



Course Syllabus

EMSP 2544 - Cardiology

Catalog Description: Assessment and management of patients with cardiac emergencies. Includes single and multi-lead ECG interpretation.

Prerequisites: BIOL 2404 or BIOL 2401, Current TX EMT certification

Co-requisites: EMSP 1438, EMSP 1356, EMSP 2260, EMSP 2306

Semester Credit Hours: 5

Lecture Hours per Week: 4

Lab Hours per Week: 2

Extended hours: 0

Contact Hours per Semester: 96

State Approval Code: 51.0904

Class section meeting time:

Alternate Operations During Campus Closure: In the event of an emergency or announced campus closure due to a natural disaster or pandemic, it may be necessary for Panola College to move to altered operations. During this time, Panola College may opt to continue delivery of instruction through methods that include, but are not limited to: online learning management system (CANVAS), online conferencing, email messaging, and/or an alternate schedule. It is the responsibility of the student to monitor Panola College's website (www.panola.edu) for instructions about continuing courses remotely, CANVAS for each class for course-specific communication, and Panola College email for important general information.

Artificial Intelligence (AI) Course Policy: No use of Generative AI permitted.

Instructional Goals and Purposes: The purpose of this course is to prepare the student in cognitive, psychomotor and affective competencies in the recognition and treatment of pre-hospital emergencies at the EMT – paramedic level.

Learning Outcomes:

1. Integrate pathophysiological principles and assessment findings to formulate an impression for a cardiac patient.
2. Interpret EKGs, recognize, and treat cardiac dysrhythmias
3. Implement a treatment plan for the cardiac patient

Specific Course Objectives (includes SCANS):

After studying all materials and resources presented in the course, the student will be able to:

1. Demonstrate the ability to comprehend, apply, analyze, and evaluate information relevant to their role as a paramedic intern. (1Bi, ii, iii, iv, v, vi)
2. Relate the anatomy to the pathophysiology of the cardiovascular system. (1Ai, ii, iii, iv, v, vi)

3. Relate the anatomy to the pathophysiology of the cardiac conduction system. (1Ai, ii iii, iv, v, vi)
4. Apply the assessment principles specific to a patient with cardiovascular complaints. (1Bi, ii, iii, iv, v, vi)
5. Relate the pathophysiology, defining characteristics, clinical presentation, and management of cardiac rhythms. (1Ai, ii, iii, iv, vi, vi, 1Bi, ii iii, iv, v, vi)
6. Demonstrate technical proficiency in all basic skills and the following advanced skills: advanced airway management, IV therapy Venipuncture, shock therapy, drug calculation, medication administration, cardioversion and defibrillation, EKG Rhythm recognition, cardiovascular pharmacology, and medical Mega code. (2Ei, ii, iii)
7. Exhibit affective qualities and personal behavior characteristics of a paramedic intern. (1Aiv, v; Ci, ii, iii, iv, v; 2Bi, vi)
8. Communicate professionally with patient, team members, and hospital personnel. (2Ciii; Bi, ii, iii, iv, vi, iv)
9. Assumes the responsibility of self- development as a member in the profession of prehospital care. (1Ci, ii, iii, iv, v)
10. Recognize the necessary qualifications of a team leader and begin progression from team member to team leader. (1Aiv, v; 2Bi, ii, iii)
11. Practice within the legal and ethical limits of the EMT-P intern. (1Ci, ii, iii, iv, v)

Course Content:

A general description of lecture/discussion topics included in this course are listed in the Learning Outcomes / Specific Course Objectives sections of this syllabus.

Students in all sections of this course will be required to do the following:

1. Complete all pre-class assignments, quizzes, and homework to prepare to participate in classroom activities.
2. Participate in classroom activities.

Methods of Instruction/Course Format/Delivery:

This course is offered in a face-to-face traditional format for flipped classroom lessons.

Major Assignments / Assessments:

The following items will be assigned and assessed during the semester and used to calculate the student's final grade.

