

Proposing a New Elective Course

Course Name: Pediatric Emergency Medicine Point-of-Care Ultrasound

Course Director: Matt Steimle, DO & Matthew Szadkowski, MD

Course Coordinator: Annette Webb (Annette.Webb@hsc.utah.edu)

Sponsoring Department: Pediatrics

Department Code: 00248

Proposed Course Number: 7325

- For Assistance: <https://curriculum.utah.edu/glossary/desired-number.php#Graduate>

Type of Elective: Clinical

- For Assistance: <https://curriculum.utah.edu/glossary/component.php>

Number of Credits: ½ credit (approximately 20 hours)

- As reference:
 - Clinical Courses: 40 Hours of Clinical Duty = 1 Credit
 - Seminar/Didactic: 40 Hours of Student Effort = 1 Credit
 - Research: 40 Hours of Research Time = 1 Credit

Timing & Frequency: 4 available 1-week slots/year

Prerequisites/Co-requisites: All medical students are eligible but preferential consideration will be given to the Tribal, Rural, and Underserved (TRU) Certificate medical students followed by senior medical students.

Brief Statement of Rationale: Hands-on ultrasound scanning of patients will require adequate understanding of anatomy as well as cardiac pathophysiology. The goal of the ultrasound elective is to train medical students to be proficient at recognizing normal anatomy and in using point-of-care ultrasound (POCUS) for the E-FAST and basic cardiac exams in order to identify emergent conditions such as: hemothorax, pneumothorax, pericardial effusion, hemoperitoneum, impaired global ventricular function, cardiac tamponade, and collapse or dilated inferior vena cava. This elective is distinctive in that it will be focused on using point of care ultrasound on infants, children, and adolescents. These interactions with children and their families are unique and require a different approach to successfully obtain and interpret images.

PED 7325: Pediatric Emergency Ultrasound Syllabus

Credit Hours: 0.5

Contact Information

Name	Position	Phone/Pager	Email
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Annette Webb	Coordinator	801-587-7428	Annette.webb@hsc.utah.edu

Course Information

Brief Description of Course

This 5day (M-F) 2-week elective will provide the learner with online video learning as well as simulated and hands-on instruction in emergent ultrasound. Skills taught will include basic lung and cardiac ultrasound, E-FAST, and peripheral/central IV access with the goals of understanding how to identify hemothorax, pneumothorax, basic cardiac function, cardiac tamponade, IVC fluid status, and intraperitoneal fluid.

Course Objectives

1. Fill out online pre-course survey
2. To learn how to use ultrasound for evaluating emergent conditions such as: hemothorax, pneumothorax, pericardial effusion, hemoperitoneum.
3. Watch introductory videos online to learn basic information including ultrasound physics, knobology, and emergent applications. (approximately 10 hrs.)
4. Sign online attestation after watching online videos.
5. Take and obtain 80% on each POCUS quiz (2 quizzes total) after watching online videos. (can take as many times as needed to pass.) Each quiz takes approximately 10 minutes and is open book/notes/computer.
6. To perform simulation scanning with a proctor (approximately 2 hrs.)
7. To perform a minimum of 10 E-FAST exams and 10 Focused cardiac exams on real patients with a proctor. (approximately 7 hrs.)
8. Attend 1 QA session (date TBA). (approximately 15 min-60 min.)
9. Present a 5 min POCUS topic during QA session. An electronic copy needs to be made to be uploaded to media gallery.
10. Fill out online post-course survey.
11. Fill out online post-elective evaluation of the course and instructors .

Course Format & Schedule

Timeline

1 week elective consisting of approximately 10 hours of self-directed online videos as well as 10 hours of one-on-one ultrasound scanning on simulated and actual patients in the Pediatric Emergency Dept @ Primary Children's Hospital and LDS hospital simulation center.

Educational and Instructional Modalities

Modality	Percentage
Online Video Lecture Series, attestation, POCUS quizzes , QA session	50%
One-on-one supervised scanning with Attending PEM physician (simulation and real patients)	50%

Role of the Student in this Course

The student will be required to watch the online video modules during the first week day 1-5. They must watch all of the videos prior to their first scanning shifts typically days 6-10. They must pass the 2 quizzes prior (80%) to first scanning shift. Typically proctored scanning will begin on day 6 on a simulator. After this, scanning will be completed on real patients. All of the scanning will occur with a proctor. The student will be performing E-FAST, cardiac, and vascular ultrasound scans. The student will also be required to present a brief PowerPoint presentation to the course instructors on a POCUS-related topic of their choosing, preferably a pediatric application. This will be saved to a presentation gallery. There may be some flexibility with scanning over the 2 week period based on instructor availability. The course hours will typically be between 8-5 M-F. A typical scanning day will be 2-4 hours.

Required Textbooks/Readings

None.

