ADVANCED HEALTH EDUCATION CENTER®

EDUCATION ▲ STAFFING ▲ CONSULTING

Emergency Medicine/Point of Care Ultrasound Course

16 AMA PRA Category 1

Faculty: Shawn Shanmuganathan BS, RDMS, RVT

Target Audience: Emergency medicine physicians, trauma surgeons, critical care physicians, intensivists, internal medicine and family practice physicians who will be performing and interpreting emergency ultrasound examinations on adults or pediatric patients.

Disclosure Summary: All relevant financial relationships of faculty and planners have been disclosed and mitigated. Full disclosure information is provided within this syllabus.

Advanced Health Education Center (AHEC) is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

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Welcome to Advanced Health Education Center

On behalf of the faculty, staff, and your fellow students, I want to personally welcome you to your Ultrasound training course at AHEC. We're thrilled you've chosen us to advance your education, and we are committed to making your experience both enjoyable and rewarding.
Our courses are designed to help you build practical skills, deepen your knowledge, and perform at a high level of competency in sonography. Throughout your training, you will be evaluated in several areas to ensure your growth and success.

Since 1988, AHEC has been a trusted provider of continuing education for healthcare professionals in the imaging sciences. Our mission is to provide evidence-based education that enhances your competency and improves patient care. We have proudly supported the development of ultrasound skills for physicians, sonographers, nurses, midwives, and other healthcare professionals.

This registration packet includes essential information about AHEC, your course, CME credit, and disclosure of any relevant financial interests. We are here to support you in achieving your educational goals—please don't hesitate to reach out to us at 1-800-239-1361 if you need assistance.

Congratulations on taking this step in your professional journey. We look forward to seeing your skills and confidence grow!

Warm Regards,



Kelli Reddix, MBA, BAAS, LVN
Senior Vice President
Phone 1-800-239-1361 • 8502 Tybor, Houston, Tx, 77074

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Course Overview

Event Location: Advanced Health Education Center
8502 Tybor Drive
Houston, Texas, 77074
Credit: 16 AMA PRA Category 1™
Time: 8:00 am – 5:00 pm
Instructor: Shawn Shanmuganathan BS, RDMS, RVT

Course Description

The "Golden Hour" is one of the pillars of emergency medicine. This two-day course focuses on the speed and accuracy of ultrasound to optimize patient care when every minute counts. Participants will learn to evaluate the abdomen (FAST procedure), first-trimester pregnancy, and cardiac ultrasound examinations that can make the difference between life and death.

The program follows ACEP guidelines for the performance of Emergency Medicine Ultrasound. Instruction includes lecture covering ultrasound physics, instrumentation, anatomy, procedures, and protocols, followed by on-site scanning labs using live models for extensive hands-on practice. The two-day ultrasound program provides an integrated learning experience combining lecture, assigned reading, testing, demonstration, and clinical scanning. Didactic training is reinforced through laboratory practice.

Faculty: Shawn Shanmuganathan - No relevant financial relationships to disclose.

Course Objectives

Introduction to Emergency Medicine

- Identify the appropriate equipment settings and transducer selection for different ultrasound applications
- Identify and display appropriate normal and abnormal anatomy and orientation in the ultrasound field of view
- Understand variations in scanning protocols for demonstration of pathologies in emergency medicine examinations
- Successfully perform a focused abdomen exam
- Successfully perform a trauma FAST exam
- Successfully perform the protocol for a bedside cardiac evaluation of pericardial effusion
- Successfully perform a venous system exam
- Discuss scanning techniques for the performance of the female patient and first trimester OB with transabdominal approaches (lecture and phantom only)

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Course Topics

Introduction to Emergency Medicine

- Ultrasound physics and instrumentation
- Anatomy of the abdominal and retroperitoneal structures
- Abdominal scan protocols, image orientation, and pathology
    - Aorta, Inferior Vena Cava, Pancreas
    - Kidneys and Bladder
    - Right Upper Quadrant, Morison's pouch
    - Left Upper Quadrant to include Spleen and Left Kidney
    - Both Lower Quadrants
- Focused Assessment by Sonography in Trauma (FAST) procedure protocol
- Cardiac 2D and M-Mode imaging – Sub-xyphoid, PSLA, PSSA, Apical 4 chamber
- Evaluation of pericardial and pleural effusion
- OB/GYN ultrasound anatomy and procedures
    - First trimester pregnancy imaging with (lecture and/or phantom only)
    - Early gestation and ectopic pregnancy (lecture only)
- Ultrasound appearance of pathology in case studies

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Course Schedule

Lecture 8am-12 noon | Lunch 12-1pm | Scan Lab 1pm-5pm

Day One

8:00am -12:00pm

- Physics and Instrumentation
- Abdominal
- FAST Scan
- GYN
- Ectopic Pregnancy
- OB 1st Trimester

1:00pm-5:00pm

- Hands-on Demonstration/Participation with live models

Day Two

8:00am-12:00pm

- Doppler Principles
- Cardiac
- Venous
- Needle Localization/Line Placement

1:00pm-5:00pm

- Hands-on Demonstration/Participation with live models

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Skills Checklist

The participant demonstrates an understanding of the following controls to optimize the image:

