

## Fall 2020 Course Descriptions as of 04/05/2020 08:11 PM

Information in Browse Course Catalog is subject to change. Information is term specific. Please refer to the appropriate term when searching for course content. Key to Course Descriptions may be found at: [http://rcs.registrar.arizona.edu/course\\_descriptions\\_key](http://rcs.registrar.arizona.edu/course_descriptions_key).

### Emergency Medicine (EMD)

#### **EMD 197: Emergency Medical Technician** (4 units)

**Description:** This workshop, EMD 197, provides the medical knowledge necessary to become an Emergency Medical Technician. EMD 197 will provide a brief introduction to EMS systems, the structure and history of EMS, and will focus on providing the fundamental knowledge necessary to become an EMT. With completion of EMD 197, students will have attained the required didactic training hours to meet the National Registry of Emergency Medical Technicians (NREMT) prescribed requirements for Emergency Medical Technicians (EMT).

**Grading basis:** Regular Grades

**Career:** Undergraduate

**Course Components:** Workshop Required

**Recommendations and additional information:** BLS Provider CPR certification card is required prior the first day of class. There are multiple locations in the Tucson area to receive this training.

-SA represents a Student Abroad & Student Exchange offering

-CC represents a Correspondence Course offering

**May Be Offered** Departments may offer this component in some semesters. See the Schedule of Classes for term-specific offerings.

### EMD 310: Emergency Medical Services Core Competencies (3 units)

**Description:** - This course will provide an in depth review of EMT and Paramedic knowledge and will allow students to recertify as an EMT, AEMT, or paramedic in the State of Arizona or using the National Registry of EMTs (NREMT) recertification process. Course topics will cover all didactic material/objectives required by the National Registry of EMTs (NREMT) for both EMTs and Paramedics. All students will be expected to complete all course objective/content regardless of their level or training or primary level of certification. Note, the NCCP renewal option has not implemented in all states. To see if your state is currently participating in the NCCP recertification model click here (<https://www.nremt.org/rwd/public/states/state-ems-agencies>). Material covered will include: - 'National CE' or didactic material identified by the NREMT for EMTs and Paramedics as part of the National Core Competency Program (NCCP) program.- 'Local CE' or material approved by Southern Arizona EMS medical directors as valuable for EMCTs operating in southern Arizona. Please note that if you do not practice as an EMCT in southern Arizona you must get approval from your local medical director to count this content toward recertification. - 'Individual CE' for EMTs or paramedics. For EMTs this course will cover all of the 45 hours of national, local, & individual CE necessary to recertify with the NREMTs. For Paramedics who require 60 hours of didactic material for recertification you may count the above local hour of CE as individual if you medical director requires specific 'Local CE.'- Skills lab or Skills attestation: As part of the recertification process and this course each student will be expected to participate in an in person skills lab or complete a skills check list and have a EMS medical director or EMS educator sign off on skill competency.

**Grading basis:** Regular Grades

**Career:** Undergraduate

<b>Course Components:</b>	Lecture	Required
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**Course typically offered:** Online Campus: Fall

**Recommendations and additional information:** Current EMT, AEMT, or Paramedic certification.

**-SA** represents a Student Abroad & Student Exchange offering

**-CC** represents a Correspondence Course offering

**May Be Offered** Departments may offer this component in some semesters. See the Schedule of Classes for term-specific offerings.

**EMD 350: Advanced Emergency Medical Services Systems (3 units)**

**Description:** The Advance Emergency Medical Services course will cover the basics of EMS systems for University EMS service members and general student body. Course topics will include the history and foundation of EMS, EMS systems, state and regional EMS systems, trauma systems, emergency departments and EMS, medical oversight and accountability, administration/management/operations, system financing, communications, emergency medical dispatch, medical record documentation and EMS information systems, ambulance ground transport, inter-facility and specialty care transfer, air medical transport, EMS for children, rural EMS, disaster response, emergency medical care at mass gatherings, response to terrorist incidents and weapons of mass destruction, operational EMS, EMS and public health, research, EMS educational programs, EMS providers and system roles, occupational health issues, medical-legal concerns in EMS, EMS research, Emergency Medical Treatment and Labor Act (EMTALA) and EMS.

