acute pain assessment while explaining the neurotransmitters and receptors associated with pain. (DSLO 5, 7, 8, 11, 13, 14, 15, 16, 17, 21, 23)
2. Demonstrate the proper set-up and of regional anesthesia and ultrasound equipment (DSLO 3, 11)
3. Compare and contrast spinal and epidural anesthesia. List the indications, contraindications, and pharmacologic considerations of each. (DSLO 11, 13, 14, 17, 22, 23)
4. Analyze the appropriate indications, contraindications, and pharmacologic considerations for each USGRA technique. (DSLO 11, 13, 14)
5. Describe the functional anatomy of each procedure. (DSLO 11)
6. Relate the sonoanatomy to the functional anatomy of each USRA procedure. (DSLO 3, 11)
7. Evaluate the appropriate local anesthetic concentration and volume, based on the USGRA block indication. (DSLO 11)
8. Demonstrate safe needling technique and verbalize optimal local anesthetic placement to avoid iatrogenic injury when performing USGRA techniques. (DSLO 1, 4, 11, 13, 14, 22)
9. Assess the risks, side-effects, and complications of the various regional anesthesia techniques. (DSLO 3, 11, 22)

10. Perform a neuromuscular assessment of the upper and lower extremities evaluating for muscular strength and the location of nerve lesions when deficits are present. (DSLO 8, 11)

LEARNING ACTIVITIES:

The format for the course is hybrid, with online lectures and assignments combined with live synchronous events. Learning assessments are administered throughout the course to demonstrate a mastery of the objectives. A grade of “C” is considered a passing grade for the course. Although the coursework is designed to be self-paced, there are required synchronous activities arranged by the course instructor.

Teaching Methods

- Voice over PowerPoint lectures
- Synchronous events via TEAMS
- End-of-module quizzes
- Essentials of USGRA Cadaveric Workshop

GRADING SYSTEM:

USGRA Project	20%
Modules Quizzes	20%
Synchronous Events	40%
<u>Cadaveric Workshop (CBE)</u>	<u>20%</u>
	100%

USGRA Project (20%)

The integration of ultrasound into regional anesthesia requires a comprehensive understanding of the technology. Successful performance of these procedures requires a thorough understanding of anatomy and neuromuscular innervation. At the end of the semester, students will submit a paper electronically that focuses on a regional technique of their choice. To receive full credit, the student must address all the following:

- a. Submit a 1500-word paper in AMA format, with appropriate references.

- i. State the indication and mechanism of action for performing the procedure.
 - ii. Discuss proper transducer selection; describe the correct transducer placement and orientation for performing the procedure.
 - iii. Describe the procedure in detail, including needle insertion, local anesthetic placement, and typical pharmacologic dosing.
 - iv. Submit two ultrasound images: one blank and one labeled with proper orientation and appropriate anatomic landmarks relevant to the block.
- b. Points will be deducted for improper content, format, spelling, and grammatical errors.

**In lieu of a manuscript, students may create a 5–7-minute video. If the student wishes to submit a video, a separate reference paper, in AMA format must be submitted as well.*

Module Quizzes (20%)

The course contains end-of-module exams for students to demonstrate content mastery. To receive full credit, exams must be completed prior to the corresponding synchronous event.

Synchronous Event Attendance (40%)

At the end of each module, students are expected to attend on camera and participate in a live synchronous event with course faculty. If a student is unable to attend an online event, they must notify the course faculty at least 24 hours prior. To receive credit for a missed synchronous event, the student must watch the recording of the event and submit a one-page paper relating the topic to their current clinical practice within 5 days of the event, written in AMA format, to include references.

Cadaveric Workshop (20%)

Students are required to attend an Essentials of USGRA Cadaveric Workshop at the end of the course. During the cadaveric workshop, students will complete a competency-based evaluation to demonstrate proficiency in safe ultrasound-guided regional anesthesia techniques.

Late Work:

Assignments submitted after the due date will receive a grade no higher than 80%. Failure to submit any assignment by end of course without a request for an extension will result in a failing grade. [Grading Policy](#)

GRADE OF INCOMPLETE (I)

If a student is unable to meet the requirements of a course by the end of the semester, the temporary grade of Incomplete (I) may be awarded by an instructor at the instructor's discretion. An incomplete grade requires written understanding between the instructor and student acknowledging when the course will be completed. To be awarded an Incomplete grade, the Incomplete Contract must be signed by the student, instructor, and Program Director and submitted to the Registrar's office by the last day of the semester.

