

NRPM 102L: Pharmacological Techniques Syllabus

[Semester and year]



Instructor information

Instructor	Email Address	Office hours
Paula Johnson	Paula.johnson@princetonrescue.com	Vary

General information

Description

This laboratory course provides participants with comprehensive knowledge in medication administration techniques based on appropriate routes and the application of skills in drug calculations to deliver accurate doses of medicine. *Co-requisite: NRPM 102*

Expectations and goals

Upon Successful completion of this course, students will be able to:

- Successfully perform the following skills without critical error:
 - Intramuscular & Subcutaneous injections - PPCP
 - IV Therapy - PPCP
 - IV Bolus Medication Administration - PPCP
 - IV Piggyback Infusion - PPCP
 - Intranasal Medication Administration - PPCP
 - Inhaled Medication Administration - PPCP
- Exhibit the professional attributes expected of a pre-hospital professional with regard to the administration of medications.
- Using the mathematical principles of pharmacology, calculate medication doses (bolus and maintenance infusion).

Course Delivery Method: In-Seat

Course materials

Required materials

Computer with Internet capabilities to access:

- <https://CourseSites.com>
- <https://www.platinumplanner.com/>

Optional materials

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Required text

- Nancy Caroline's *Emergency Care in the Streets*; 8th edition, 2013 by Elling and Smith; Publisher Jones and Bartlett. ISBN: 978-1-284-13718-7

Course schedule (*Weeks correspond to semester schedule)

Week	Topic	Pre-Class Assignment	Rote Skill Lab with Peer Review sessions	Reflective Assignment <i>(DUE: Friday after class session)</i>
5	Medication Administration	Video: Rectal Medication Administration	Learning to use: <ul style="list-style-type: none"> • vial, • ampule, • IM, • SQ, • 2-vials in one 	• Quizzes: IV/Med Admin (#1-2)
6		Video Training Library for skills available for student review PRN	• Drug Calculation - Practical Application Lab Learning to use: <ul style="list-style-type: none"> • vial, • ampule, • IM, • SQ, • 2-vials in one 	
7			• Learning to initiate IV/IOTherapy	
8			• IV Bolus Medication Admin • IV Piggyback Infusion • Drug Calculation - Practical Application Lab	SUMMATIVE Instructor Evaluation - LIVE Subject Training - IV Therapy
9			• Intranasal • Inhaled Med Admin	FINAL Summative Instructor Evaluation of ALL SKILLS

Procedures for Evaluation

- A. *Students must complete each NRPM course with a grade point average of at least 70%. Any student who does not have a 70% average at the completion of an NRPM course will not be allowed to continue in the program. The student's academic standing will be discussed with the student periodically throughout the program.
- B. If a student scores below a 70% on a NRPM Cumulative examination, the student will be required to retake the examination until a score of 70% is attained; however, the original score will stand as the recorded score.
- C. Individual skills that comprise a skill lab are mandatory per the National Registry of EMT's. A student must complete each skill with the minimum points required AND the established number of SUCCESSFUL attempts meeting those minimum point standards. A percentage grade will be issued to the student based on the points obtained per attempt, active participation in lab sessions and the accuracy of his/her platinum documentation.

- D. Late submission of platinum documentation will receive a 10 point deduction in grade for each class day in which it wasn't handed in.

***NOTE:** NRPM 202 is the exception to this policy. In this course, you must successfully complete each sub-specialty based on the criteria from each governing agency. The final grade issued for this course will be a “pass/fail.” If the student is unable to receive a passing grade for this class, the student will NOT be allowed to continue in the Paramedic Program.

Grading Components and Weights:

The Paramedic Program Student’s Classroom Assessment grade will be the sum of the weighted scores comprising the parameters of course work outlined below.

Laboratory Courses
<ul style="list-style-type: none"> • Platinum Documentation = 20% • Success Pts/Min Req. Pts = 20% • Instructor Review Skill = 40% • Monthly Behavioral Evaluation - 20%

Items required for skill labs	Minimum Points Required:	Total Items required in Peer Review	Total Instructor Review
IM & SQ Injections - PPCP	44	2	2
IV Therapy - PPCP	76	2	1
IV Bolus Med Admin. - PPCP	36	1	1
IV Piggyback Infusion - PPCP	84	1	1
Intranasal Med Admin. - PPCP	44	2	
Inhaled Medication Admin. -PPCP	38	2	
Intraosseous Infusion	62	1	1

Grading Scale:

100-90 = A 89-80 = B 79-70 = C 69-60 = D <59 = F

All students must maintain a C average in each course to continue throughout the program

Attendance Policy

All material is important to your success; therefore, students absent more than 5% of the course without a valid excuse will be dismissed from the program of study.