**Grading basis:** Regular Grades

**Career:** Undergraduate

**Course Components:** Lecture Required

**Course typically offered:**

Main Campus: Summer

**EMD 410: Emergency Medical Services Critical Care (3 units)**

**Description:** This course prepares students to deliver advanced critical care in the out of hospital setting, including interfacility transfer of critically ill patients, as well as responding to scene calls for critically ill or injured patients. Students will learn from critical care providers and Emergency Medicine Physicians, as well as other experts, who will teach students to perform the appropriate patient assessments, and how to perform invasive out of hospital care. The course format is delivered on D2L with in person skills sessions in groups and clinical settings in the hospital critical care unit.

**Grading basis:** Regular Grades

**Career:** Undergraduate

**Course Components:** Lecture Required

**Course typically offered:**

Main Campus: Spring

Online Campus: Spring

**Field trip:** None

-SA represents a Student Abroad & Student Exchange offering

-CC represents a Correspondence Course offering

**May Be Offered** Departments may offer this component in some semesters. See the Schedule of Classes for term-specific offerings.

**EMD 420: Emergency Medical Services Alternative Destinations (3 units)**

**Description:** This course is designed to provide an EMT or Paramedic with the additional training necessary to operate a community paramedic program or EMS treat and refer program. Topics covered will include: advanced EMS pharmaceuticals, management of chronic disease, recognition of acute decompensation of chronic disease, identification of patients that would be best treated at non-emergency care facilities, use of telemedicine in the prehospital setting and more.

**Grading basis:** Regular Grades

**Career:** Undergraduate

**Course Components:** Lecture Required

**Course typically offered:**

Main Campus: Fall

**Field trip:** None

**Honors Course:** Honors Contract

**Honors Course:** Honors Contract

**EMD 440: Advanced Prehospital Pediatric Care (3 units)**

**Description:** This course will provide an overview of the initial assessment and emergency management of children according to pediatric assessment triangle. Key to this course will be the recognition of critically ill children in a pre-hospital setting in order to place them into appropriate standing order sets. Course topics will include airway obstruction, croup, bronchiolitis, pneumonia, asthma, cardiac arrest, dysrhythmias, shock, sepsis, altered mental status, traumatic brain injury, seizures, neonatal resuscitation, and special needs/technology dependent children.

**Grading basis:** Regular Grades

**Career:** Undergraduate

**Course Components:** Lecture Required

**Course typically offered:**

Main Campus: Fall

**Recommendations and additional information:** PSIO 201, 202 or 380 is required for the EMS Major. PSIO 202 or 380 is required for the EMS Minor.

**Field trip:** No field trips will be required.

-SA represents a Student Abroad & Student Exchange offering

-CC represents a Correspondence Course offering

**May Be Offered** Departments may offer this component in some semesters. See the Schedule of Classes for term-specific offerings.

**EMD 493A: Internship for EMS or EMT (3 units)**

**Description:** This course is an internship course designed for current students working in EMS at The University of Arizona (general membership), or as an EMT while also a student at U of A. Students will be tasked with activities throughout the semester, and will report to the instructors on their progress. Students are expected to attend trainings, events, shifts, and other activities as assigned by their EMS agency.

**Grading basis:** Alternative Grading: S, P, F

**Career:** Undergraduate

**Course Components:** Independent Study      Required

**Course typically offered:**

Main Campus: Fall, Spring

**Recommendations and additional information:** All student adds to course must be approved by instructor. Students must have Emergency Medical Technician (EMT) certification or in progress.

**Field trip:** Community outreach activities.

**EMD 493B: EMS Leadership Internship (3 units)**

**Description:** This course is an internship course designed for leaders in EMS at The University of Arizona (UEMS chief, assistant chief, deputy chief, captains of training, logistics and personnel). Students will be tasked with leadership activities throughout the semester, and will report to the instructors on their progress.

