

# EMERGENCY MEDICINE (EMER MED)

## EMER MED 699 – INDEPENDENT STUDY

1-4 credits.

Offers undergraduates majoring in related fields an opportunity to participate in basic emergency medicine research. Assists in the preparation for graduate or medical school coursework.

**Requisites:** Consent of instructor

**Repeatable for Credit:** Yes, unlimited number of completions

**Last Taught:** Spring 2024

**Learning Outcomes:** 1. Apply concepts learned in coursework to real life situations Audience: Undergraduate

2. Read and effectively search scientific literature Audience: Undergraduate

3. Develop critical, analytical, and independent thinking skills Audience: Undergraduate

4. Critically review emergency medicine research protocols Audience: Undergraduate

## EMER MED 909 – EMERGENCY MEDICINE INTERNSHIP PREP COURSE

1 credit.

Designed to highlight, review, and allow practice of key concepts in Emergency Medicine. Practice with case simulation, case discussion, didactics, panel discussions, and procedural skills to prepare for success in the first few weeks of an Emergency Medicine residency. Will lead and participate in simulations. Explore critical interplay between medical care and communication. Discuss common challenges encountered early in residency and throughout an EM career, and develop individualized plans to address these challenges.

**Requisites:** MED SC-M 810, 811, 812, 813, and EMER MED 961

**Course Designation:** Grad 50% - Counts toward 50% graduate coursework requirement

**Repeatable for Credit:** No

**Last Taught:** Spring 2024

**Learning Outcomes:** 1. Diagnose and manage common and critical medical conditions Audience: Graduate

10. Develop an approach to evaluating and stabilizing ill pediatric patients Audience: Graduate

11. Demonstrate familiarity with basic procedures commonly performed in the Emergency Department (intubation, central venous catheter placement, etc.) Audience: Graduate

12. Demonstrate familiarity with the medications that are utilized during procedural sedation and Rapid Sequence Intubation (RSI) in the Emergency Department Audience: Graduate

2. Practice initial orders for acute situations Audience: Graduate

3. Develop competency as a potential first responder to urgent or emergent patient care situations Audience: Graduate

4. Accurately interpret and apply laboratory information to clinical scenarios Audience: Graduate

5. Demonstrate effective communication with peers, patients, families and all members of the healthcare team Audience: Graduate

6. Develop competency in providing meaningful feedback to peers in clinical environment Audience: Graduate

7. Develop strategies to address the stresses of transitioning to internship during residency and throughout medical career Audience: Graduate

8. Develop a framework for performing basic procedures in the Emergency Department Audience: Graduate

9. Develop ultrasound skills that can be used to aid in stabilization and diagnosis of critically ill patients Audience: Graduate

**EMER MED 911 – INTRODUCTION TO PREHOSPITAL MEDICINE AND DETERMINANTS OF UTILIZATION OF THE PREHOSPITAL SYSTEM**

2 credits.

Provides a unique opportunity for fourth year medical students to gain experience in the prehospital system while utilizing their public health knowledge to determine factors that lead to patient utilization of this system. During this course, students will gain understanding of the prehospital system through first-hand experience with prehospital providers while appreciating the environment in which their patients live and work. Students will be asked to observe patient care, conduct posttransport interviews in the emergency department, and examine the social and environmental determinants that led to activation of the prehospital system.

**Requisites:** Graduate/professional standing**Course Designation:** Grad 50% - Counts toward 50% graduate coursework requirement**Repeatable for Credit:** No**Last Taught:** Spring 2024**EMER MED 912 – GUATEMALA HEALTH ADVANCED ELECTIVE**

2 credits.

Builds on the skills students developed during the Guatemala Service Learning experience in their first-year. The Service Learning trip partners with the San Lucas Mission to provide traveling health clinics around the southern/eastern sides of Lake Atitlan. In this selective, students will take a leadership role in the Service Learning Trip. Course is intended for M4 or Phase 3 medical students who have participated in the Guatemala Service Learning Experience. Students should have intermediate Spanish-language skills. Exceptions to these requirements will be considered on a case-by-case basis by Clerkship Director.

**Requisites:** Consent of instructor**Course Designation:** Grad 50% - Counts toward 50% graduate coursework requirement**Repeatable for Credit:** No**Last Taught:** Spring 2019**EMER MED 913 – GUATEMALA PUBLIC HEALTH FIELD PROJECT**

2 credits.

