



Paramedic Science Program Core Courses

Students in the major must achieve a B- or better in each course

PARM 2211 Basic ECG Interpretation

Course Description: Introductory ECG course. Anatomy and physiology of the conduction system of the heart, the electrical system, electrocardiography, abnormal ECG patterns and distinguishing between life-threatening & non-life-threatening dysrhythmias. Introduction to dysrhythmia management. PREREQ: Acceptance into Paramedic program or permission of instructor. F

PARM 2211 Course Outcomes

- CO1. Understand the anatomy and electrical pathways of the myocardium.
- CO2. Identify normal and abnormal ECG dysrhythmias.
- CO3. Develop an introductory understanding of treatment of common dysrhythmias.

PARM 2212 Paramedic Pharmacology

Course Description: Fundamental, drug-class oriented course that focuses on the pharmacodynamics and pharmacokinetics of drug therapy, drug calculations and the pharmaceutical interventions of common EMS medications. Roles and responsibilities and ethical considerations of drug administration. COREQ: PARM 2213, PARM 2213L and PARM 2217L. Acceptance into Paramedic program or permission of instructor. F

PARM 2212 Course Outcomes

- CO1. Demonstrate the ability to calculate and administer common medications given in the prehospital environment.
- CO2. Discuss the general pharmacodynamics and pharmacokinetics of common medications given in the prehospital environment.
- CO3. Identify drug classes of commonly prescribed patient medications.
- CO4. Articulate the appropriate therapeutic pharmacological & prehospital interventions for given patient conditions.
- CO5. Discuss the use of common ACLS medications and their actions, dosages and their use in the prehospital environment.
- CO6. Discuss the use of common ACLS medications and their actions, dosages and their use in the prehospital environment.
- CO7. Become familiar with local EMS drug protocols.



PARM 2213 Paramedic Fundamentals

Course Description: Basic patient assessment concepts, review of basic airway management & introduction to advanced airway management/ventilation, intravenous skills & medication administration via enteral & parenteral routes. Acceptance in Paramedic program or permission of instructor. F

PARM 2213 Course Outcomes

- CO1. Recognize hazards/potential hazards associated with the medical and trauma scenes.
- CO2. Discuss methods of assessing mental status/levels of consciousness in the adult, infant, and child patient.
- CO3. Describe the trauma patient physical examination and treatment options.
- CO4. Describe the trauma patient physical examination and treatment options.
- CO5. Describe the examination of the body regions, differentiate between normal and abnormal findings, and define the significance of abnormal findings.
- CO6. Identify and describe the components of the focused history as it relates to the patient assessment.
- CO7. Describe basic and advanced airway techniques with emphasis in proper selection and procedure for airway management.
- CO8. Students will be responsible for reading text of the topics, which will be covered in class prior to attending class. This will be assessed through quiz scores.

PARM 2213L Paramedic Fundamentals Lab

Course Description: Basic patient assessment concepts, review of basic airway management & introduction to advanced airway management/ventilation, intravenous skills & medication administration via enteral & parenteral routes. Acceptance in Paramedic program or permission of instructor. F

PARM 2213L Course Outcomes

- CO1. Demonstrate appropriate application of basic and advanced airway management techniques.
- CO2. Demonstrate proper techniques of intravenous therapy, parental and enteral medication administration.
- CO3. Demonstrate the ability to calculate and administer appropriate medications when given a patient scenario.
- CO4. Appreciate the role of pharmaceuticals, intravenous and airway management equipment within the context of patient care.



- CO5. Satisfactorily complete all peer and instructor sign-offs related to airway management and IV & IV Med administration as listed in the ISU Paramedic Science Lab Skills Goals appendix.
- CO6. Students will be responsible for reading text of the topics, which will be covered in class prior to attending class. This will be assessed through quiz scores.

PARM 2214 Paramedic Pathophysiology

Course Description: A correlative approach to pathophysiology applying both physical assessment skills and basic cellular understanding of various disease entities and trauma processes encountered in emergency medicine. Prerequisite: Acceptance into Paramedic program or permission of instructor. F

PARM 2214 Course Outcomes

- CO1. Review basic concepts of anatomy and physiology of the human body
- CO2. Describe disease processes of the cardiovascular, respiratory, nervous, endocrine, and gastrointestinal systems; special senses, shock and cancer.

