
AY 2025-2026

Longitudinal Ultrasound Syllabus

Longitudinal Ultrasound Course Description

The Ultrasound Course is a longitudinal senior course that spans 28 weeks during the Fall semester and 20 weeks during the Spring semester of the MS4 year. Content will be introduced in an asynchronous manner with weekly modules. The course is designed to be self-paced. Students will be able to integrate the knowledge from this course into their Sub-I, Critical Care, Bootcamp and elective course work. In addition to the modules, learners will complete two reflections, formatted as 1 minute papers, each semester.

This is a 0-credit course that is designed to supplement hands-on experience in other required and elective rotations and to enhance student preparation for residency. Students should plan to be dedicate time weekly to review assigned modules and complete a set of questions. There are no in-person activity requirements for this course.

The dates for the 2025-2026 academic year are: June 9, 2025 to May 21, 2026.

Students will be enrolled into the course using the Core Ultrasound platform, specifically SonoAnatomy. https://courses.coreultrasound.com/users/sign_in. Student progress and completion will be tracked through the application's dashboard. The one minute paper reflections will be available on Elenra for students to upload their reflections.

Academic Success and Accessibility

Office of Accessibility Services

TTUHSC EP is committed to providing access to learning opportunities for all students with documented learning disabilities. To ensure access to this course and your program, please contact the Office of Accessibility Services (OAS) by calling 915-215-4398 to engage in a confidential conversation about the process for requesting accommodations in the classroom and clinical setting. Accommodations are not provided retroactively, so students are encouraged to register with OAS as soon as possible. More information can be found on the OAS website:

<https://el Paso.ttuhsc.edu/studentservices/accessibility/default.aspx>

Statement of Accommodation for Pregnant and Parenting Students

To support the academic success of pregnant and parenting students and students with pregnancy related conditions, Texas Tech University Health Sciences Center El Paso offers reasonable modifications based on the student's particular needs. Any student who is pregnant or parenting a child up to age 18 or has conditions related to pregnancy are encouraged to communicate their

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needs with their faculty and/or program for academic support. Students may also contact Norma Fuentes, the Manager of Accessibility and Student Advocacy, to discuss support options. She will work with the institution's designated Pregnancy and Parenting Liaison to ensure equal access to the University's education program or activity. Please email norma.fuentes@ttuhsc.edu or call 915.215.4398. Students may also submit a [Pregnancy & Parenting Support form](#) to request assistance.

For more information, please refer to [Texas Tech University System Regulation 07.15 – Pregnancy and Parental Status](#).

Counseling Assistance

TTUHSC EP is committed to the well-being of our students. Students may experience a range of academic, social, and personal stressors, which can be overwhelming. If you or someone you know needs comprehensive or crisis mental health support assistance, on-campus mental health services are available Monday- Friday, 9 a.m. – 4 p.m., without an appointment. Appointments may be scheduled by calling **915-215-TALK (8255)** or emailing support.elp@ttuhsc.edu. The offices are located in MSBII, Suite 2C201. Related information can be found at <https://el Paso.ttuhsc.edu/student-services/student-support-center/get-connected/> Additionally, the National Suicide Prevention Lifeline can be reached by calling or texting **988**.

Reporting Student Conduct Issues:

Campus community members who observe or become aware of potential student misconduct can use the [Student Incident Report Form](#) to file a report with the Office of Student Services and Student Engagement. Student behaviors that may violate the student code of conduct, student handbook, or other TTUHSCEP policies, regulations, or rules are considered to be student misconduct. This includes, but is not limited to, plagiarism, academic dishonesty, harassment, drug use, or theft.

TTUHSC El Paso Campus CARE Team:

The university CARE Team is here to support students who may be feeling overwhelmed, experiencing significant stress, or facing challenges that could impact their well-being or safety. If your professor notices any signs that you or someone else might need help, they may check in with you personally and will often connect you with the CARE Team. This is not about being “in trouble” — it's about ensuring you have access to trained professionals who can offer support and connect you to helpful resources. Additionally, if you have any concerns about your own well-being or that of a fellow student, please don't hesitate to reach out to let your professor know. You can also make a referral to the CARE Team using [CARE Report Form](#). Your health, safety, and success are our top priorities, and we're here to help.