Design and implement a public health field project in the community of San Lucas Tolimán, Guatemala. This project will fulfill the field project for students on the path of distinction in public health or the dual MD-MPH program. In participating in the Guatemala service learning experience, students will have provided traveling health clinics to indigenous Mayan populations in rural Guatemala, collaborating with the San Lucas Mission. Course is intended for M4 or Phase 3 medical students who have participated in the Guatemala Service Learning Experience. Students should have intermediate Spanish-language skills. Exceptions to these requirements will be considered on a case-by-case basis by Clerkship Director.

**Requisites:** Consent of instructor**Course Designation:** Grad 50% - Counts toward 50% graduate coursework requirement**Repeatable for Credit:** No**Last Taught:** Spring 2020**EMER MED 914 – WILDERNESS MEDICINE**

2 credits.

Complete an Advanced Wilderness Life Support Course, which will cover topics such as Altitude Illnesses, Hyper- and Hypothermia, Toxicology, Envenomations, general trauma, and more, through lectures, skills sessions, and simulation. Focus on medical decision-making that can be executed early in disease or injury processes, in austere environments, with a focus on acute stabilization and evacuation to appropriate medical care. Learn foundational backcountry skills such as land navigation; fire and stove operation; water and waste management; and Leave-No-Trace principles. Technical workshops and field experiences give participants the opportunity to learn from experienced kayakers and climbers from the area, to apply backcountry skills on a self-supported backpacking trip, and to continue exploring wilderness medicine through interactive sessions.

**Requisites:** MED SC-M 810, 811, 812, and 813**Course Designation:** Grad 50% - Counts toward 50% graduate coursework requirement**Repeatable for Credit:** No

**Learning Outcomes:** 1. DEMONSTRATE an appreciation of "Leave No Trace" principles in the backcountry, and how these ethics guide not only an individual's approach to outdoor stewardship, but also how the first principle – "Plan Ahead and Prepare" – informs a medical provider's approach to wilderness medicine. Audience: Graduate

10. IDENTIFY dangerous mushrooms (amanita, psilocybins, gyromitrins), plants (anticholinergic, nicotinic, cardio-toxic varieties), arachnids (black widow and brown recluse spiders, centruroides and androctonus scorpions), snakes (viperidae and elapidae), and marine organisms (cnidaria, hydrozoa, echinodermata, mollusca); differentiate their toxidromes; and understand basic treatment strategies. Audience: Graduate

11. DIFFERENTIATE degrees of hypothermia, cold and freezing injuries, and hyperthermia by understanding standard physiology and diagnostic criteria, and utilize creative means to treat these injuries in low-resource settings. Audience: Graduate

12. PREDICT the risk of lightning injuries based on meteorological conditions, learn the appropriate preventative responses to oncoming thunderstorm activity, and appropriately triage victims in a mass casualty lightning strike scenario. Audience: Graduate

13. DISTINGUISH four different methods of water treatment – heat, filtration, chemical treatment, and UV treatment – understand benefits and limitations of each, and the common gastrointestinal pathogens that they might prevent. Audience: Graduate

14. RECOGNIZE the significance of animal encounters in the backcountry, apply smart backpacking strategies to minimize unwanted encounters with predators, master the differentiation between common North American bears, and practice appropriate behavioral responses to surprise bear encounters. Audience: Graduate

15. DESCRIBE the progression of anaphylactic shock, know common risk factors, appreciate the importance of immediate treatment, and correlate symptoms with Hymenoptera envenomation. Audience: Graduate

16. APPLY an understanding of Search-And-Rescue operations while addressing pre-trip planning, backcountry risk-management and decision-making, as a means of minimizing risk and optimizing chances of rescue. Audience: Graduate

2. UTILIZE basic backcountry knowledge, skills, and materials – such as navigation and emergency communication skills, water management, fire construction, waste management and sanitation – not only to illness and

**EMER MED 919 – INDIVIDUALIZED PHASE 3 CLINICAL ELECTIVE IN EMERGENCY MEDICINE**

2-4 credits.

Care for emergency medicine patients in the Emergency Department. Participate in multidisciplinary work to transition patients to the next level of care. Evaluate and manage patients requiring collaboration with consulting specialties. Complete other patient care related learning activities as assigned by instructors (e.g., literature reviews, presentations on specific topics); these are dependent on the individual student, attending physician, and clinical site.

