



Paramedic Pharmacology I

EMS 182

Spring 2022

Course Information

- Number of Credits: 2
- Days Class Meets: Thursdays
- Meeting Times: 1000 to 1200
- Location/Venue: Flex / HLC 211

Instructor Information

- Instructor: Jeff Butcher
- Contact Phone: (989) 721-1780
- Contact Email: Butcherjeffreyg@jccmi.edu
- Online Office Hours: By appointment online / in-person 0900-1200 Monday - Friday

Course Description

This course is designed to provide Paramedic students with a knowledge of basic pharmacological principles, biological factors influencing drug actions, predictable effects of drugs on physiologic problems, modifiers of predictable effects, commonalities, and variations between the actions of drugs employed for comparable therapeutic effect, adverse effects of drugs that can and do commonly occur, and application for pharmacological therapy in the pre-hospital setting. Concentration will focus on cardiovascular drugs in this semester.

Prerequisite(s)

- Program Director Approval
- EMS 123; 1231; 1230; or Michigan EMT License

- Current enrollment in: EMS 180; 183; 184; 187; 188
- BIO 253 & BIO 254 or BIO132 (must be completed before end of program)

Course Goals

The EMT-Paramedic represents the highest level skill set in the emergency medical system. Formal classroom experiences are enhanced with combined time in an emergency room, on an ambulance, as well as other specialty training opportunities including airway management in the operating room. Coursework typically emphasizes emergency skills such as managing respiratory, trauma, and cardiac emergencies. The program reviews all material covered in EMT-Basic and includes more advanced training in acid-base balance, intravenous access and maintenance, pharmacology, cardiology and advanced airway management.

Course Objectives

At the completion of this program, you should be able to:

1. Apply the concepts of pharmacology in relation to history, definitions, classification, and applicable references.
2. Summarize the history of governmental drug control and standardization.
3. Differentiate among all levels of drug control.
4. Distinguish special considerations in drug therapy.
5. Relate the paramedic's use of drugs to scope of management of overall patient care.
6. Compare and contrast the general properties of drugs.
7. Relate the routes of administration to the mechanism of drug action.
8. Relate the processes of pharmacokinetics and pharmacodynamics to medication administration.
9. Integrate the pathophysiology of drugs by classification.
10. Compare and contrast factors relating to drug response and interaction.
11. Evaluate specific drug profiles of commonly used paramedic drugs.
12. Characterize the specific anatomy and physiology pertinent to medication administration.
13. Calculate drug doses utilizing mathematical principles.
14. Summarize use of universal precautions and body substance isolation (BSI) procedures and disposal of contaminated items and sharps.
15. Use antiseptics and disinfectants.
16. Differentiate between Intravenous Fluids.
17. Differentiate among the different routes of medication administration

Textbook (chose appropriate options below, delete what does not apply)

- Nancy Caroline's Emergency Care in the Streets Vol. 1 – ISBN: 978-1-284-13718-7.
- Nancy Caroline's Emergency Care in the Streets Vol. 2 – ISBN: 978-1-284-13717-0.
- Pharmacology for the Prehospital Professional – ISBN: 978-1-284-04146-0.
- Arrhythmia Recognition: The Art of Interpretation – ISBN: 978-1-284-21432-1

[Learn about the new textbook program at JC](#)

For account billing questions, please contact the Jackson College Cashier at jccashier@jccmi.edu

Extras

Equipment and Uniforms

- Paramedic shirt available through Pro Images (Regatta Blue in color)
- Navy blue EMS slacks
- Black polishable shoes
- Black belt
- Watch (with second hand)
- Navy jacket (no logo) for clinical/internship and classroom use (no other jackets will be allowed)
- JC Student ID badge is required to be worn clipped on the shirt or worn on a lanyard during class (lanyards not allowed on clinical/internship)
- USB Flash Drive or Online Storage – storage amount at your discretion
- EMS Field Guide, Advanced or Critical Care version
- Medical Dictionary
- Nursing Drug Guide

Classroom Etiquette

For your benefit and for the benefit of your classmates follow appropriate classroom behavior:

- At all times in class the student must be considerate to your classmates and to your instructor.
- Ask pertinent questions; contribute to discussions; avoid "private" conversations that distract the instructor and other students. You may be asked to leave if you are disturbing the class. Do not answer questions that are not directed to you. Allow the instructor to clarify the material.
- No cell phone use is allowed during class (including texting). All ringers must be on silent.

