



Advanced Principles & Techniques in Nurse Anesthesia
CRNA 7427
Fall 2026

Scheduled Class Days and Times: See Course Schedule

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Instructor's Name: David Warren DNAP, APRN, CRNA, AGACNP-BC, FNP-C, ENP-C

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Course Description: This course integrates advanced anatomy with physiology across the lifespan for advanced nurse anesthesia practice. Organ system function and mechanisms of action from the cellular level through integrated organ systems will be examined. Chronic pain principles as related to acute pain management will be discussed. Advanced techniques

presented will include arterial line placement, central line placement, criothyrotomy procedures as well as neuraxial anesthesia including spinal, epidural, and combination epidural spinal techniques for intraoperative and postoperative pain control. A comprehensive understanding of the placement and management of ultrasound guided single injection and continuous peripheral nerve blocks. The course delves into the application of various upper extremity peripheral nerve blocks and various nerve blocks in the lower extremity. The course integrates POCUS exams with experiences from Cadaver labs, live models, clinical experiences, and simulation.

Prerequisites:

- CRNA 7423 Basic Principles & Techniques in Nurse Anesthesia

Student Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Examine concepts relative to the administration of a variety of regional and local anesthesia for acute and chronic pain management and analyze potential problems relative to them. [D.11]
2. Formulate plans for supportive care of patients having spinal and epidural anesthesia/analgesia, peripheral nerve blocks, and intravenous regional blocks.
3. Discuss anesthesia principles related to neuraxial anesthesia, ultrasound needle guidance.
4. Discuss the management and placement of upper and lower extremity nerve blocks
5. Discuss indications, contraindications and complications of peripheral nerve block as well as the management of both single and continuous nerve blocks.
6. Consider the indications and integration of POCUS exams.
7. Administer and manage a variety of regional anesthetics and implement appropriate pain management for patients undergoing surgery or diagnostic procedures. [D.11, D. 21, D.22, E.2.2]
8. Analyze and formulate anesthesia plan for the management of the difficult airway.
9. Assume responsibility and accountability for diagnosis of appropriate placement of central venous lines. [D.16]
10. Integrate the use of ultrasound equipment to the management of acute and chronic pain management.
11. Administer general anesthesia to patients with a variety of physical conditions and for a variety of surgical and medically related procedures. [D.9, D.10, E.2.2]

Required Textbooks and Readings:

- **Primary Textbook:**
 - Gropper, M. A., Cohen, N. H., Eriksson, L. I., Fleisher, L. A., Johnson-Akeju, S., & Leslie, K. (2025). *Miller's anesthesia*. (10th ed.). Elsevier.
 - APEX Anesthesia RRNA/SRNA Review Course

- **Additional Readings:**

- Jaffe, R. A., Schmiesing, C. A., & Golianu, B. (2020). *Anesthesiologist's manual of surgical procedures*. (6th ed.). Wolters Kluwer.

Recommended Textbooks and Readings:

- Gaba, D. M., Fish, K. J., Howard, S. K., & Burden, A. R. (2015). *Crisis management in anesthesiology*. (2nd ed.). Elsevier.

Special Course Notes:

- 1) **Proctoring Notice:** Examinations in this course will be administered using Canvas' Respondus LockDown Browser and will be proctored by a faculty or staff member of The University of Texas at Tyler. Proctoring is required to ensure academic integrity and adherence to testing standards. Additional details regarding exam procedures, scheduling, and proctoring expectations will be provided in advance of each examination.
- 2) **Dress Code:** For non-lab/simulation activities, Nurse Anesthesia Residents (NARs) are expected to wear office or business casual attire. On days with lab/simulation activities, NARs may wear clean, solid-colored scrubs and must wear closed-toe shoes.
- 3) **Participation.** I invite you to engage, ask questions, and talk about the course content with your classmates. You can learn a great deal from discussing ideas and perspectives with your peers and professor. Participation can also help you articulate your thoughts and develop critical thinking skills.
- 4) **Time Management.** Try scheduling specific blocks of time and ensure you have enough room to finish assignments, allowing additional time for any tech issues that arise.
- 5) **PRACTICE!** Make use of your scheduled time in simulation to practice!
- 6) **Ask for help if needed.** If you are struggling with a course concept, reach out to your instructor(s) for support.
- 7) **Evaluations:** Course and instructor evaluations are required by the Council on Accreditation (COA) for Nurse Anesthesia Educational Programs. NARs must submit these evaluations at the end of each semester.