**Requisites:** Graduate/professional standing

**Course Designation:** Grad 50% - Counts toward 50% graduate coursework requirement

**Repeatable for Credit:** Yes, unlimited number of completions

**Learning Outcomes:** 1. Perform a hypothesis driven history and complete a targeted exam. Audience: Graduate

2. Develop and present a weighted differential diagnosis, diagnostic and treatment plans. Audience: Graduate

3. Adapt differential diagnosis and plans to changing patient circumstances and data Audience: Graduate

4. Complete written documentation in a comprehensive, concise, accurate and timely manner. Audience: Graduate

5. Review, interpret and present current literature to support patient care. Audience: Graduate

6. Develop clinically relevant questions to advance learning. Audience: Graduate

7. Communicate effectively with patients, families, physicians and non-physician team members. Audience: Graduate

8. Engage patients in shared decision making regarding tests, orders and procedures. Audience: Graduate

**EMER MED 920 – ART AND SCIENCE OF RESUSCITATION**

2 credits.

Gain comfort with necessary skills in leadership and communication to effectively run a resuscitation and to review the basic science, which guide the principles of resuscitation of a variety of critical-illness disease states. Students will first attain ACLS certification via AHA approved curriculum, followed by in-depth reviews of skills and underlying basic science behind the creation of ACLS guidelines. In addition to hands-on skills such as CPR, BVM respiration, I/O access, and airway management, simulation will be utilized to teach advanced skills in leadership, teamwork, and communication, which are integral to success in running ACLS-based resuscitation's. Crisis-Resource Management skills will be introduced and practiced in a variety simulated resuscitation scenarios, with students having the opportunity to practice various roles, including leading a code team.

**Requisites:** MED SC-M 810, 811, 812, and 813

**Course Designation:** Grad 50% - Counts toward 50% graduate coursework requirement

**Repeatable for Credit:** No

**Last Taught:** Spring 2024

**Learning Outcomes:** 1. Describe and understand ACLS resuscitation protocols and resuscitation skills Audience: Graduate

2. Demonstrate an understanding of the principles of Teamwork and Communication using the Crisis Resource Management model Audience: Graduate

3. Through hands on simulation scenarios, identify physiology, pharmacology, and pathophysiology of common causes of cardiac arrest Audience: Graduate

4. Through hands on simulation scenarios, articulate the scientific basis of ACLS protocols Audience: Graduate

5. Through review of the primary literature, develop an understanding of the scientific basis of modern resuscitation algorithms. Audience: Graduate

6. Demonstrate how to successfully lead a simulated resuscitation scenario Audience: Graduate

**EMER MED 930 – WILDERNESS MEDICINE**

1 credit.

Introduces students to the epidemiology, pathophysiology and clinical practice of Wilderness Medicine: the care of patients in remote environments lacking typical health care resources, often under harsh conditions.

**Requisites:** Graduate/professional standing

**Course Designation:** Grad 50% - Counts toward 50% graduate coursework requirement

**Repeatable for Credit:** No

**Last Taught:** Spring 2023

**EMER MED 958 – INTRODUCTION TO BEDSIDE ULTRASOUND ELECTIVE**

2 credits.

Focus on learning and practicing skills in clinical ultrasound (US) in the Emergency Department setting, under direct supervision by Emergency Medicine faculty. Receive teaching in core clinical US skills including evaluation of the aorta, echocardiography, gallbladder, renal, inferior vena cava, female pelvis, FAST, deep vein thrombosis, ocular, and lung exams. Complete hands-on scanning with ultrasound-trained faculty focusing on the above areas of expertise.

**Requisites:** Graduate/professional standing

**Course Designation:** Grad 50% - Counts toward 50% graduate coursework requirement

**Repeatable for Credit:** No

**Last Taught:** Spring 2024

**Learning Outcomes:** 1. Correctly interpret ultrasound images with regards to pathology vs normal. Audience: Graduate

2. Correctly acquire the appropriate views for the above listed Clinical US areas of interest. Audience: Graduate

3. Explain the limitations of Clinical US. Audience: Graduate

4. Describe how Clinical US is applicable in bedside evaluation and applications in clinical decision-making. Audience: Graduate

**EMER MED 959 – EMERGENCY MEDICINE REGIONAL SITE**

2-4 credits.

Learn and gain clinical experience in the Emergency Department setting.

Evaluate and care for the full spectrum of Emergency Department patients under the guidance and supervision of Emergency Medicine attending physicians.