The maximum time limit for submission of all course work necessary for removal of an incomplete is the end of the last day of classes of the following semester in which the incomplete was incurred (i.e. an incomplete awarded in the 2nd semester must be converted by the last day of classes in the 3rd semester). If the time limit passes and the course is not completed, the grade of incomplete is changed automatically to a failing grade. Any failing grade will result in termination from the program. A grade of incomplete is not calculated in the grade point average. No student may graduate with an Incomplete on their transcript.

Policies and Procedures

The policies below summarize key expectations for this course. Full, authoritative policies are found in the MTSA Student Handbook. In the event of any discrepancy, institutional policies take precedence.

Syllabus Subject to Change

This syllabus is intended as a general guide for the course and is subject to change at the discretion of the instructor and/or MTSA administration. Changes may include, but are not limited to, adjustments to the course schedule, assignments, assessments, and policies. Any updates will be communicated to students in a timely manner and posted in the official learning management system. Students are responsible for reviewing and adhering to all announced revisions.

Artificial Intelligence (AI) and Ethical Use

Students are required to adhere to the instructor's course-specific AI policy as outlined in this syllabus. When using AI tools, you must act ethically and responsibly by:

- **Verifying Sources:** Ensure that any information generated or suggested by AI is accurate, credible, and properly cited.
- **Maintaining Accuracy:** Review and validate all AI-assisted work for correctness and alignment with course standards.
- **Taking Responsibility:** You are fully accountable for the originality, integrity, and quality of all submitted work, regardless of AI involvement.

Failure to follow these guidelines may result in academic integrity violations.

Use of AI that violates these guidelines may constitute an academic integrity violation and will be handled according to MTSA's Academic Integrity policy as outlined in the Student Handbook.

If you are unsure whether a particular use of AI is acceptable, ask your instructor before submitting the work.

Non-Degree Course Grading Policy

Students can view their final grades for each semester anytime by visiting the transcript section of the Student Portal: <https://mtsa.edu/student>

The grading scale is based on the following 4.0 grading system:

A	90-100%	(4.0 Quality Points)
B	80-89.9%	(3.0 Quality Points)
C	70-79.9%	(2.0 Quality Points)
F	Below 70%	(0.0 – Failing)
W	Withdrew	See Grade of Withdrew below
WF	Withdrew Failing	See Grade of Withdrew Failing below
T	Terminated	See Terminated below

No grades, including final grades, will be rounded up.

(There is no grade of “D” in the Grading Scale)

Withdrawing from a Course

Students may drop a course within the first 5 MTSA business days of the semester with no grade.

Grade of Withdrew (W)

Students wishing to withdraw from the course after the first 5 MTSA business days of the semester will either receive a grade of “W” or “WF.” To receive a W grade, a student must drop the course within the first 60% of the semester. A “W” grade does not impact a student’s GPA.

Grade of Withdrew Failing (WF)

Students wishing to withdraw from the course after the deadline to withdraw with a “W” grade (see above) will receive a grade of “WF.” A WF grade is calculated into a student’s GPA as a failing grade (F).

Terminated (T)

An administratively terminated student is issued a final grade of “T” for all courses in which he/she is currently enrolled, and the termination is noted on the student's transcript.

Grade Appeal/Grievance Process:

Please refer to the *MTSA Student Handbook* for the Grade Appeal Policy (link below).

<https://mtsa-aspmf.cleancatalog.net/student-appeals>

Students are expected to respond to emails from MTSA staff and faculty within two MTSA business days.

Communication Expectations:

Students are expected to respond to emails from MTSA staff and faculty within two MTSA business days.

Technical Support:

If you have problems with your computer, technology, IT-related questions, including those related to Brightspace, please contact the IT Team at itsupport@mtsa.edu or submit an [IT Support Request](#).

Non-Degree Course Refund Policy

Any student who wishes to withdraw from a community course must notify the instructor in writing of this action.

Refund Policy

MTSA will permit any student to cancel their enrollment agreement in a non-degree course within five MTSA business days of the enrollment day. Should a cancellation occur, MTSA will refund 100% of the tuition payment that was made by the student, minus the non-refundable portion (30%) submitted to hold the student's position in the class. Students withdrawing for medical reasons are assessed and adjusted no differently than other withdrawals.

Students who withdraw after this deadline will not receive a refund.

Determination of the Withdrawal Date

The student's withdrawal date is the date the student submits the signed withdrawal form to the Registrar's Office.

Administrative Withdrawal

Students may be administratively withdrawn from a course for non-attendance/participation. Any student who does not attend/participate in the course within 5 MTSA business days will be administratively withdrawn from the course.