**Grading basis:** Alternative Grading: S, P, F

**Career:** Undergraduate

**Course Components:** Independent Study      Required

**Course typically offered:**

Main Campus: Fall, Spring

**Recommendations and additional information:** Approval by instructor and current UEMS leadership position (UEMS chief, assistant chief, deputy chief, captains of training, logistics and personnel).

-SA represents a Student Abroad & Student Exchange offering

-CC represents a Correspondence Course offering

**May Be Offered** Departments may offer this component in some semesters. See the Schedule of Classes for term-specific offerings.

**EMD 498: Emergency Medical Services Senior Capstone Project (1 - 4 units)**

**Description:** This course provides senior level students with the opportunity to showcase the skills and knowledge they have acquired through completion of other Emergency Medical Services courses. For this course students must choose a project to (research project, quality improvement project, scientific publication, development or revise of a prehospital protocol based on new scientific evidence, etc.) implement or report. All projects require prior approval of the course manager and director.

**Grading basis:** Student Option ABCDE/PF

**Career:** Undergraduate

**Course Components:** Independent Study Required

**Repeatable:** Course can be repeated a maximum of 1 times.

**Course typically offered:**

Main Campus: Fall, Spring, Summer

**Recommendations and additional information:** Students must have completed EMD 350 and have junior or senior standing to enroll in this course.

**Field trip:** No field trips are required. Students may attend scientific conferences if they choose.

**EMD 599: Independent Study (1 - 12 units)**

**Description:** Qualified students working on an individual basis with professors who have agreed to supervise such work. Graduate students doing independent work which cannot be classified as actual research will register for credit under course number 599, 699, or 799.

**Grading basis:** Alternative Grading: S, P, F

**Career:** Graduate

**Course Components:** Independent Study Required

**Repeatable:** Course can be repeated a maximum of 99 times.

**Course typically offered:**

Main Campus: Fall, Spring

**EMD 800A: Research (1 - 16 units)**

**Description:** This course provides opportunity to develop and conduct a research project in Emergency Medicine

**Grading basis:** Clerkship S,HP,P,F

**Career:** Medical School

**Course Components:** Independent Study Required

**Repeatable:** Course can be repeated for a maximum of 16 units.

**Course typically offered:**

Main Campus: Fall, Spring

**Recommendations and additional information:** SURG 803, consent of instructor.

-SA represents a Student Abroad & Student Exchange offering

-CC represents a Correspondence Course offering

**May Be Offered** Departments may offer this component in some semesters. See the Schedule of Classes for term-specific offerings.

**EMD 838: Emergency Medicine Third-Year Elective (1 - 10 units)**

**Description:** To allow interested third year students to experience an early exposure to the clinical practice of emergency medicine. The course emphasis will be on diagnosis and management of common emergencies and basic procedural skills. Specific Goals: The student will be able to obtain a directed history from a patient with an undifferentiated illness and perform a physical examination related to a patient's chief complaint. The student will begin to generate a differential diagnosis that addresses urgent and emergent conditions that are consistent with the history and physical examination. The student will understand the evaluation and initial care for common life-threatening and urgent diseases seen by emergency physicians. The student will demonstrate competence in basic patient care and monitoring procedures. The student will become competent in basic wound management. Objectives Perform a directed history and focused physical examination on a patient. State the emergency department scope of care of patients presenting with common emergencies. Perform a chin lift and jaw thrust maneuver. Perform bag, valve, mask ventilation on a mannequin. Insert oral and nasal airways on a mannequin. Perform endotracheal intubation on a mannequin. Place a patient on oxygen by nasal cannula and oxygen via mask. Place a pulse oximeter and cardiac monitor on a patient. Perform venous access and set up an IV infusion. Perform phlebotomy. Discuss the pharmacology of the local anesthetics. Discuss various options for cleansing of wounds. Perform basic suturing of a simple laceration.

**Grading basis:** Clerkship S,HP,P,F

**Career:** Medical School

**Course Components:** Independent Study      Required

**Course typically offered:**

Main Campus: Spring

**Recommendations and additional information:** Third-year medical students with successful completion of 1st & 2nd-year of medical school and MEDI 813C, SURG 813C and OBG 813C.