PARM 2215 Intro to Paramedic Medicine

Course Description: Interactive presentation and discussion of foundational aspects of EMS within the healthcare system. Includes ethics, medical-legal issues, roles & responsibilities of the Paramedic, healthcare policy and the role of research within EMS. Prerequisite: Acceptance into Paramedic program or permission of instructor. F

PARM 2215 Course Outcomes

- CO1. Review the basic concepts of EMS systems, communications, ethics, and medical-legal considerations of prehospital medicine.
- CO2. Appreciate the role of documentation and research in prehospital medicine.
- CO3. Become familiar with the national triage protocol and other various triage options
- CO4. Complete mandatory rescue, operations and hazmat courses via online programs

PARM 2217 Paramedic Integration I Lab

Course Description: Designed to teach, integrate and complement content from concurrent Paramedic lecture courses, as well as reinforce of assessment & therapeutic communication techniques, while reviewing & assessing skills learned from concurrent & prior EMS coursework. COREQ: PARM 2212, PARM 2213 and PARM 2213L. Graded P/NP. Acceptance in Paramedic program or permission of instructor. F



PARM 2217 Course Outcomes

- CO1. Recognize hazards/potential hazards associated with the medical and trauma scenes.
- CO2. Demonstrate methods of assessing mental status/levels of consciousness in the adult, infant, and child patient.
- CO3. Demonstrate a rudimentary trauma patient physical examination.
- CO4. Demonstrate a rudimentary medical patient physical examination.
- CO5. Satisfactorily complete all peer and instructor sign-offs related to patient assessment, trauma skills and cardiac skills as listed in the ISU Paramedic Science Lab Skills Goals handout.

PARM 2221 Medical Emergencies

Course Description: Recognition, assessment and treatment of medical diseases involving cardiac, respiratory, neurologic, endocrine, abdominal, hematologic, behavioral disorders, toxicology and renal systems. Includes ACLS. COREQ: 2221L. PREREQ: PARM 2211, PARM 2212, PARM 2213, PARM 2213L, and PARM 2215. Acceptance into Paramedic program or permission of instructor. S

PARM 2221 Course Outcomes

- CO1. Identify and treat appropriately common medical emergencies encountered in the pre-hospital setting.
- CO2. Identify and treat respiratory and cardiovascular emergencies encountered in the pre-hospital setting.
- CO3. Perform a detailed primary and secondary patient assessment and formulate an accurate treatment plan when given a scenario.
- CO4. Demonstrate the ability to treat a patient's with appropriate medications and dosages based upon the patient's presentation and disorder.
- CO5. Incorporate pathological processes into various medical disorders/conditions.
- CO6. Demonstrate basic and advanced ECG interpretation in patient conditions.

PARM 2221L Medical Emergencies Lab

Course Description: Reinforces and integrates the recognition and treatment of medical diseases as taught in PARM 2221. Skill modalities shall include pharmacological intervention, ECG interpretation, basic and advanced airway interventions, patient assessment, patient management and decision-making. Graded P/NP. COREQ: PARM 2221. Acceptance into Paramedic program or permission of instructor. S



PARM 2221L Course Outcomes

- CO1. Demonstrate the ability to calculate and administer common medications given in the prehospital environment.
- CO2. Demonstrate the ability to perform comprehensive medical and trauma patient assessments in both adults and pediatrics.
- CO3. Demonstrate the ability to formulate appropriate treatment plans when given an adult or pediatric patient scenario.
- CO4. Demonstrate the ability to satisfactorily complete static cardiology stations.
- CO5. Demonstrate leadership skills to serve as the team leader of various simulations, including dynamic cardiology, medical and trauma scenarios.
- CO6. Demonstrate the ability to perform as an effective and cooperative team member.
- CO7. Demonstrate the ability to successfully complete ALS skills, as listed below.
- CO8. Demonstrate the use of common ACLS/ PALS medications and their actions, dosages and their use in the prehospital environment.
- CO9. Become familiar with local treatment protocols.