Assignments and Weights/Percentage/Point Values

1. Assignments	10%
2. Quizzes	10%
3. Formative OSCE	10%
4. Written Examinations	25%
5. Summative OSCE	20%
6. Final Written Examination	25%

Grading Scale:

Specific guidelines and grading criteria for all assignments are in the Modules. Final grades for the course will be determined based upon the following point assignments:

A - 90-100

B - 80-89

C - 70-79

D - 60-69

F - Below 60

Grades will not be rounded when calculating the average (79.5 is not rounded to 80, and 89.5 is not rounded to 90). The simple average of all unit exam grades, including a final must be at or above 80% to pass the course. Once the student has achieved a simple unit exam average of 80% or higher, course grades will be determined based on the weighted calculation of exams and other required course work. Students are required to achieve an average of 80% (B) to complete the course successfully.

Academic Integrity: Cheating of any kind, as defined in Section 8 of the UT Tyler Manual of Policies and Procedures (MOPP) for Student Affairs (<https://www.uttyler.edu/mopp/>), will not be tolerated. Consequences may include:

- reprimand
- exam failure
- course failure
- expulsion from the Nursing program
- expulsion from the University
- other consequences as assigned

Exam and homework materials, questions, and problems are the intellectual property of faculty, UT Tyler, or publishers.

- These materials may not be distributed without permission.
- Distributing or uploading them to online resources destroys the integrity of the assignment and the course, allowing others an unfair advantage by letting them view the materials.
- Uploading these materials to online resources is a violation of UT Tyler's academic misconduct policies and may result in formal conduct charges.
- Sanctions for uploading or otherwise divulging the contents of these materials can include:
 - a reduced or failing grade on an assignment
 - a reduced or failing grade for the course
 - removal from the Nursing program
 - removal from UT Tyler

Late Policy: NARs are expected to complete assignments and arrive on time for quizzes, OSCEs, and examinations. If a situation arises that would preclude the NAR from completing an

assignment or arriving on time for a quiz, OSCE, or examination, the NAR is expected to communicate with the instructor as early as possible to discuss alternate arrangements. Alternate arrangements are made at the discretion of the instructor. Failure to notify the instructor may result in a grade of zero (0%).

Repeating a Course: Students repeating this course may not use previously submitted assignments nor utilize the same patients for an assignment. Submitting the same or slightly modified assignments from previous semesters is considered self-plagiarism and is subject to academic discipline, including failing the assignment or the course.

Attendance and Make-up Policy: Punctuality and participation are essential; make-up opportunities for missing or late course requirements are at the discretion of the instructor.

Graded Course Requirements Information:

- **Assignments:** There will be 'Anesthesia Management Plans' designed to apply didactic knowledge to clinical scenarios in simulation. The assignments will account for 10% of the course grade.
- **Quizzes:** There will be quizzes scheduled throughout the semester; quizzes will be in-person and will be proctored by a faculty member or their designee. *No books, notes, or online resources are allowed to be used during quizzes, OSCEs, or exams.* The quizzes will account for 10% of the course grade.
- **Formative OSCE:** There will be one (1) formative OSCE; this will involve the integration of specific psychomotor skills and knowledge of advanced concepts of anesthesia care delivery. *No books, notes, or online resources are allowed to be used during quizzes, OSCEs, or exams.* The formative OSCE will account for 10% of the course grade.
- **Written Examinations:** There will be two (2) written examinations in the course; examinations will be in-person and will be proctored by a faculty member or their designee. *No books, notes, or online resources are allowed to be used during quizzes, OSCEs, or exams.* The written examinations will account for 25% of the course grade.
- **Summative OSCE:** There will be one (1) summative OSCE; this will involve the integration of specific psychomotor skills and knowledge of advanced concepts of anesthesia care delivery. *No books, notes, or online resources are allowed to be used during quizzes, OSCEs, or exams.* The summative OSCE will account for 20% of the course grade.
- **Final Written Examination:** There will be one (1) final written examination in the course; examinations will be in-person and will be proctored by a faculty member or their designee. *No books, notes, or online resources are allowed to be used during quizzes, OSCEs, or exams.* The final written examination will account for 25% of the course grade.

Please Note: Detailed information along with grading rubrics for course assignments will be provided in Canvas.

Important Course Dates:**Classes Begin:** August 28, 2026**Census Date (withdraw without penalty):** September 10, 2026**Last Date to Withdraw:** November 4, 2026; Students please notify your course faculty and contact your advisor.**Written Examination 1:** September 28, 2026**Formative OSCE:** October 12, 2026**Written Examination 2:** November 2, 2026**Written Final Examination:** December 7, 2026**Summative OSCE:** December 8, 2026**Calendar of Topics, Readings, and Due Dates:** Please see Canvas for most up-to-date information.