Students will not receive a refund if Administratively Withdrawn.

In order to demonstrate active engagement in a course, each student must confirm that they have read the course syllabus and plan to participate in the course. This is done through a survey in the Learning Management System.

For the Fall 2026 semester, all students must complete the survey by the end of the day on Tuesday, September 8, 2026.

MTSA Internal Withdrawal Procedure:

1. Notify in writing the instructor who will in turn notify the Program Director and Registrar of your intent to withdraw.
2. Schedule an appointment with the Executive Vice President if requested.
3. The Registrar sends the student the withdrawal form to complete and sign electronically.
4. After the student signs, the completed form is sent to the instructor for signature.
5. The withdrawal process will be initiated upon receipt of the completed withdrawal form.

Plagiarism, Cheating or Lying Involving Any Clinical, Academic, Or School Endeavor:

Any student cheating on any test, exam, quiz, or assignment; who has falsified clinical documents, such as clinical evaluations or any other documentation; falsified signatures; or who has plagiarized any assignment, will be placed on immediate probation, with the recommendation for termination from the program. The case will be heard by the Progressions Committee and the Committee will make a determination of the recommendation for termination.

Plagiarism, which is defined as “the unauthorized use or close imitation of the language and thoughts of another author and the representation of them as one's own original work,” is a form of cheating, and is subject to disciplinary action including termination.

Click the link below to review the Academic Integrity Policy in the Student Handbook.

<https://mtsa-aspmf.cleancatalog.net/academic-integrity-policy>

Honor Code:

As a student of Middle Tennessee School of Anesthesia, I will incorporate the principles of truth, honor, integrity, and virtue in all that I do while enrolled. I acknowledge the Honor Code as vital in fostering an environment of trust, order, and unity within the School. I accept the sacred trust placed in me to continue this heritage of honor in my efforts to become a competent nurse anesthetist. I freely pledge to abide by the MTSA Standards of Conduct and this Honor Code in all of my conduct. I understand that a violation of this Honor

Pledge will result in disciplinary action up to and excluding dismissal from the program.

Click the link below to review the entire Honor Code in the Student Handbook.

<https://mtsa-aspmf.cleancatalog.net/honor-code>

Americans With Disabilities Statement:

MTSA complies with the Americans with Disabilities Act (ADA). To ensure equal opportunity for all qualified persons, students with documented disabilities requiring accommodation have access to support personnel within the Office of the Executive Vice President. An agent of this office will collaborate with other faculty and staff as necessary to provide reasonable accommodations for courses and examinations. Accommodations help qualified students with disabilities access resources to assist them in meeting the technical standards for nurse anesthesia program admission, continuation, and graduation.

Requests for accommodation of a disability must be made in a timely manner to the Office of the Executive Vice President. Accommodations provided by MTSA are not retroactive.

Students who receive accommodations are responsible for notifying instructors before beginning each course.

Click the link below to view the Accommodations Policy in the Student Handbook.

<https://mtsa-aspmf.cleancatalog.net/accommodation-requests>

Week	Date	Module	Quizzes	Synchronous Events**
1	8.31.26	Orientation Functional Anatomy Pain Pathways	Due 9.6.26	Orientation 8.31.26 @ 7 pm CST
2	9.7.26	Local Anesthetics	Due 9.13.26	
3	9.14.26	Introduction to Regional Anesthesia (RA) Ultrasound Principles	Due 9.20.26	
4	9.21.26	Neuraxial Techniques	Due 9.27.26	9.21.26 @ 7 pm CT
5	9.28.26	Brachial Plexus Anatomy Upper Extremity Blocks I		
6	10.5.26	Upper Extremity Blocks II	Due 10.11.26	
7	10.12.26	Lumbar Plexus Anatomy Lower Extremity Blocks I		10.12.26 @ 7 pm CT
8	10.19.26	Lower Extremity Blocks II	Due 10.25.26	
9	10.26.26	Truncal Anatomy		
10	11.2.26	Truncal Blocks	Due 11.8.26	
11	11.9.26	Neuromuscular Assessment	Due 11.15.26	11.9.26 @ 7 pm CT
12	11.16.26	On-Campus Intensive 11.15.26		
13	11.23.26	Anticoagulant Considerations in RA	Due 11.29.26	
14	11.30.26	Complications	Due 12.6.26	

		USGRA Project Due 11.29.26		
15	12.7.26	Course Wrap-Up		12.7.26 @ 7 pm CST

** Synchronous event dates are subject to change.