- No tobacco usage, in any form, will be allowed in the classroom. (JC is a tobacco free campus)
- No sleeping. Come to class fresh and ready to learn.
- No laptop use permitted unless it is directly related to the classroom lecture or course work. This would require prior permission by the instructor.
- Concerns must be addressed outside of the classroom with the instructor by appointment, not voiced in the classroom. In the event the concerns cannot be solved with the instructor, a formal complaint must be brought to the attention of program director. See the specific complaint process in your EMS handbook or go to the link below. <http://www.jccmi.edu/administration/deans/StudentComplaintProcess.htm>
- The instructor's welcome student's questions and concerns. Please be considerate of their time outside of the classroom.
- Food in the classroom is a privilege and will not be distracting or messy. Any mess left in the classroom or distracting behavior will result in the loss of the entire class's food privilege.

Exam Process (delete if not needed)

To protect the fairness and integrity of the exams, students will be required to take exams using Respondus Lockdown Browser and Monitor. This is an online test proctoring software that requires a download to your computer. Training and practice of Respondus technology will be provided in advance of the first exam. A Mac or PC that has a webcam and microphone is required to use Respondus. If you do not have this technology, please contact your instructor right away. Students are expected to complete the Respondus Practice quiz on time. This is to give our IT department time to help troubleshoot issues before exam 1 begins. Failure to complete the Respondus quiz on time may result in instructor-initiated drop Grading Procedure

Written exams are cumulative over the course and will be graded and scored on the percentage of correct answers. They may consist of multiple-choice, true/false, and short answer questions. There will be no late exams permitted. Tests will be administered in a secure environment and may be presented in the JC testing center. It is the student's responsibility to make accommodations to complete the test in the allotted time frame presented by the instructor. Quizzes may be online or in class and may be administered with a time restriction.

Grading

Affective Domain Evaluations

Periodically through the clinical rotations and during class, the students will be subject to evaluation via the affective domain. This includes attitude, empathy, and overall professionalism. Any student receiving an overall negative affective domain evaluation will be given a written warning and the instructor will schedule a meeting to review the form with the course coordinator and student. Steps for corrective action will be documented.

This will result in possible disciplinary action up to and/or including dismissal from the rotation or program. During the scheduled time for review, the student will be removed from clinical rotations.

Classroom Lecture Grading Procedure

Written exams are cumulative over the course and will be graded and scored on the percentage of correct answers. They may consist of multiple-choice, true/false, and short answer questions. There will be no late exams permitted. Tests will be administered in a secure environment and may be presented in the JC testing center. It is the student's responsibility to make accommodations to complete the test in the allotted time frame presented by the instructor.

Quizzes may be online or in class and may be administered with a time restriction.

Grading Scale

<u>Grade Item</u>	<u>Percentage Possible</u>
Attendance	15%
Assignments	10%
Quizzes	25%
Mid Term	25%
Final Written Test	25%

GPA	Grade Range
4.0	94-100%
3.5	89-93%
3.0	84-88%
2.5	78-83%
2.0	72-77%
1.5	66-71%
1.0	60-65%

0.5	55-59%
0.0	0-54%

Failure

Students who do not officially withdraw from this course and/or receive an overall score below 80%, fail to take the final exam, fail to complete all clinical/internship requirements, or are deemed unsatisfactory in the affective domain will not be eligible for advancement within the Paramedic Program.

Jackson College program requirements for recommendation for the MDHHS completion roster

- Students must obtain an 80% or better as an overall class grade in each EMS course.
- Obtain at least a 75% on the final exam at the end of each course.
- Students must successfully complete all practical exams for the course.
- Students must successfully complete all required clinical hours, including hospital specialties and ambulance internship compliant with current contracts.
- Students must show professional growth within the affective learning domain.
- Students must meet the minimum required hours for both classroom and clinical as set forth by the JC Program.

