



EMSP 2444 Cardiology

“Northeast Texas Community College exists to provide responsible, exemplary learning opportunities.”

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Office Hours	Monday	Tuesday	Wednesday	Thursday	Friday	Online
	8am – 830am and 4pm-5pm	1pm – 5pm	8am – 830am and 4pm-5pm	2pm – 5pm	By Appointment	Zoom office by appointment

The information contained in this syllabus is subject to change without notice. Students are expected to be aware of any additional course policies presented by the instructor during the course.

Catalog Course Description (include prerequisites):

4 credit hours.

Lecture/Lab/Clinical: Four hours of lecture and Three hours of lab each week.

Prerequisite(s): EMSP 1338, EMSP 1356, EMSP 1501, EMSP 2306 and EMSP 2330.

Co-requisite(s): EMSP 1164, EMSP 2434

A detailed study of the knowledge and skills necessary to reach competence in the assessment and management of patients with cardiac emergencies.

Required Textbook(s):

Author: Sanders, Mick ; McKenna, Kim

Title: Paramedic Textbook

Edition: 5th

ISBN: 9871284147827

Author: AMER HEART ASSOCIATION.

Title: ACLS PROVIDER MANUAL

Edition: 2015

ISBN: 9781616694005

Recommended Reading(s):

Paramedic Textbook Chapter 21 and 47

Student Learning Outcomes:

1. Integrate pathophysiological principles and assessment findings to formulate a field impression.
2. Implement a treatment plan for the cardiac patient.

Educational Objectives:

1. Identify risk factors and prevention strategies associated with cardiovascular disease. (pp 709–710)
2. Describe the normal anatomy and physiology of the heart. (pp 710–717)
3. Discuss electrophysiology as it relates to the normal electrical and mechanical events in the cardiac cycle. (pp 717–725)
4. Outline the activity of each component of the electrical conduction system of the heart. (pp 722–725)
5. Describe basic monitoring techniques that permit interpretation of an electrocardiogram (ECG). (pp 725–731)
6. Explain the relationship of the ECG tracing to the electrical activity of the heart. (pp 731–736)
7. Describe in sequence the steps in ECG interpretation. (pp 736–744)
8. Identify the characteristics of normal sinus rhythm. (pp 736–747)
9. When shown an ECG tracing, identify the rhythm, site of origin, possible causes, and clinical significance and the prehospital management indicated. (pp 736–748)
10. Outline the appropriate assessment of a patient who may be experiencing a cardiovascular disorder. (pp 744–748)
11. Describe prehospital assessment and management of patients with selected cardiovascular disorders based on knowledge of the pathophysiology of the illness. (pp 748–805)
12. Describe the cause and nature of selected congenital cardiovascular defects. (pp 803–805, 834–836, 843–845, and see Chapter 46, *Neonatal Care*)
13. List indications, contraindications, and prehospital considerations when using selected cardiac interventions, including basic life support, monitor-defibrillators, defibrillation, implantable cardioverter defibrillators, synchronized cardioversion, and transcutaneous cardiac pacing. (pp 853–854, 856–861, 863–866)
14. List indications, contraindications, dose, and mechanism of action for pharmacologic agents used to manage cardiovascular disorders. (pp 764, 785, 829, 839)

Lectures & Discussions:

Cardiology Lectures will follow the electronic schedule in the Blackboard Portal Start Here folder.

Discussions will be posted in the assignment sections in the Blackboard Portal

Evaluation/Grading Policy:

Grades are issued from the raw score to arrive at a percentage grade and then a letter grade. A grade above the MINIMUM PASSING SCORE MUST be earned on ALL major exams.

The grading scale for ALL EMS courses are:

100 to 91 = A, 90 to 85 = B, 84 to 80 = C = Minimum passing

Below passing 79 to 70 = D 69 & below = F

Tests/Exams:

Periodic daily quizzes will be given at 8:30 am in class. There will be no make-up for daily quizzes. The daily quizzes will cover material from the prior weeks in class and online assignments and lecture.

There will be section exams. You may use non electronic resources (drug cards, textbook and your notes). The exams will be timed approximately 1 minute per question.

There will be a mid-term and a final exam. These high-stakes exams must be taken in class on the scheduled day. No outside resources allowed. Pencil and paper will be provided, for drug calculations, if necessary.

If the exam is missed, with an acceptable reason the exam must be made up within three days of the exam date.

All students will be allowed one retake of the section exams, mid-term, and final if they are not satisfied with the first attempt score. All retake must be requested in person to the instructor and must be taken within three days of the original test date. All retakes must be taken in the NTCC Testing Center.

Student Responsibilities/Expectations

This is a hybrid course in EMS Cardiology. Study materials and assignments will be delivered through the Blackboard Learning Management System at NTCC.