**EMD 840: Emergency Medicine Subinternship (4 - 8 units)**

**Description:** This elective is designed to provide students with an intensive patient care experience, serving in an intern-like capacity in an emergency department. Students will become familiar with common emergent problems; gain skills and understanding in providing care for patients who enter the emergency medical system; and hone their ability to apply these skills to the solution of complex problems in emergency care.

**Grading basis:** Clerkship S,HP,P,F

**Career:** Medical School

**Course Components:** Independent Study      Required

**Course typically offered:**

Main Campus: Fall, Spring

**Recommendations and additional information:** EMD 891A; successful completion of years one and two of medical school.

-SA represents a Student Abroad & Student Exchange offering

-CC represents a Correspondence Course offering

**May Be Offered** Departments may offer this component in some semesters. See the Schedule of Classes for term-specific offerings.

**EMD 845: Integrated Emergency Medicine/Critical Care** (4 units)

**Description:** Students will be given an overview of the principles and concepts of the specialty of Emergency Medicine, with emphasis on the common presenting complaints and procedures in the undifferentiated patient. Additionally, students will experience how treatment in the Emergency Department affects the patient's subsequent hospitalization. Critical care concepts, such as ventilation management, hemodynamic monitoring and pressor management, critical care pharmacology and social and behavioral concepts affecting patient management at this level will be addressed. When not working clinically, students will attend the Emergency Department's teaching conferences.

**Grading basis:** Clerkship S,HP,P,F

**Career:** Medical School

**Course Components:** Independent Study      Required

**Course typically offered:**

Main Campus: Fall, Spring

**Recommendations and additional information:** Open to University of Arizona, College of Medicine 4th-year students only.

**EMD 850A: Clinical Toxicology** (1 - 16 units)

**Grading basis:** Clerkship S,HP,P,F

**Career:** Medical School

**Course Components:** Independent Study      Required

**Repeatable:** Course can be repeated a maximum of 99 times.

**Course typically offered:**

Main Campus: Fall, Spring

**Recommendations and additional information:** SURG 803C; 3rd and 4th-year medical students only.

-SA represents a Student Abroad & Student Exchange offering

-CC represents a Correspondence Course offering

**May Be Offered** Departments may offer this component in some semesters. See the Schedule of Classes for term-specific offerings.



**EMD 850B: Wilderness Medicine & Advanced Wilderness Life Support** (2 units)

**Description:** Goals/Objectives: 1. To develop an appreciation for medicine in the wilderness and austere environments. 2. Earn certification in Advanced Wilderness Life Support (AWLS). 3. Develop an organized, systemic approach for approaching and assessing a patient in various wilderness settings. 4. Specifically understand unique diagnoses and treatments for the following wilderness-related topics: altitude, avalanche, heat-induced injuries, cold-induced injuries, lightning, submersion, dive medicine, water disinfection, dentistry, dermatology, eye injuries, ENT injuries, infectious diseases, musculoskeletal injuries, wound management and common medical problems. 5. To be able to plan for potential medical problems based on group size and type of activity. Then to be able to improvise and adapt when the unforeseen occurs. 6. To develop appropriate triage and multitasking abilities for various scenarios including multi-patient casualties. 7. In a practical setting, be able to fashion various splints, dressings, tourniquets and litters with improvised materials. 8. In a practical setting, be able to approach a patient, secure the environment, diagnose pathology, provide treatment, arrange evacuation and communicate this to those involved. 9. To see beyond Wilderness Medicine as 'vacation medicine' or 'doctor tourism' to its true applicability in austere or impromptu environments, such as rural, humanitarian or mass casualty settings. Format: This course consists of didactic lectures in the classroom, as well as a practical session in the wilderness. The didactics will be Monday through Thursday, 3-4 lectures each day, for 2 weeks. The final day of didactics there is an AWLS certification exam. There will then be a Saturday practical session in a wilderness setting somewhere within an hour of Tucson (location TBD). This practical session will involve breaking into smaller groups and coming upon scenarios where the students will have to take charge, assign roles and apply the skills they've learned. (The scenarios will be manned by volunteers in moulage.) Each group will be observed/evaluated by a faculty member or lecturer. Evaluation Methods: Faculty and/or departmental residents/fellows will evaluate the student on: 1. quality of the student's paper synthesizing the current literature on a particular wilderness medicine topic. These topics will be presented in class by the students. 2. factual/content knowledge (Taking the AWLS certification exam) Faculty and/or departmental residents/fellows will evaluate the student's clinical performance by assessing the student's: 3. Clinical performance in the practical scenarios 4. Ability to assess scene safety 5. Ability to obtain history and perform interview 6. Ability to develop likely diagnosis(es) 7. Ability to initiate appropriate treatment, including medications, splints, litters, pt comfort, etc. 8. Ability to assess evacuation needs, and if required, develop an appropriate evacuation plan 9. Quality of leadership and performing specific roles during the practical scenarios 10. Ability to assign roles 11. Ability to take roles 12. Ability to practice closed loop communication