Academic Honesty Policy

Academic Honesty is defined as ethical behavior that includes student production of their own work and not representing others' work as their own, by cheating or by helping others to do so.

Plagiarism

Plagiarism is defined as the failure to give credit for the use of material from outside sources.

Plagiarism includes but is not limited to:

- Submitting other's work as your own
- Using data, illustrations, pictures, quotations, or paraphrases from other sources without adequate documentation
- Reusing significant, identical or nearly identical portions of one's own prior work without acknowledging that one is doing so or without citing this original work (self-plagiarism)

Cheating

Cheating is defined as obtaining answers/material from an outside source without authorization.

Cheating includes, but is not limited to:

- Plagiarizing in any form

- Using notes/books/electronic material without authorization
- Copying
- Submitting others' work as your own or submitting your work for others
- Altering graded work
- Falsifying data
- Exhibiting other behaviors generally considered unethical
- Allowing your work to be submitted by others

Accessibility

Jackson College understands that cultivating a broadly diverse community is crucial to our educational mission and to our foundational commitment to leadership and service. Jackson College is fully committed to ensuring our courses are accessible to everyone including those with disabilities. We are currently working to increase accessibility and usability of our course materials in order to meet or exceed the requirements of Section 508 of the Rehabilitation Act of 1973, the Americans with Disabilities Act of 1991 and Web Content Accessibility Guidelines (WCAG) 2.0. For more information about Jackson College's efforts to ensure accessibility please visit the [Jackson College accessibility web page](#).

If you have an accessibility need in any of our classes please e-mail the Center for Student Success at JCCSS@jccmi.edu or visit the [Center for Student Success web page](#).

At the Center for Student Success (CSS), we are committed to providing all students the opportunity to achieve academic success by providing a variety of support services free of charge to Jackson College students. This includes, but is not limited to, peer and faculty tutoring, mental health referral, temporary assistance with transportation, various workshops/seminars, and the TRIO program.

In addition, the CSS staff is committed to adapting the College's general services to meet the individual needs of otherwise qualified students with disabilities, for the purpose of providing equal access to all programs and facilities.

Course Management

Ways that students can manage their enrollment in a course for special circumstances. Includes withdrawal, and audit and incomplete grading procedures.

Help

Available learning services or opportunities for students seeking help with their course work. May include information about tutors, learning centers, reserved library materials, counseling services.

Academic Advising

It is important to contact a Center for Student Success professional prior to the start of the semester in order to receive accommodations in a timely manner. While we will make every effort to coordinate accommodations in a timely manner, failure to self-identify prior to the start of the semester may delay notification to instructors and timeliness of acquiring accommodations. Accommodations do not automatically carry over to the next semester. Please e-mail JCCSS@jccmi.edu or visit the [Accommodations for Students with Disabilities](#) web page.

Student Responsibilities

Requirements beyond scheduled classes or laboratories, e.g., clinicals, extra credit assignments, TBA sessions, field placement, special project instructions, contract learning conditions, study hours required outside class, unscheduled class meetings, attendance at concerts or other required events.

Attendance- Participation Policy

Regular class participation and keeping up on the reading and assignments is strongly correlated with survival in college. It is my recommendation that you plan to do your assignments and take your exams BEFORE the last day they are due. If problems occur, there is time to fix them before the deadline.

In compliance with Federal Title IV funding requirements, as well as college initiatives, I will be monitoring student participation on a regular basis and officially reporting student activity throughout the term to assure compliance with college policy and federal regulations. It is imperative that you log in to the course and actively participate within the first couple of days of the term to validate your enrollment in the course. After that, not actively participating in class may result in you being withdrawn from the course. Being withdrawn from a course can have an impact on financial aid, billing, athletic eligibility, and housing status. As a college student you are responsible for how your participation impacts your academic progress; the accountability lies with you.

There are NO excused absences in this program. Due to the practically oriented nature of this program, as well as the repetition necessary to develop high quality patient care skills, minimal hour requirements are set forth by the MDHHS program objectives. Any student missing more than 6 HOURS total, in EMS 180, will be dismissed from the Paramedic Program and will not be eligible for the MDHHS course completion roster.