Ultrasound Objectives

- a. For a given clinical presentation, use data derived from the imaging to categorize the disease process and generate and prioritize a focused list of diagnostic considerations (1.3)
 - i. Understand the basic physics of ultrasound
 - ii. Understand how frequency, depth, and gain affect the image

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- iii. Integrate ultrasound findings with clinical presentation to guide patient management and decision making
- b. Demonstrate and apply understanding of key issues in performing procedures and mitigating complications (1.8)
 - i. Learn how to determine the orientation of an ultrasound image
 - ii. Learn how to assess the depth and gain of an ultrasound image
- c. Compare and contrast normal variation and pathological states in the structure and function of the human body across the life span (2.1)
 - i. Learn how to recognize normal and abnormal sonographic appearance of organs and structures
 - ii. Learn how to obtain useful, interpretable image
 - iii. Identify anatomy for focused evaluation of hepatobiliary system, aorta, cardiovascular including heart and lungs, and genitourinary system
- d. Identify gaps in one's knowledge, skills, and /or attitudes, and perform learning activities to address them (3.1)
- e. Meet professional and academic commitments and obligations (5.7)
- f. Demonstrate honesty and integrity in all professional and academic interactions (5.6)

Integration Threads

Integration threads covered in the intersessions will include:

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| Geriatrics | X | Basic Science | Ethics |
| Professionalism | X | EBM | Patient safety |
| Pain Management | | Chronic Illness Care | Palliative care |
| Quality Improvement | | Communication Skills | X Diagnostic Imaging |
| X Clinical Pathology | | Clinical and/or Translational Research | |

Assessments & Professionalism

Student performance objective

- Students must complete all assigned modules, quizzes, and reflections in a timely manner by the last date of each semester.
 - Fall Semester: All required modules and reflections are due by December 19, 2025

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- Spring Semester: All required modules and reflections are due by May 21, 2026

Patient Op Log expectations: There are no Op Log entries required.

Readings: There is no additional reading material required.

Assessments:

- Modules with accompanying quizzes.
- Two One-Minute Reflection Papers per semester.
- Professionalism: Specifically, timely completion of all assignments by the deadline and replying to email communication in a timely manner.

Grading policy:

Students will receive a grade of **Pass or Fail** based on the following:

- Online participation
- Completion of all online modules, quizzes, and reflection papers by the last day of the semester.
- Failure to complete the assignments in a timely manner will result in a Fail and referral to Grading and Promotions Committee.

Online Modules, Quizzes, & Reflections

Please access all online modules and quizzes on: https://courses.coreultrasound.com/users/sign_in

| Week | Week of | Fall Topic/Module | Notes |
|------|---------|---|--------------|
| 1 | | Anatomy Basics: Machine Operations | 8 minutes |
| 2 | | Anatomy Basics: Physics | 7 minutes |
| 3 | | Anatomy Basics: Artifacts | 17 minutes |
| 4 | | Anatomy Thorax: Cardiac Anatomy | 19 minutes |
| 5 | | Anatomy Thorax: Cardiac Anatomy Quiz 1 | 29 Questions |
| 6 | | Reattempt: Cardiac Anatomy Quiz 1 | 29 Questions |
| 7 | | Pathology Cardiac: Obtaining Cardiac Window | 9 minutes |
| 8 | | Pathology Cardiac: Pericardial Effusion | 5 minutes |
| 9 | | Pathology Cardiac: Tamponade | 5 minutes |
| 10 | | Pathology Cardiac: Right Heart Strain | 5 minutes |
| 11 | | Pathology Cardiac: Endocarditis | 7 minutes |
| 12 | | Pathology Cardiac Image Quiz 1 | 25 Questions |
| 13 | | Reattempt: Cardiac Image Quiz 1 | 25 Questions |
| 14 | | Anatomy Thorax: Lung Anatomy | 28 minutes |
| 15 | | Anatomy Thorax: Lung Anatomy Quiz | 8 Questions |