PARM 2222 Trauma Care

Course Description: A comprehensive approach to assessment, injury recognition and management of the trauma patient. An introduction of trauma systems, injury prevention, kinematics and aeromedical use and integration. Includes PHTLS.

PREREQ: PARM 2213, PARM 2213L, PARM 2214 and acceptance into Paramedic program or permission of instructor. S

PARM 2222 Course Outcomes

- CO1. Demonstrate the ability to recognize traumatic injuries.
- CO2. Differentiate between life-threatening and nonlife-threatening traumatic injuries.
- CO3. Describe proper treatment plans for patients with traumatic injuries.
- CO4. Articulate the appropriate therapeutic pharmacological & prehospital interventions for given patient conditions

PARM 2223 Advanced Emergency Care

Course Description: Combined lecture/lab course focuses on providing the paramedic student with a working knowledge, including assessment and treatment options, of patients with specific physical, pathological, mental or other challenges. Students will also be familiarized with infrequently encountered patient types and appropriate care plans. The course will also provide a cursory knowledge of interfacility and critical care treatments and tools that may be encountered by the paramedic. **PREREQ:** PARM



2213, PARM 2213L and acceptance into Paramedic program or permission of instructor. S

PARM 2223 Course Outcomes

See objectives handout for course-specific objectives (44 total)

PARM 2224 Special Populations

Course Description: A comprehensive approach of obstetrics and gynecology, including the pediatric patient from birth to adolescence. Includes introduction to gerontology-to address issues such as lifespan development, cultural diversity, polypharmacy, pathological changes and treatment variations associated with an aging population. Includes an introduction to PALS. COREQ: PARM 2224L. PRERQ: Acceptance into Paramedic program or permission of instructor. S

PARM 2224 Course Outcomes

- CO1. Discuss common medical and traumatic conditions and diseases for each population sub-group discussed in class.
- CO2. Develop proper treatment plans for the various patient conditions discussed in class and the text.
- CO3. Develop an appreciation for people of various age groups and patient conditions.
- CO4. Prepare students to recognize and appropriately treat abuse and neglect victims.

PARM 2224L Special Populations Lab

Course Description: Reinforces and integrates the recognition and treatment of medical diseases as taught in PARM 2224. Skill modalities shall include pharmacological intervention, ECG interpretation, basic and advanced airway interventions, patient assessment, pt. management and decision-making. COREQ: PARM 2224. Graded P/NP. S

PARM 2214L Course Outcomes

See objectives handout for course-specific objectives (81 total)

PARM 2225 Advanced ECG Interpretation

Course Description: An introductory 12-lead ECG interpretation course. Topics will include intraventricular conduction delays, myocardial ischemia, injury and infarction, axis deviation, syndrome bundle branch blocks, ectopy and advanced dysrhythmia interpretation. COREQ: PARM 2211 or permission of instructor. S



PARM 2225 Course Outcomes

- CO1. Develop an understanding of the role and function of 12-lead ECG monitoring
- CO2. Develop a systematic process to interpreting a 12-lead ECG.
- CO3. Identify common irregularities of ECG tracings when interpreting a 12-lead ECG printout, such as, ischemia and injury, axis deviation, bundle branch blocks & fascicular blocks.
- CO4. Become familiar with current ACLS treatment regimens for ACS.

PARM 2229 Paramedic Clinical Practicum I

Course Description: Student rotations through various departments in hospitals, performing paramedic skills under the direct supervision of the clinical instructor &/or assigned clinical preceptors. Skills performed include those learned in previous coursework. Graded P/NP. S Clinical rotations are often on weekends and some night shifts. S

PARM 2229 Course Outcomes

- CO1. Communicate with patients
- CO2. Perform basic patient assessments, including vital signs, lung sounds and history taking.
- CO3. Identify and treat appropriately common respiratory emergencies within the hospital setting.
- CO4. Become familiar with routine EMS operations, while performing basic patient assessments.