There are two types of absences recognized as a “valid excuse” by Princeton Rescue Squad’s Education Department: (1) absence resulting from participation in an activity where you are officially representing the Education Department; and (2) absence caused by unforeseeable and unavoidable circumstance which is beyond your control. All other absences are considered willful and will not count as excused. It is your responsibility to provide your instructor with a proper explanation and documentation of these valid absences. It is the responsibility of the student to make up any work or testing missed. The missed (comparable) coursework and exams must be completed within 72 hours of the absence and prior to the last date of the class.

Tardiness will not be tolerated. Any student who shows up later than 15 minutes into the beginning of a course or leaving a class session 30 minutes or more before the end of the class day will result in the mark of tardy on his/her record. An accumulation of 5 tardies will result in an unexcused absence.

Students may withdraw from the course at any time. Any student that misses more than two (2) consecutive class sessions without contacting the course instructor will be considered to have withdrawn from the course.

Student Advisory and Evaluation

Faculty will routinely discuss student progress throughout the program of study at regular intervals (increments no longer than 25% of the program) to provide learners with adequate chances to take corrective actions. During these mandatory meetings with a student item(s) or subject(s) of concern to discuss may include, but are not limited to:

Excessive absences and tardiness, failure to turn in assignments / clinical rotations on time, classroom / clinical behavior concerns, plagiarism, cheating, struggling or failure to maintain a GPA of 70%, etc.

A Student Advisory Form will be filled out and signed by both the Faculty member addressing the concern, and the student. Once the concern has been documented, the Program Instructor and student will discuss possible resolutions to the problem and a proposed action plan will be written on the Advisory Form. The student may use the Advisory Form to record a rebuttal against the initial concern or proposed action plan. The instructor will then mark the form “unresolved” and forward it to the Education Director who investigate the matter and make a determination on a second Advisory Form. Copies of these completed Advisory Forms are available to the student; however, originals must and will be retained by the Education Program.

Standards of Conduct Regarding Cell Phone Use

As adults, you are permitted to retain your cellular devices unless during testing. At that time, all cell phones must be placed in a bag away from your testing area or given to your instructor until the testing is complete. It is common during lecture for students to utilize their cell phones to look up information regarding topics discussed in the class session, and this practice is permitted. However, if the instructor or other member of the instructional or administrative staff see that cell phones are being used for other purposes (ie: facebook, messenger, etc.) during lecture, lab, or any other designated course activity then the following discipline policy will take place:

- First offense - verbal warning
- Second offense - written warning
- Third offense - dismissal from the program

Academic Dishonesty

As a student and pre-hospital professional, you are expected to adhere to a professional code of conduct and not engage in plagiarism, cheating, falsifying information or records, or any other such activity. Failure to adhere to this code of conduct will result in disciplinary action up to and including dismissal from the program.

Grounds For Dismissal

A student may be dismissed from the program for the following reasons:

1. Absenteeism greater than 1 unexcused class.
2. Receiving a “D” or “F” as a cumulative grade for the course.
3. Insubordination (in class, lab, or in clinical)
4. The conviction and/or known use of, distribution of, or possession of illegal drugs, or controlled substances.
5. Failure to accomplish clinical assignments and objectives
6. Unprofessional or unethical conduct
7. Cheating in related or professional EMS courses or in clinical documentation.