**Grading basis:** Clerkship S, HP, P, F

**Career:** Medical School

**Course Components:** Independent Study      Required

**Course typically offered:**

Main Campus: Spring

-SA represents a Student Abroad & Student Exchange offering

-CC represents a Correspondence Course offering

**May Be Offered** Departments may offer this component in some semesters. See the Schedule of Classes for term-specific offerings.

**EMD 850C: Emergency Ultrasound Elective (2 - 4 units)**

**Description:** Goals/Objectives: The goal of this elective is to introduce students to the field of point-of-care emergency ultrasound. Students will be exposed to point-of-care emergency ultrasound in a variety of learning formats (e.g., lecture, podcast, online modules, hands-on) in multiple settings. During this course the students will learn the basic principles and physics of sonography. Students will be introduced to the following basic bedside ultrasound examinations: gallbladder aorta cardiac renal endovaginal procedural guidance including vascular access sonography for trauma deep venous thrombosis evaluation At the completion of this course, we expect students to: 1. Demonstrate an understanding of the basic principles and clinical role of point-of-care emergency ultrasound. 2. Recognize the indications for point-of-care emergency ultrasound. 3. Identify common pathologic findings. 4. Perform the basic bedside ultrasound examinations (as listed above). 5. Be familiar with the research and literature on point-of-care emergency ultrasound. Format: Students have nine months to complete the various required elements of the course. Opportunities to complete the elements will be offered regularly. It is up to the student to schedule and ensure completion of each element. The required elements include: Pre-test to assess students knowledge of emergency ultrasound, administered during orientation to course Introduction to ultrasound course taken with incoming emergency interns (two half days in July- 8 hours total) Completion of 10 scanning shifts with ultrasound faculty or fellows (90 hours) During these shifts, students will perform bedside ultrasound scans; 120 scans are required. Students will keep a log of all scans performed and submit the log at the end of the elective course. Completion of 10 hours serving as a model for ultrasound education Attendance at 5 hours of departmental ultrasound educational events (e.g. resident orientation, conference lectures, faculty workshops, hands-on sessions for residents, ultrasound journal club, ICU ultrasound rounds) Attendance at 4 departmental QA sessions. These are sessions in which the ultrasound faculty review scans performed and discuss cases. The sessions are offered every Monday and last for 2 hours (8 hours) Listen to 10 ultrasound podcasts (5-20 minutes/per podcast) and complete a short quiz on each one (approximately 2.5 hours) Completion of 12 online modules for basic ultrasound applications (6 hours) Case report of a case that the student personally encountered in which bedside ultrasound was used and influenced patient care Pass a final written examination

**Grading basis:** Clerkship S,HP,P,F

**Career:** Medical School

**Course Components:** Independent Study Required

**Course typically offered:**

Main Campus: Fall, Spring

-SA represents a Student Abroad & Student Exchange offering

-CC represents a Correspondence Course offering

**May Be Offered** Departments may offer this component in some semesters. See the Schedule of Classes for term-specific offerings.