Caveat

Please note: The format and timing of this course may need to change due to unforeseen circumstances. In particular: school closings, instructor illness, weather, or other situations that may arise.

If you are taking an in-person class, you will be required to complete a Reintegration Video Training course in JetNet prior to being admitted to campus.

All COVID safety protocols in place are based on current guidelines and will be enforced while students are on campus.

Calendar

A partial or complete list of dates or class periods for the course. Within the calendar on specific days are: Assignments, readings, homework, exercised, performances, quizzes, topics, subject matter, skills, chapter titles, discussion topics, tests, comprehensive exams, due dates for major papers or performances. Add or remove columns as necessary to suit your course.

*Also include a statement that calendar timelines and assignments are an approximation and could be changed.

Course: Pharm.1				Semester: Spring		Days: Monday
Course Number: EMS-182				Section(s): 01		Location: Online
Lesson #	Week of:	Time	Didactic Hours	Module	Topic	Instructor
1	1/13/2022	10:00 AM to 12:00 PM	2.00	2g	Basic Pharmacology Introduction	J. Butcher
2	1/20/2022	10:00 AM to 12:00 PM	2.00	2g	Pharmacological Concepts & Drug Classification	J. Butcher
3	1/27/2022	10:00 AM to 12:00 PM	2.00	2h	Principles & Routes of Medication Administration	J. Butcher
4	2/3/2022	10:00 AM to 12:00 PM	2.00	2h	IV Access, Blood Sampling, & IO Infusions	J. Butcher
5	2/10/2022	10:00 AM to 12:00 PM	2.00	2h	Medical Mathematics	J. Butcher
6	2/17/2022	10:00 AM to 12:00 PM	2.00	2g	Drugs Used to Affect the Respiratory System	J. Butcher
7	2/24/2022	10:00 AM to 12:00 PM	2.00	2g	Analgesics & Pain Response	J. Butcher
8	3/3/2022	10:00 AM to 12:00 PM	2.00	11	Midterm Exam	J. Butcher
	3/10/2022	Spring Break				

9	3/17/2022	10:00 AM to 12:00 PM	2.00	2g	Antihypertensive Medications	J. Butcher
10	3/24/2022	10:00 AM to 12:00 PM	2.00	2g	Drugs Used to Affect the Cardiovascular System	J. Butcher
11	3/31/2022	10:00 AM to 12:00 PM	2.00	2g	Antiarrhythmic Medications	J. Butcher
12	4/7/2022	10:00 AM to 12:00 PM	2.00	2g	ACLS Pharmacology	J. Butcher
13	4/14/2022	10:00 AM to 12:00 PM	2.00	2g	ACLS Medication Review	J. Butcher
14	4/21/2022	10:00 AM to 12:00 PM	2.00	10	Pharmacology Final Exam Review	J. Butcher
15	4/28/2022	10:00 AM to 12:00 PM	2.00	11	Pharmacology Final Exam	J. Butcher
		Total:	30.00			

Important Dates

Date	Event
Monday 1/10/2022	Spring Semester Starts
Monday 3/7/2022 - Sunday 3/13/2022	Spring Break - No Classes
Saturday 4/30/2022	End of Spring Semester



EMS 182 SYLLABUS
ACKNOWLEDGEMENT AND AGREEMENT

I _____ (*print name*)

have read the syllabus and understand the requirements and expectations for this class. I also acknowledge that this class holds a high level of personal responsibility and accountability. I also realize this is a program that will require commitment and that specific standards must be met as outlined in this syllabus.

I may refer to links for the NREMT, MDHHS State Objectives, and the NHTS curriculum to compliment the resources in my course textbooks.

I will be expected to access a computer to complete assignments and must utilize my JC student email account regularly for updates and additional information.

The instructor(s) may utilize various approved and validated testing banks and may also write their own test questions that will be verified to the MDHHS and NHTS objectives and curriculum.

It is my responsibility to seek assistance in the Center for Student Success and to notify the instructor(s) if help is needed or extreme circumstances have created hardship for me.

Date: _____

Signature: _____

I do not want to sign this agreement, however by initialing and dating below, I confirm receipt of the syllabus.

Date: _____

Student Initial: _____