



Western Technical College

## 10531916 Paramedic Cardiology

### Course Outcome Summary

#### Course Information

<b>Description</b>	This course teaches the paramedic student to integrate assessment findings with principles of cardiovascular anatomy, physiology, epidemiology, and pathophysiology to formulate a field impression and implement a comprehensive treatment plan for a patient with a cardiovascular complaint.
<b>Career Cluster</b>	Law, Public Safety, Corrections and Security
<b>Instructional Level</b>	Associate Degree Courses
<b>Total Credits</b>	4
<b>Total Hours</b>	90

#### Textbooks

*Bundle: Paramedic Care: Principles & Practice Volume 1-5 plus Access Card - 2017, Anatomy and Physiology for Health Professions plus Access Card – 2016, [EMStesting.com](http://EMStesting.com) Paramedic Student Access Card – 2nd Edition, Platinum Planner: Paramedic – Access Card – 2016, Basic Arrhythmias – 2017.* 5th Edition. Copyright 2017. Bledose, Bryan, Robert Porter and Richard Cherry. Publisher: Pearson. **ISBN-13:** 978-0-13-729851-8. Required.

*531-911 Paramedic Student Reference Guide, Skills Check Sheets and Paramedic Clinical Guidebook.* Western. Publisher: Western. Required.

#### Learner Supplies

Program Clothing. **Vendor:** To be discussed in class. Required.

#### Success Abilities

1. Cultivate Passion: Expand a Growth-Mindset
2. Cultivate Passion: Increase Self-Awareness
3. Refine Professionalism: Improve Critical Thinking
4. Refine Professionalism: Participate Collaboratively

5. Refine Professionalism: Practice Effective Communication

## Program Outcomes

1. Integrate pathophysiological principles and assessment findings to provide appropriate patient care.
2. Demonstrate paramedic skills associated with established standards and procedures for a variety of patient encounters.
3. Communicate effectively with others.
4. Demonstrate professional behavior.
5. Meet state and national competencies listed for paramedic certification(s).

## Course Competencies

### 1. Examine the anatomy and physiology of the cardiovascular system.

#### Assessment Strategies

- 1.1. Oral, Written or Graphic Assessment

#### Criteria

*Your performance will be successful when:*

- 1.1. you answer questions related to the learning objectives on a test
- 1.2. you achieve the threshold identified by your Training Center on the assessment

#### Learning Objectives

- 1.a. Describe the anatomy of the cardiovascular system.
- 1.b. Describe the physiology of the cardiovascular system.
- 1.c. Discuss the electrophysiology of the cardiovascular system.

### 2. Demonstrate the assessment of a cardiovascular patient.

#### Assessment Strategies

- 2.1. Skill Demonstration

#### Criteria

*Your performance will be successful when:*

- 2.1. you follow the published protocol provided by your Training Center

#### Learning Objectives

- 2.a. Discuss the primary survey as applied to a cardiovascular assessment.
- 2.b. Discuss the history and physical/SAMPLE format as applied to a cardiovascular assessment.
- 2.c. Discuss the secondary survey as applied to a cardiovascular assessment.
- 2.d. Discuss the electrophysiology of the heart.
- 2.e. Describe proper placement of ECG leads/electrodes.
- 2.f. Describe the ways in which ECG outputs/strips are standardized.
- 2.g. Describe the ECG waveform and its analysis.
- 2.h. Describe the heart surfaces shown by each lead system.
- 2.i. Describe the steps used to analyze and interpret and ECG.

### 3. Characterize the precipitating causes, morbidity/mortality, pathophysiology, assessment findings, management, and communication strategies associated with cardiac disease

#### Assessment Strategies

- 3.1. Oral, Written or Graphic Assessment

#### Criteria

*You will know when you are successful when:*

- 3.1. you answer questions related to the learning objectives on a test
- 3.2. you achieve the threshold identified by your Training Center on the assessment

## Learning Objectives

- 3.a. Discuss the incidence, morbidity/mortality, risk factors, and possible contributing risks associated with cardiovascular disease, along with the prevention strategies that may reduce the morbidity and mortality of cardiovascular disease.
- 3.b. Discuss possible assessment findings of a patient with a cardiac arrhythmia.
- 3.c. Identify pharmacological interventions available for the treatment of cardiac arrhythmias.
- 3.d. Discuss electrical interventions available for the treatment of cardiac arrhythmias.
- 3.e. Discuss transport considerations for a patient with a cardiac arrhythmia.
- 3.f. Describe an aortic aneurysm/dissection.
- 3.g. Describe a thromboembolism.
- 3.h. Discuss congenital heart disease.
- 3.i. Describe valvular heart disease.
- 3.j. Discuss coronary artery disease.
- 3.k. Discuss infectious diseases of the heart.
- 3.l. Discuss the precipitating causes, morbidity/mortality, pathophysiology, assessment findings, and management of infectious diseases of the heart.
- 3.m. Describe cardiomyopathy.
- 3.n. List specific hypertensive emergencies.
- 3.o. Discuss the precipitating causes, morbidity/mortality, pathophysiology, assessment findings, and management of congenital cardiac abnormalities, including age-related variations.
- 3.p. Discuss support and communication strategies when addressing the patient, family members, medical direction, the receiving facility, and others.