PARM 2231 Rescue-Operations

Course Description: An introductory course to include: ambulance operations, rescue and extrication techniques, incident command and hazardous materials. The accompanying laboratory portion may be taught in seminar format as necessary.

PREREQ: Acceptance into Paramedic program or permission of instructor. Su

PARM 2231 Course Outcomes

- CO1. Satisfactorily complete the following on-line classes: HazMat Awareness, Extrication Awareness, POST, ICS 100 and Landing Zone.
- CO2. Satisfactorily complete Pediatric Advance Life Support (PALS).
- CO3. Satisfactorily complete Adult Cardiac Life Support (ACLS).
- CO4. Satisfactorily complete Pre-Hospital Trauma Life Support (PHTLS) skills stations.
- CO5. Satisfactorily write a personal business resume.



- CO6. Consistently perform an appropriate patient assessment, develop and execute an appropriate treatment plan for the given situation.

PARM 2237L Paramedic Integration II Lab

Course Description: Designed to teach, integrate and complement content from previous Paramedic lecture and laboratory courses. Previously learned material shall be reviewed, reinforced and evaluated as necessary to maintain competency. Graded P/NP. PREREQ: PARM 2217, PARM 2221, PARM 2222, and PARM 2223. Su

PARM 2237L Course Outcomes

- CO1. Satisfactorily complete Pediatric Advanced Life Support (PALS).
- CO2. Satisfactorily complete Adult Cardiac Life Support (ACLS).
- CO3. Satisfactorily complete Pre-Hospital Trauma Life Support (PHTLS).
- CO4. Consistently perform an appropriate patient assessment, develop and execute an appropriate treatment plan for the given situation.
- CO5. Satisfactorily complete the comprehensive final examination with the score of 70%

PARM 2239 Paramedic Clinical Practicum II

Course Description: Supports the didactic elements of the Paramedic course. Rotations at various clinical settings including: ED, OR, ICU/CCU, Crisis Intervention/Psychiatry and EMS ride-alongs with EMS/Fire agencies. In addition, students shall complete an ACLS Provider course. Other clinical site rotations may be added or substituted as determined by the program. PREREQ: PARM 2229, and acceptance into Paramedic program or permission of instructor. Graded P/NP. Su

PARM 2239 Course Outcomes

- CO1. Develop effective communication skills with patients.
- CO2. Perform patient assessments of various ages and various chief complaints.
- CO3. Develop field differential diagnosis for various patient encounters
- CO4. Perform various EMS skills, to include: airway management, ventilation, intravenous therapy, medication administration.

PARM 2249 Paramedic Field Practicum II

Course Description: Capstone course for the student to apply/demonstrate the knowledge/skills learned in the program on an EMS unit. Students is under the direct supervision of an approved preceptor and is required to demonstrate competence as a team leader performing patient assessment skills & formulating a proper treatment plan for situations encountered. Mandatory benchmarks are required. PREREQ: PARM 2231, PARM 2237 and PARM 2239. Graded P/NP. F



PARM 2249 Course Outcomes

- CO1. Demonstrate competency in the areas of evaluation and control of scenes, patient assessment skills, communication skills, demeanor and teamwork, treatment skills, and equipment and supplies.
- CO2. Development of and acting upon appropriate treatment plans for patients encountered in the pre-hospital setting.
- CO3. Demonstrate the above skills and the skills listed in their subcategories as outlined by ISU/ACP's *Paramedic Field Internship Performance Evaluation Standards*.
- CO4. Demonstrate sufficient performance regarding patient assessment, base knowledge and treatment skills during patient simulations provided by the preceptor.
- CO5. Perform at a consistent level of competency as prescribed by the ISU/ACP's *Paramedic Field Internship Performance Evaluation Standards*.
- CO6. Complete fifty (50) patient assessments as the team leader, including two (2) unconscious, two (2) pediatric and twenty (20) ALS patients.
- CO7. Complete all assessment and skill competencies as required by the program.
- CO8. Satisfactorily complete the program comprehensive final written examination with minimum score of 70%.