**EMD 850D: Pediatric Emergency Medicine (2 - 4 units)**

**Description:** The purpose of this elective is to provide the student with an experience in acute care pediatrics. The student will improve their assessment skills in caring for the acutely ill or injured child. An approach to common pediatric emergencies will be taught. Students will perform the initial evaluation of patients, necessary workup and provide appropriate therapy after consultation with the Emergency Department faculty and residents. Students will gain experience while working alongside senior residents performing procedures such as phlebotomy and IV, lumbar punctures, splinting, and laceration repair. When not working clinically, students will attend the Emergency Department's teaching conferences.

**Grading basis:** Clerkship S,HP,P,F

**Career:** Medical School

**Course Components:** Independent Study      Required

**Course typically offered:**

Main Campus: Fall, Spring

**Field trip:** None

**EMD 880: Cardiopulmonary Resuscitation Instruction (1 unit)**

**Description:** Students will demonstrate and teach CPR techniques to individuals and the community as a whole to normalize its use through awareness to alleviate fear. Students will also learn about key frontiers in research in the areas of cardiac arrest and CPR. During this course, students will be required to complete a total of 45 hours of contact time dedicated to the activities of this elective. Students may obtain the optional CPR Instructor Certification on their own to add hours teaching as a certified instructor to their total contact hours. The CPR Instructor Certification is optional but not required. Certain venues require this certification before you can teach so it does make more opportunities available.

**Grading basis:** Clerkship S,HP,P,F

**Career:** Medical School

**Course Components:** Independent Study      Required

**Course typically offered:**

Main Campus: Fall, Spring

-SA represents a Student Abroad & Student Exchange offering

-CC represents a Correspondence Course offering

**May Be Offered** Departments may offer this component in some semesters. See the Schedule of Classes for term-specific offerings.

**EMD 881B: Rural Health Professions Program II (2 - 4 units)**

**Description:** The Rural Health Professions Program (RHPP) was designed to provide medical students with quality educational experiences in selected rural settings. Students will participate in patient care providing service in the practices of their preceptors. In addition, students will interact with social service and other health care agencies to gain a more complete knowledge of services available. Students will work with their assigned physician preceptors in their practices located in rural Arizona. Students will compare/contrast experiences with rural setting with that of an academic health center.

**Grading basis:** Clerkship S,HP,P,F

**Career:** Medical School

**Course Components:** Independent Study      Required

**Course typically offered:**

Main Campus: Fall, Spring

**Field trip:** None

**EMD 891A: Emergency Medicine Away Rotation (1 - 16 units)**

**Description:** This elective is designed to provide fourth-year medical students with a broad exposure to Emergency Medicine through the ride-along program with the Phoenix Fire Department Paramedics. Students will see a variety of cases under the direct supervision of the Paramedic staff, who will also participate in debriefing and evaluating students. Dr. John V. Gallagher, III, the Medical Director for the City of Phoenix Fire Department Medical Services, will meet regularly with the student to discuss cases and answer questions.

**Grading basis:** Clerkship S,HP,P,F

**Career:** Medical School

**Course Components:** Independent Study      Required

**Repeatable:** Course can be repeated a maximum of 3 times.

**Course typically offered:**

Main Campus: Fall, Spring

**Recommendations and additional information:** MEDI 803, SURG 803. Concurrent registration, OB G 803 or PED 803.

**EMD 899: Independent Study (1 - 16 units)**

**Description:** The goal of this elective is to allow the student to work with a particular faculty member in pursuit of a particular field of study in emergency medicine.

**Grading basis:** Clerkship S,HP,P,F

**Career:** Medical School

**Course Components:** Independent Study      Required

**Repeatable:** Course can be repeated for a maximum of 18 units.

**Course typically offered:**

Main Campus: Fall, Spring

-SA represents a Student Abroad & Student Exchange offering

-CC represents a Correspondence Course offering

**May Be Offered** Departments may offer this component in some semesters. See the Schedule of Classes for term-specific offerings.