Physics and Instrumentation

- ☐ On/Off
- ☐ Output/Power
- ☐ Depth
- ☐ Master Gain
- ☐ TGC/DGC
- ☐ Focal Zones
- ☐ Dynamic Range
- ☐ Presets
- ☐ Calipers
- ☐ Freeze/Cine
- ☐ Color/Power/Pulse Doppler
- ☐ Zoom

The participant identifies the following for adult and pediatric patients:

Abdomen

- ☐ Gallbladder in at least two planes
- ☐ Measure the CBD, GB wall
- ☐ Visualize the Main Portal Vein
- ☐ All lobes of the Liver
- ☐ Spleen two planes
- ☐ Kidney in at least two planes
- ☐ FAST exam
- ☐ Aorta in two planes
- ☐ Measure the Aorta

OB

- ☐ Trans-abdominal exam (Theory & Phantom only)
- ☐ M-mode for fetal heartbeat (Theory)

Veins and DVT

- ☐ Identify veins of the lower extremity
- ☐ Compression techniques to identify DVT

Cardiac

- ☐ Visualize the heart in standard Imaging planes
- ☐ Identify the pericardium

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CME Credit:

- "The Advanced Health Education Center is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians."
- "The Advanced Health Education Center designates this educational activity for a maximum of 16 hours AMA PRA Category I™. Physician should claim credit commensurate with the extent of their participation in the activity."

AHEC Cancellation and Refund Policy for Skills Courses:

AHEC defines a skills course as a limited enrollment course where a received registration with payment reserves your place in a course (i.e. all Ultrasound courses, Mammography Initial Training and other theory courses). For cancellations received at least two weeks prior to the course date, a refund less a 30% processing fee will be given. Within two weeks of the course, no refund is given, but a tuition credit – less a 30% processing fee – may be applied to a future course. No refunds or tuition credit is given for non-attendance. Facilities may substitute employees by notification to AHEC at least one week in advance.

Disclosure of Relevant Financial Interest for Individuals in Control of Content

As an ACCME-accredited provider, Advanced Health Education Center (AHEC) is committed to ensuring balance, independence, objectivity, and scientific rigor in all of its educational activities.

In accordance with ACCME Standard 3, AHEC requires that all individuals in control of content—including planners, faculty, committee members, and administrative personnel involved in the planning, development, or production of educational activities—disclose all financial relationships with ineligible companies within the past 24 months. A financial relationship is considered relevant if it exists between the individual and an ineligible company whose products or services are related to the content of the educational activity**.**

AHEC has implemented mechanisms to identify, mitigate, and disclose relevant financial relationships to prevent commercial bias in its educational activities. All disclosed relevant financial relationships have been mitigated prior to the commencement of the educational activity.

The individuals listed below are acknowledged by AHEC as having control of the content, planning, development, or administrative support of all educational activities.

- Marilyn Sackett, M. Ed, RT (R), Committee Member
  - AHEC: President
  - No relevant financial interest to disclose
- Jence Garza, MHA RT(R) - Committee Member
  - AHEC: Chief Executive Officer (CEO)
  - No relevant financial interest to disclose

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- Peggy Hoosier, M.Ed RT(R)(M) - Committee Member
  - AHEC: Consultant
  - No relevant financial interest to disclose
- Kelli Reddix, MBA, BAAS, LVN - Program Director
  - AHEC: Senior Vice President
  - No relevant financial interest to disclose
- Nanette Joiner
  - AHEC: Administrative Support
  - No relevant financial interest to disclose
- Chevaun Fletcher, BS, RDMS
  - Ultrasound Faculty
  - No relevant financial interest to disclose
- Jessica Smith, BS, MHA, RDMS
  - Ultrasound Faculty
  - No relevant financial interest to disclose
- Virlene Guzman, RT(R), RDMS, RVT
  - Ultrasound Faculty
  - No relevant financial interest to disclose
- Shawn Shanmuganathan, BS, RDMS, RVT
  - Ultrasound Faculty
  - No relevant financial interest to disclose

Content Validation:

All presentations designated for AMA PRA Category 1™ credit undergo a rigorous review process to ensure content validity. This process includes:

- Curriculum Committee Review: All content is reviewed and approved by members of the curriculum committee for scientific accuracy, balance, and alignment with current evidence-based practices.
- Peer Review: Where applicable, content is subjected to peer review by individuals with appropriate clinical expertise and no relevant financial relationships with ineligible companies.
- Conflict of Interest Assessment: Prior to the advertisement and delivery of the educational activity, all individuals involved in the planning, development, or production of the activity disclose any relevant financial relationships. Any identified conflicts are resolved in accordance with ACCME Standard 3.5.
- Identification of Emerging Topics: New and evolving topics are clearly identified as such within the program to distinguish them from established, evidence-based practices.

This comprehensive approach ensures that all educational content is fair, balanced, and based on the best available evidence, thereby supporting safe and effective patient care.