Assignments

1. The Cardiovascular System: Blood and Vasculature
2. The Cardiovascular System: The Heart
3. Cardiovascular emergencies
4. Introduction to Electrophysiology and Sinus Rhythms
5. Atrial, Junctional, and Ventricular Rhythms and Heart Blocks
6. Cardiac Skills Lab (Heart lab, monitor skills lab)
7. Dysrhythmia Day 1
8. Dysrhythmia Day 2
9. 12 Lead Day 1
10. 12 Lead Day 2
11. ACLS Day 1
12. ACLS Day 2
13. Pathophysiology papers/scenarios

Assessment(s):

1. ACLS skills testing
2. ACLS course test

Course Grade:

The grading scale for this course is as follows:

Students MUST maintain an OVERALL grade of 80% in the course to be eligible to participate in clinical rotations. Students who do not achieve this will have their clinicals IMMEDIATELY suspended and participate in REMEDIATION through tutoring sessions.

Below is the corresponding percentage to letter grade.

92%-100%	A
86-91.99%	B
80-85.99%	C
70-79.99%	D
0-69.99%	F

Refer to policy and procedures manual and student handbook for grade appeals.

1. Students must pass the final exam (failure of final will mean dismissal from course) and skills testing.
2. Students wishing to know their average may do so any time during course.
3. Number of exams will be dependent on the level of the course being taught.

Homework, Quizzes	25%
Class participation, skills	25%
Final Exam (must pass)	50%

Texts, Materials, and Supplies:

- Nancy Caroline's Emergency Care in the Streets 9th edition with Navigate 2 flipped classroom access.
- Current AHA Advanced Cardiac Life Support provider manual
- Platinum Testing and Planner (instructor will set up)

Required Readings:

- Nancy Caroline's Emergency Care in the Streets 9th edition with Navigate 2 flipped classroom access.
- Current AHA Advanced Cardiac Life Support provider manual

Other:

- Courses conducted via video conferencing may be recorded and shared for instructional purposes by the instructor.
- For current texts and materials, use the following link to access bookstore listings: <https://www.panolacollegestore.com>
- For testing services, use the following link: <https://www.panola.edu/student-services/student-support/academic-testing-center>
- If any student in this class has special classroom or testing needs because of a physical learning or emotional condition, please contact the ADA Student Coordinator in Support Services located in the Charles C. Matthews Student Center or go to <https://www.panola.edu/student-services/student-support/disability-support-services> for more information.
- Panola College welcomes pregnant and parenting students as a part of the student body. This institution is committed to providing support and adaptations for a successful educational experience for pregnant and parenting students. Students experiencing a need for accommodations related to pregnancy or parenting will find a Pregnancy and Parenting

Accommodations Request form in *The Pathfinder* or may request the form from the course instructor.

- Withdrawing from a course is the student's responsibility. Students who do not attend class and who do not withdraw will receive the grade earned for the course.
- Student Handbook, *The Pathfinder*: <https://www.panola.edu/> (located at the bottom under students)

SCANS CRITERIA

1) **Foundation skills are defined in three areas: basic skills, thinking skills, and personal qualities.**