Course Schedule						
Week	Date	Time	Hours	Faculty	Content	Reading(s)
1	08/31/2026	0900-1000	1	Massey	Simulation – Group A	N/A
		1015-1115			Simulation – Group B	
		1130-1230			Simulation – Group C	
		1900-2200	3	Warren	POCUS	See Canvas
2	09/07/2026	LABOR DAY				
3	09/14/2026	0900-1000	1	Massey Gridda	Simulation – Group B	N/A
		1015-1115			Simulation – Group C	
		1130-1230			Simulation – Group A	
		1900-2200	3	Warren	Nerve Blocks	See Canvas
4	09/21/2026	0900-1100	2	Massey	Neuraxial Anesthetic Techniques	See Canvas
		1100-1200	1	Massey	ERAS	See Canvas
		1300-1400	1	Massey	Simulation – Group C	N/A
		1415-1515			Simulation – Group A	
		1530-1630			Simulation – Group B	
5	09/28/2026	0900-1100	2	Massey	EXAM 1	N/A
		1100-1200	1	Massey	Anesthesia for Ophthalmic Surgery	See Canvas
		1300-1400	1	Massey Gridda	Simulation – Group A	N/A
		1415-1515			Simulation – Group B	
		1530-1630			Simulation – Group C	
6	10/05/2026	0900-1200	3	Gridda	ECG Interpretation	See Canvas
		1300-1400	1	Massey Gridda	Simulation – Group B	N/A
		1415-1515			Simulation – Group C	
		1530-1630			Simulation – Group A	
7	10/12/2026	See Canvas	1	Massey Gridda	FORMATIVE OSCE	N/A
		1900-2200	3	Warren	Advanced Airway Management	See Canvas
8	10/19/2026	0900-1200	3	Gridda	Anesthesia for Trauma Surgery	See Canvas
		1300-1400	1	Massey Gridda	Simulation – Group C	N/A
		1415-1515			Simulation – Group A	
		1530-1630			Simulation – Group B	
9	10/26/2026	0900-1200	3	Massey	Anesthesia for Plastic and Reconstructive Surgery	See Canvas

		1300-1400	1	Massey Gridda	Simulation – Group A	N/A
		1415-1515			Simulation – Group B	
		1530-1630			Simulation – Group C	
10	11/02/2026	0900-1100	2	Massey	EXAM 2	N/A
		1100-1200	1	Roberts	Anesthesia for Dental Surgery	See Canvas
		1300-1400	1	Massey Gridda	Simulation – Group B	N/A
		1415-1515			Simulation – Group C	
		1530-1630			Simulation – Group A	
11	11/09/2026	0900-1000	1	Massey Gridda	Simulation – Group C	N/A
		1015-1115			Simulation – Group A	
		1130-1230			Simulation – Group B	
		1900-2200	3	Warren	Anesthesia for Otolaryngologic Surgery	See Canvas
12	11/16/2026	0900-1200	3	Gridda	Anesthesia for Organ Procurement & Abdominal Organ Transplantation	See Canvas
		1300-1400	1	Massey Gridda	Simulation – Group A	N/A
		1415-1515			Simulation – Group B	
		1530-1630			Simulation – Group C	
13	11/23/2026	THANKSGIVING BREAK				
14	11/30/2026	0900-1600		Massey Gridda Roberts	Emergency Procedures for the Anesthetist	See Canvas
15	12/07/2026	0800-1100	3	Massey	WRITTEN FINAL EXAM	N/A
	12/08/2026	See Canvas	1	Massey Gridda	SUMMATIVE OSCE	N/A

Required Syllabus Language:

UT Tyler is committed to exploring and using artificial intelligence (AI) tools as appropriate for the discipline and task undertaken. We encourage discussing AI tools' ethical, societal, philosophical, and disciplinary implications. All uses of AI should be acknowledged as this aligns with our commitment to honor and integrity, as noted in UT Tyler's Honor Code. Faculty and students must not use protected information, data, or copyrighted materials when using any AI tool. Additionally, users should be aware that AI tools rely on predictive models to generate content that may appear correct but is sometimes shown to be incomplete, inaccurate, taken without attribution from other sources, and/or biased. Consequently, an AI tool should not be considered a substitute for traditional approaches to research. You are ultimately responsible for the quality and content of the information you submit. Misusing AI tools that violate the guidelines specified for this course (see below) is considered a breach of academic integrity. The student will be subject to disciplinary actions as outlined in UT Tyler's Academic Integrity Policy.

For this course, AI is encouraged during the course, and appropriate acknowledgement is expected. These programs can be powerful tools for learning and other productive pursuits, including helping you generate new ideas, identifying flaws in reasoning, and serving as a

personalized learning tool. However, your ethical responsibilities as a student remain the same; you must follow UT Tyler's Honor Code and uphold UT Tyler's Academic Integrity Policy.

School of Nursing Policies and Additional Information:

https://www.uttyler.edu/nursing/college/student_guide_and_policies.php

Student Resources and University Policies are provided in Canvas.

- [Student Resources](#)
- [University Policy](#)