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| 16 | | Pathology Lung: BLUE Protocol | 9 minutes |
| 17 | | Reflection #1: Submit 1 minute paper on experience | In Elentra |
| 18 | | Anatomy Thorax: Back Anatomy | 9 minutes |
| 19 | | Anatomy Thorax: Back Anatomy Quiz | 27 Questions |
| 20 | | Reattempt: Back Anatomy Quiz | 27 Questions |
| 21 | | Anatomy: Abdominal Wall Anatomy | 5 minutes |
| 22 | | Anatomy: Aorta & IVC Anatomy | 9 minutes |
| 23 | | Pathology: AAA Assessment | 4 minutes |
| 24 | | Pathology: Aortic Dissection | 4 minutes |
| 25 | | Pathology: IVC Assessment | 5 minutes |
| 26 | | Pathology Aorta & IVC: Aorta Image Quiz 1 | 25 Questions |
| 27 | | Reattempt: Aorta Image Quiz 1 | 25 Questions |
| 28 | | Reflection #2: Submit 1 minute paper on experience | In Elentra |

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| Week | Week of | Spring Topic/Module | Notes |
|------|---------|--|--|
| 1 | | Anatomy – Abdomen/GI: Gallbladder Anatomy | 21 minutes |
| 2 | | Anatomy – Abdomen/GI: Gallbladder Anatomy Quiz | 16 Questions |
| 3 | | Reattempt: Gallbladder Anatomy Quiz | 16 Questions |
| 4 | | Anatomy – Abdomen/GI: Renal & Bladder Anatomy Anatomy – Abdomen/GI: Renal & Bladder Quiz | 9 minutes 8 Questions |
| 5 | | Pathology – GI: Gallbladder | 5 minutes |
| 6 | | Pathology – GI: Appendicitis | 5 minutes |
| 7 | | Pathology – GI: Small Bowel Obstruction | 3 minutes |
| 8 | | Pathology – GI: Gallbladder Image Quiz 1 | 25 Questions |
| 9 | | Reattempt: Gallbladder Image Quiz 1 | 25 Questions |
| 10 | | Reflection #3: Submit 1 minute paper on experience | In Elentra |
| 11 | | Pathology – Renal & Bladder: Hydronephrosis Pathology – Renal & Bladder: Bladder Volume Pathology – Renal & Bladder: Ureterolithiasis Case | 5 minutes 2 minutes 4 minutes |
| 12 | | Pathology – Renal & Bladder: Renal Image Quiz 1 | 25 Questions |
| 13 | | Reattempt: Renal Image Quiz 1 | 25 Questions |
| 14 | | Anatomy – Endocrine/GU: Neck Anatomy | 19 minutes |
| 15 | | Anatomy – Endocrine/GU: Neck Anatomy Quiz 1 | 31 Questions |
| 16 | | Reattempt: Neck Anatomy Quiz 1 | 31 Questions |
| 17 | | Pathology – eFAST Exam Pathology – FAST Image Quiz 1 | 5 minutes 25 Questions |
| 18 | | Pathology – Soft tissue: Abscess vs Cellulitis Pathology – Necrotizing Infection | 5 minutes 4 minutes |
| 19 | | Procedure – Access: CVC Part 1 Equipment Procedure – Access: CVC Part 1 Technique Procedure – Access: CVC Part 1 Site Specific Tech Procedure – Access: CVC Part 1 Confirmation | 5 minutes 5 minutes 5 minutes 4 minutes |
| 20 | | Reflection #4: Submit 1 minute paper on experience | In Elentra |

Contact Information

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| Dr. Namrata Singh Course Director | Namrata.Singh@ttuhsc.edu | Office: MEB 2230C Phone: 915-215-4360 |
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