Additional Resources

- <https://p2network.com> – Leaders in Pediatric Emergency Medicine POCUS. POCUS education, research, global health, administration
- <https://www.acep.org/how-we-serve/sections/emergency-ultrasound/education-and-training/> more POCUS resources
- <https://www.acep.org/how-we-serve/sections/emergency-ultrasound/subcommittees/pediatric-ultrasound/> - PEM POCUS resource
- Sono Guide: <http://www.sonoguide.com> - An overview of different scans and techniques used in the ED
- Sonoworld.com – Excellent free resource, free signup. Many pediatric specific lectures and cases
- US Lectures: http://www.emergencyultrasoundteaching.com/narrated_lectures.html - narrated lectures with video on basic scanning techniques from the Medical University of South Carolina
- <https://vimeo.com/aeus> - Some pediatric specific focused lecture

- The Ultrasound Podcast: <http://www.ultrasoundpodcast.com> - UT connected Mike Mallin and Matt Dawson podcasting the latest and greatest
- Case studies in Pediatric Emergency and Critical Care Ultrasound, Edited by David J. McLario and John L. Kendall
- Introduction to Bedside Ultrasound: Volume 1—FREE: <https://books.apple.com/us/book/introduction-to-bedside-ultrasound-volume-1/id554196012>
- Introduction to Bedside Ultrasound: Volume II—FREE: <https://books.apple.com/us/book/introduction-to-bedside-ultrasound-volume-2/id647356692>

Assessment & Grading

	Weight	Must Pass/ Must Complete	Due Date
Course Assessments			
Pre-course assessment	4%	Must complete	Prior to all training including the online videos. By the beginning of day 1.
Post-course assessment	4%	Must complete	After course completion.
Post-elective evaluation	2%	Must complete	After course completion.
Narrative Assessments			
None			
Assignments and Must Complete Elements			
Online Video Lecture Series, attestation, POCUS QUIZ	40%	Must sign attestation for online videos and obtain 80% on each quiz (2 quizzes)	Prior to the start of course (preferred) or by the end of day 3.
One-on-one supervised scanning with Attending PEM physician (simulation and real patients)	40%	Must complete	By the end of day 5.
PowerPoint	5%		By the end of day 5.
QA session	5%		By the end of day 5.

Grading System

Students will receive a final letter grade of PASS (P) or FAIL (F) for this course:

PASS: A student who achieves all of the criteria will be assigned a grade of PASS for the course.

FAIL: A student who fails to achieve all of the criteria for PASS will be assigned a grade of FAIL for the course.

Criteria to Pass include completing the objectives mentioned above in summary:: Watch and sign attestation for online video series. Pass two quizzes and obtain 80% on each quiz. To perform a minimum of 10 E-FAST exams and 10 Focused cardiac exams on real patients with a proctor. Complete pre- and post-course surveys and post-elective evaluation. Attend at a minimum of 8 hours of scanning shifts with course faculty. Present POCUS-related topic to course faculty in PowerPoint format. Attend a QA session.

Student Feedback

Providing feedback is an important aspect of your professionalism expectation, and helps with our curriculum quality improvement process. Your elective course director or coordinator will inform you of any course feedback surveys. Surveys must be completed by the due date to demonstrate reliability for the professionalism competency.

Standard Policies

Please refer to the Student Handbook (on the Student Affairs website) for these policies:

Accommodations

Addressing Sexual Misconduct

Dress Code

Examination and Grading Policies

Grade or Score Appeal

Professionalism, Roles & Responsibilities

Mistreatment

Infectious, Environmental and Bloodborne Pathogen Exposures Policy

Alternate Name and/or Personal Pronoun

Class rosters are provided to the instructor with the student's legal name as well as 'Preferred' first name (if previously entered by you in the Student Profile section of your CIS account). While CIS refers to this as merely a preference, we will honor you by referring to you with the name and pronoun that feels best for you in class, on papers, exams, group projects, etc. Please advise us of any name or pronoun changes (and please update CIS) so we can help create a learning environment in which you, your name, and your pronoun will be respected.

Center for Disability & Access

The School of Medicine seeks to provide equal access to its programs, services and activities for all medical students. The Center for Disability and Access (CDA) provides accommodations and support for the educational development of medical students with disabilities. Medical students with a documented disability, and students seeking to establish the existence of a disability, that would like to request accommodations are required to meet with the CDA to establish accommodations. The CDA will work closely with eligible students and the Academic Success Program to make arrangements for approved accommodations. The School of Medicine and CDA maintain a collegial, cooperative, and collaborative relationship to ensure compliance with federal and state regulations for students with disabilities.

Steven Baumann EdD, School of Medicine Senior Director of Academic Success Program, serves as the liaison between the School Of Medicine and the CDA.

Contact Information:

Dr. Steven Baumann, Senior Director of Academic Success Program

Safety Statement

The University of Utah values the safety of all campus community members. To report suspicious activity or to request a courtesy escort, call campus police at 801-585-COPS (801-585-2677). You will receive important emergency alerts and safety messages regarding campus safety via text message. For more information regarding safety and to view available training resources, including helpful videos, visit safeu.utah.edu.