Students should ensure that they have the appropriate hardware, software, and technical skills for completing all assignments, quizzes, and tests.

Northeast Texas Community College is a “community of scholars.” Please remember that you and all of the students in this class are pursuing very important goals in your lives. All colleges and universities must remain diligent in their pursuit of assuring the academic integrity of their courses to maintain their accreditation status with Southern Association of Colleges and Schools and the Texas Higher Education Coordinating Board.

Your success can be maximized and your potential achieved by making the commitment to meet these online expectations: Schedule and plan to complete all lecture and laboratory assignments and submit them when they are due. Be sure to print off the calendar to help you keep up with assignment due dates.

Be sure to do all of your own work. Collusion and plagiarism are acts of academic dishonesty. Work that is copied and pasted directly from any website is not acceptable in any form on any assignment, lab or test. See the Student Handbook, p. 90 for definitions of collusion, plagiarism, and cheating. Infractions can result in severe grading penalties or failure.

The last day to drop the course with a grade of W is Thursday, November 19. If circumstances require you to withdraw from this course, you must do so by that date. It is the student’s responsibility to initiate the withdrawal with the registrar’s office. Failure to officially withdraw will result in your receiving a grade of F.

NTCC Academic Honesty Statement:

"Students are expected to complete course work in an honest manner, using their intellects and resources designated as allowable by the course instructor. Students are responsible for addressing questions about allowable resources with the course instructor. NTCC upholds the highest standards of academic integrity. This course will follow the NTCC Academic Honesty policy stated in the Student Handbook."

Academic Ethics

The college expects all students to engage in academic pursuits in a manner that is beyond reproach. Students are expected to maintain complete honesty and integrity in their academic pursuit. Academic dishonesty such as cheating, plagiarism, and collusion is unacceptable and may result in disciplinary action. Refer to the student handbook for more information on this subject.

ADA Statement:

It is the policy of NTCC to provide reasonable accommodations for qualified individuals who are students with disabilities. This College will adhere to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations as required to afford equal educational opportunity. It is the student's responsibility to arrange an appointment with a College counselor to obtain a Request for Accommodations form. For more information, please refer to the NTCC Catalog or Student Handbook.

Family Educational Rights and Privacy Act (FERPA):

The Family Educational Rights and Privacy Act (FERPA) is a federal law that protects the privacy of student education records. The law applies to all schools that receive funds under an applicable program of the U.S. Department of Education. FERPA gives parents certain rights with respect to their children's educational records. These rights transfer to the student when he or she attends a school beyond the high school level. Students to whom the rights have transferred are considered "eligible students." In essence, a parent has no legal right to obtain information concerning the child's college records without the written consent of the student. In compliance with FERPA, information classified as "directory information" may be released to the general public without the written consent of the student unless the student makes a request in writing. Directory information is defined as: the student's name, permanent address and/or local address, telephone listing, dates of attendance, most recent previous education institution attended, other information including major, field of study, degrees, awards received, and participation in officially recognized activities/sports.

Course Map

Cardiology --- EMSP 2444

Integrates assessment findings with principles of epidemiology and pathophysiology to formulate a field impression and implement a comprehensive treatment/disposition plan for a patient with a medical complaint.

Cardiovascular

Week 1

Anatomy, signs, symptoms, and management of

- Chest pain (pp 747–817, 820–823, 825–827)
- Cardiac arrest (pp 744–748, 784–792, 852–867)

Anatomy, physiology, epidemiology, pathophysiology, psychosocial impact, presentations, prognosis, and management of

Week 2

- Acute coronary syndrome (p 827)
- Angina pectoris (pp 828–829)
- Myocardial infarction (pp 829–834)

Week 3

- Heart failure (pp 834–839)
- Nontraumatic cardiac tamponade (pp 840–841)
- Hypertensive emergencies (pp 847–849)

Week 4

- Cardiogenic shock (p 840)
- Vascular disorders (pp 748–805, 827–847)
- Abdominal aortic aneurysm (pp 841–843)

Week 5

- Arterial occlusion (pp 845–846)
- Venous thrombosis (pp 846–847)
- Aortic aneurysm/dissection (pp 843–845)

Week 6

- Thromboembolism (see Chapter 13, *Principles of Pharmacology and Emergency Medications*)
- Cardiac rhythm disturbances (p 744–792)
- Infectious diseases of the heart (pp 850–851)

Week 7

- Endocarditis (p 850)
- Pericarditis (pp 850–851)
- Congenital abnormalities (pp 803–805, 834–836, 843–845, and see Chapter 46, *Neonatal Care*)

Week 8

Final Exam, Skills and Scenario