- a) **Basic Skills:** A worker must read, write, perform arithmetic and mathematical operations, listen, and speak effectively. These skills include:
 - i) Reading: locate, understand, and interpret written information in prose and in documents such as manuals, graphs, and schedules.
 - ii) Writing: communicate thoughts, ideas, information, and messages in writing, and create documents such as letters, directions, manuals, reports, graphs, and flow charts.
 - iii) Arithmetic and Mathematical Operations: perform basic computations and approach practical problems by choosing appropriately from a variety of mathematical techniques.
 - iv) Listening: receive, attend to, interpret, and respond to verbal messages and other cues.
 - v) Speaking: Organize ideas and communicate orally.
- b) **Thinking Skills:** A worker must think creatively, make decisions, solve problems, visualize, know how to learn, and reason effectively. These skills include:
 - i) Creative Thinking: generate new ideas.
 - ii) Decision Making: specify goals and constraints, generate alternatives, consider risks, and evaluate and choose the best alternative.
 - iii) Problem Solving: recognize problems and devise and implement plan of action.
 - iv) Visualize ("Seeing Things in the Mind's Eye"): organize and process symbols, pictures, graphs, objects, and other information.
 - v) Knowing How to Learn: use efficient learning techniques to acquire and apply new knowledge and skills.
 - vi) Reasoning: discover a rule or principle underlying the relationship between two or more objects and apply it when solving a problem.
- c) **Personal Qualities:** A worker must display responsibility, self-esteem, sociability, self-management, integrity, and honesty.
 - i) Responsibility: exert a high level of effort and persevere toward goal attainment.
 - ii) Self-Esteem: believe in one's own self-worth and maintain a positive view of oneself.
 - iii) Sociability: demonstrate understanding, friendliness, adaptability, empathy, and politeness in group settings.
 - iv) Self-Management: assess oneself accurately, set personal goals, monitor progress, and exhibit self-control.
 - v) Integrity and Honesty: choose ethical courses of action.

2) **Workplace competencies are defined in five areas: resources, interpersonal skills, information, systems, and technology.**

- a) **Resources:** A worker must identify, organize, plan, and allocate resources effectively.
 - i) Time: select goal-relevant activities, rank them, allocate time, and prepare and follow schedules.
 - ii) Money: Use or prepare budgets, make forecasts, keep records, and make adjustments to meet objectives.
 - iii) Material and Facilities: Acquire, store, allocate, and use materials or space efficiently.

Examples: construct a decision time line chart; use computer software to plan a project; prepare a budget; conduct a cost/benefits analysis; design an RFP process; write a job description; develop a staffing plan.

b) **Interpersonal Skills:** A worker must work with others effectively.

- i) Participate as a Member of a Team: contribute to group effort.
- ii) Teach Others New Skills.
- iii) Serve Clients/Customers: work to satisfy customer's expectations.
- iv) Exercise Leadership: communicate ideas to justify position, persuade and convince others, responsibly challenge existing procedures and policies.
- v) Negotiate: work toward agreements involving exchange of resources, resolve divergent interests.
- vi) Work with Diversity: work well with men and women from diverse backgrounds.

Examples: collaborate with a group member to solve a problem; work through a group conflict situation, train a colleague; deal with a dissatisfied customer in person; select and use appropriate leadership styles; use effective delegation techniques; conduct an individual or team negotiation; demonstrate an understanding of how people from different cultural backgrounds might behave in various situations.

c) **Information:** A worker must be able to acquire and use information.

- i) Acquire and Evaluate Information.
- ii) Organize and Maintain Information.
- iii) Interpret and Communicate Information.
- iv) Use Computers to Process Information.

Examples: research and collect data from various sources; develop a form to collect data; develop an inventory record-keeping system; produce a report using graphics; make an oral presentation using various media; use on-line computer data bases to research a report; use a computer spreadsheet to develop a budget.

d) **Systems:** A worker must understand complex interrelationships.

- i) Understand Systems: know how social, organizational, and technological systems work and operate effectively with them.
- ii) Monitor and Correct Performance: distinguish trends, predict impacts on system operations, diagnose deviations in systems' performance and correct malfunctions.
- iii) Improve or Design Systems: suggest modifications to existing systems and develop new or alternative systems to improve performance.

Examples: draw and interpret an organizational chart; develop a monitoring process; choose a situation needing improvement, break it down, examine it, propose an improvement, and implement it.

e) **Technology:** A worker must be able to work with a variety of technologies.

- i) Select Technology: choose procedures, tools or equipment including computers and related technologies.
- ii) Apply Technologies to Task: understand overall intent and proper procedures for setup and operation of equipment.
- iii) Maintain and Troubleshoot Equipment: Prevent, identify, or solve problems with equipment, including computers and other technologies.

Examples: read equipment descriptions and technical specifications to select equipment to meet needs; set up and assemble appropriate equipment from instructions; read and follow directions for troubleshooting and repairing equipment.