**Requisites:** Graduate/professional standing

**Course Designation:** Grad 50% - Counts toward 50% graduate coursework requirement

**Repeatable for Credit:** Yes, unlimited number of completions

**Last Taught:** Spring 2024

**Learning Outcomes:** 1. Gain experience in the treatment of acutely ill patients in an Emergency Department setting. Audience: Graduate

10. Develop clinically relevant questions to advance learning. Audience: Graduate

11. Communicate effectively with patients, families, physicians and non-physician team members. Audience: Graduate

12. Communicate and collaborate with consultants and/or primary team and other providers to coordinate care. Audience: Graduate

13. Engage patients in shared decision making regarding tests, orders and procedures. Audience: Graduate

14. Avoid medical jargon when communicating with patients and families. Audience: Graduate

15. Recognize limitations and seek assistance as appropriate. Audience: Graduate

2. Perform a hypothesis driven history and complete a targeted exam. Audience: Graduate

3. Develop and present a weighted differential diagnosis. Audience: Graduate

4. Using clinical evidence, adapt and justify the working diagnosis. Audience: Graduate

5. Present a diagnostic plan including laboratory and imaging modalities. Audience: Graduate

6. Present a treatment plan including symptom management, disease modification, and disposition. Audience: Graduate

7. Correctly interpret imaging and laboratory findings and communicate results to patients and team members. Audience: Graduate

8. Complete written documentation in a comprehensive, concise, accurate and timely manner. Audience: Graduate

9. Review, interpret and present current literature to support patient care. Audience: Graduate

**EMER MED 960 – BASIC EMERGENCY MEDICINE (EM) ELECTIVE**

2 credits.

Learn and gain clinical experience in the Emergency Department setting. Evaluate and care for the full spectrum of Emergency Department patients primarily and autonomously under the guidance and supervision of Emergency Medicine Attendings.

**Requisites:** Graduate/professional standing

**Course Designation:** Grad 50% - Counts toward 50% graduate coursework requirement

**Repeatable for Credit:** No

**Last Taught:** Spring 2024

**Learning Outcomes:** 1. Gain experience in the treatment of acutely ill patients in an Emergency Department setting. Audience: Graduate

10. Develop clinically relevant questions to advance learning. Audience: Graduate

11. Communicate effectively with patients, families, physicians and non-physician team members. Audience: Graduate

12. Communicate and collaborate with consultants and/or primary team and other providers to coordinate care. Audience: Graduate

13. Engage patients in shared decision making regarding tests, orders and procedures. Audience: Graduate

14. Avoid medical jargon when communicating with patients and families. Audience: Graduate

15. Recognize limitations and seek assistance as appropriate. Audience: Graduate

2. Perform a hypothesis driven history and complete a targeted exam. Audience: Graduate

3. Develop and present a weighted differential diagnosis. Audience: Graduate

4. Using clinical evidence, adapt and justify the working diagnosis. Audience: Graduate

5. Present a diagnostic plan including laboratory and imaging modalities. Audience: Graduate

6. Present a treatment plan including symptom management, disease modification, and disposition. Audience: Graduate

7. Correctly interpret imaging and laboratory findings and communicate results to patients and team members. Audience: Graduate

8. Complete written documentation in a comprehensive, concise, accurate and timely manner. Audience: Graduate

9. Review, interpret and present current literature to support patient care. Audience: Graduate

**EMER MED 961 – ADVANCED EM ELECTIVE**

4 credits.

Learn and gain clinical experience in the Emergency Department setting. Evaluate and care for the full spectrum of Emergency Department patients primarily and autonomously under the guidance and supervision of Emergency Medicine Attendings.

**Requisites:** Graduate/professional standing

**Course Designation:** Grad 50% - Counts toward 50% graduate coursework requirement

**Repeatable for Credit:** No

**Last Taught:** Spring 2024

**Learning Outcomes:** 1. Gain experience in the treatment of acutely ill patients in an Emergency Department setting. Audience: Graduate

10. Develop clinically relevant questions to advance learning. Audience: Graduate

11. Communicate effectively with patients, families, physicians and non-physician team members. Audience: Graduate

12. Communicate and collaborate with consultants and/or primary team and other providers to coordinate care. Audience: Graduate

13. Engage patients in shared decision making regarding tests, orders and procedures. Audience: Graduate

14. Avoid medical jargon when communicating with patients and families. Audience: Graduate

15. Recognize limitations and seek assistance as appropriate. Audience: Graduate

2. Perform a hypothesis driven history and complete a targeted exam. Audience: Graduate

3. Develop and present a weighted differential diagnosis. Audience: Graduate

4. Using clinical evidence, adapt and justify the working diagnosis. Audience: Graduate

5. Present a diagnostic plan including laboratory and imaging modalities. Audience: Graduate

6. Present a treatment plan including symptom management, disease modification, and disposition. Audience: Graduate

7. Correctly interpret imaging and laboratory findings and communicate results to patients and team members. Audience: Graduate

8. Complete written documentation in a comprehensive, concise, accurate and timely manner. Audience: Graduate

9. Review, interpret and present current literature to support patient care. Audience: Graduate

**EMER MED 970 – TEACHING IN EMERGENCY MEDICINE**

2-4 credits.