## 4. Characterize the precipitating causes, morbidity/mortality, pathophysiology, assessment findings, management, and communication strategies associated with coronary syndrome

### Assessment Strategies

- 4.1. Oral, Written or Graphic Assessment

### Criteria

*You will know when you are successful when:*

- 4.1. you answer questions related to the learning objectives on a test
- 4.2. you achieve the threshold identified by your Training Center on the assessment

## 5. Characterize the precipitating causes, morbidity/mortality, pathophysiology, assessment findings, management, and communication strategies associated with acute myocardial infarction/angina

### Assessment Strategies

- 5.1. Oral, Written or Graphic Assessment

### Criteria

*You will know when you are successful when:*

- 5.1. you answer questions related to the learning objectives on a test
- 5.2. you achieve the threshold identified by your Training Center on the assessment

## 6. Characterize the precipitating causes, morbidity/mortality, pathophysiology, assessment findings, management, and communication strategies associated with heart failure

### Assessment Strategies

- 6.1. Oral, Written or Graphic Assessment

### Criteria

*You will know when you are successful when:*

- 6.1. you answer questions related to the learning objectives on a test
- 6.2. you achieve the threshold identified by your Training Center on the assessment

## 7. Characterize the precipitating causes, morbidity/mortality, pathophysiology, assessment findings, management, and communication strategies associated with non-traumatic cardiac tamponade

**Assessment Strategies**

7.1. Oral, Written or Graphic Assessment

**Criteria**

*You will know when you are successful when:*

- 7.1. you answer questions related to the learning objectives on a test
- 7.2. you achieve the threshold identified by your Training Center on the assessment

**8. Characterize the precipitating causes, morbidity/mortality, pathophysiology, assessment findings, management, and communication strategies associated with hypertensive emergencies**

**Assessment Strategies**

8.1. Oral, Written or Graphic Assessment

**Criteria**

*You will know when you are successful when:*

- 8.1. you answer questions related to the learning objectives on a test
- 8.2. you achieve the threshold identified by your Training Center on the assessment

**9. Characterize the precipitating causes, morbidity/mortality, pathophysiology, assessment findings, management, and communication strategies associated with cardiogenic shock**

**Assessment Strategies**

9.1. Oral, Written or Graphic Assessment

**Criteria**

*You will know when you are successful when:*

- 9.1. you answer questions related to the learning objectives on a test
- 9.2. you achieve the threshold identified by your Training Center on the assessment

**10. Characterize the precipitating causes, morbidity/mortality, pathophysiology, assessment findings, management, and communication strategies associated with cardiac arrest**

**Assessment Strategies**

10.1. Oral, Written or Graphic Assessment

**Criteria**

*You will know when you are successful when:*

- 10.1. you answer questions related to the learning objectives on a test
- 10.2. you achieve the threshold identified by your Training Center on the assessment

**11. Characterize the precipitating causes, morbidity/mortality, pathophysiology, assessment findings, management, and communication strategies associated with vascular disorders**

**Assessment Strategies**

11.1. Oral, Written or Graphic Assessment

**Criteria**

*You will know when you are successful when:*

- 11.1. you answer questions related to the learning objectives on a test
- 11.2. you achieve the threshold identified by your Training Center on the assessment

**12. Manage the care of a cardiovascular patient.**

**Assessment Strategies**

12.1. Skill Demonstration

**Criteria**

*Your performance will be successful when:*

- 12.1. you follow the published protocol provided by your Training Center

### **Learning Objectives**

- 12.a. Identify cardiac arrhythmias.
- 12.b. Apply ECG procedures.
- 12.c. Apply electrical therapy.
- 12.d. Apply "mechanical" (non-electrical) cardiovascular interventions.
- 12.e. Apply pathophysiological principles to the assessment of a patient with cardiovascular disease.
- 12.f. Formulate a field impression for a patient with cardiovascular disease.
- 12.g. Develop a patient management plan based on the field impression.
- 12.h. Execute a patient management plan based on the field impression.