Develop clinical education skills and knowledge by teaching junior (Phase 2) medical students in a clinical setting. Learn effective teaching techniques. Become familiar with using and adept at researching the primary literature in health professions education. Understand effective approaches to providing feedback while spending clinical time advising and mentoring junior (Phase 2) students who are on their Acute Care Block (ACB) rotations in the Emergency Department (ED). Develop novel instructional, curricular, and interpersonal skills as an educator and use this knowledge to improve the clinical learning environment for future junior (Phase 2) students. Effectively assist junior (Phase 2) students with their approaches to undifferentiated patients in the ED, including developing an initial diagnostic and treatment plan, navigating a complex healthcare system, and setting personal learning goals in a clinical environment.

**Requisites:** EMER MED 961**Course Designation:** Grad 50% - Counts toward 50% graduate coursework requirement**Repeatable for Credit:** No**Learning Outcomes:** 1. Identify and implement evidence-based teaching methods in health professions education Audience: Graduate

10. Understand career pathways involving health professions education and academic medicine Audience: Graduate

2. Assist junior medical students with approaching ED patients in a real-life clinical setting Audience: Graduate

3. Provide specific and actionable feedback to other students based on their performance Audience: Graduate

4. Create brief educational didactic for an audience of junior medical students Audience: Graduate

5. Provide appropriate guidance and coaching for a junior medical student working in the ED regarding the diagnosis and treatment of undifferentiated ED patients presenting with a variety of common chief complaints. Audience: Graduate

6. Assess a junior medical student's performance and give effective (e.g., specific, actionable) feedback Audience: Graduate

7. Implement a variety of instructional methods available in a real-life clinical setting. Audience: Graduate

8. Facilitate simulated ED patient encounters and subsequent debriefing for Phase II medical students. Audience: Graduate

9. Identify effective strategies for creating and giving educational content (e.g., blog posts, presentations) Audience: Graduate

**EMER MED 990 – INDEPENDENT READING AND RESEARCH IN EMERGENCY MEDICINE**

2-8 credits.

Individual Master or PhD student interests and research provide the opportunity to work with faculty members. Tailored to each specific student research proposal/project.

**Requisites:** Graduate/professional standing**Course Designation:** Grad 50% - Counts toward 50% graduate coursework requirement**Repeatable for Credit:** Yes, unlimited number of completions**Learning Outcomes:** 1. Engage in clinical research through an apprenticeship-style learning experience with a physician-scientist mentor. Audience: Graduate

2. Understand clinical research design by writing or contributing to a research proposal. Audience: Graduate

3. Develop skills in the analysis of clinical research data. Audience: Graduate

4. Develop a plan for communicating the results of the clinical research project. Audience: Graduate

5. Improve verbal and written communication skills by preparing findings to be able to present clinical research experience and results. Audience: Graduate

6. Formulate a hypothesis or specific objective if the study does not involve hypothesis generating research. Audience: Graduate

7. Conduct a thorough literature review of the specific research question. Audience: Graduate

8. Select and apply statistical methodologies appropriate for the proposed analyses. Audience: Graduate

9. Interpret results correctly and in context of previous findings from literature review. Audience: Graduate

**EMER MED 998 – INDEPENDENT STUDY**

1-8 credits.

Offers MD students interested in emergency medicine an opportunity to participate in advanced and translational research. Expands basic research knowledge and exposes MD students to current advanced research.

**Requisites:** Consent of instructor

**Course Designation:** Grad 50% - Counts toward 50% graduate coursework requirement

**Repeatable for Credit:** Yes, unlimited number of completions

**Last Taught:** Spring 2024

**Learning Outcomes:** 1. Develop practical research skills that can be used across multiple disciplines. Audience: Graduate

2. Read and effectively search scientific literature Audience: Graduate

3. Understand and adhere to ethical standards of research conduct  
Audience: Graduate

4. Assist with data reviewing and analysis Audience: Graduate

5. Critically review emergency medicine research protocols Audience:  
Graduate