NRPM 102L Course Objectives:

1. Discuss the circumstances surrounding the administration of medication, including patient-assisted medication and paramedic-administered medication.
2. Discuss the advantages, disadvantages, and techniques for performing intravenous (IV) therapy.
3. Describe complications that can occur as a result of IV therapy.
4. Describe special considerations when performing IV therapy on a pediatric or geriatric patient.
5. Discuss the advantages, disadvantages, and techniques for establishing an intraosseous (IO) IV line
6. Discuss the systems of weights and measures used when administering medication.
7. Explain principles of drug dose calculations, including desired dose, concentration on hand, volume on hand, volume to administer, and IV drip rate.
8. Discuss the advantages, disadvantages, and techniques for administering a medication orally.
9. Discuss the advantages, disadvantages, and techniques for administering a medication subcutaneously.
10. Discuss the advantages, disadvantages, and techniques for administering a medication intramuscularly.
11. Discuss the advantages, disadvantages, and techniques for administering a medication sublingually.
12. Discuss the advantages, disadvantages, and techniques for administering a medication intranasally.
13. Discuss the advantages, disadvantages, and techniques for administering an inhaled medication.
14. Discuss the advantages, disadvantages, and techniques for administering a medication via the IV route.
15. Discuss the advantages, disadvantages, and techniques for administering a medication via the IO route.
16. Demonstrate the process a paramedic should follow when following the six rights of medication administration.
17. Use universal precautions and body substance isolation (BSI) procedures during medication administration
18. Demonstrate how to spike an IV bag.
19. Demonstrate cannulation of peripheral or external jugular veins
20. Demonstrate clean technique during medication administration.
21. Perfect disposal of contaminated items and sharps
22. Demonstrate how to gain IO access.
23. Demonstrate how to administer oral medication to a patient.
24. Demonstrate how to administer medication via a gastric tube.
25. Demonstrate how to draw medication from an ampule.
26. Demonstrate how to draw medication from a vial.
27. Demonstrate how to administer a subcutaneous medication to a patient.
28. Demonstrate how to administer an intramuscular medication to a patient.
29. Demonstrate how to administer a medication via the IV bolus route.
30. Demonstrate how to administer a sublingual medication to a patient.
31. Demonstrate how to administer an intranasal medication to a patient.
32. Demonstrate how to administer a medication via inhalation to a patient.
33. Demonstrate how to assist a patient with a metered-dose inhaler (MDI).

34. Demonstrate how to assist a patient with a small-volume nebulizer.
35. Demonstrate rectal administration of medications.
36. Demonstrate preparation and techniques for obtaining a blood sample.

Affective-

1. Comply with paramedic standards of medication administration.
2. Comply with universal precautions and body substance isolation (BSI).
3. Defend a pharmacologic management plan for medication administration.
4. Serve as a model for medical asepsis.
5. Serve as a model for advocacy while performing medication administration.
6. Serve as a model for disposing contaminated items and sharps.

Overview of Semester Class Schedule:

	NRPM 101	NRPM 102	NRPM 102L	NPRM 103	NRPM 104	NRPM 104L	NRPM 106	NRPM 106L	Total hrs/day
WEEK #									
1	5				2.5	0.83			8.33
2	5				2.5	0.83			8.33
3	5				2.5	0.83			8.33
4	5				2.5	0.83			8.33
5		2	3		2.5	0.83			8.33
6		2	3		2.5	0.83			8.33
7		2	3		2.5	0.83			8.33
8		2	3		2.5	0.83			8.33
9		2	3		2.5	0.83			8.33
10				2.2	2.5	0.83	1.2	1.6	8.33
11				2.2	2.5	0.83	1.2	1.6	8.33
12				2.2	2.5	0.83	1.2	1.6	8.33
13				2.2	2.5	0.83	1.2	1.6	8.33
14				2.2	2.5	0.83	1.2	1.6	8.33
15				2	2.5	0.83	1.4	1.6	8.33
16				2	2.5	0.85	2	1	8.35
17				2	2.5	0.85	1	2	8.35
18				2	2.5	0.85	0.6	2.4	8.35
	20	10	15	19	45	15	11	15	150

		Classes will meet on Tuesdays	
Course Legend:			
	Req. Hrs:	Start Time	End Time
NRPM 101: Introduction to Emergency Medical Care	20	1300	1800
NRPM 102: Medical Math and Pharmacological Principles	10	1300	1500
NRPM 102L: Pharmacological Techniques	15	1500	1800
NRPM 103: Introduction to Clinical Medicine & Assessment	19	1300	1515
NRPM 104: Anatomy & Physiology for Emergency Medical Care	45	900	1130
NRPM 104L: Anatomy & Physiology for Emergency Medical Care Lab	15	1130	1230
NRPM 106: Airway and Injury Management in the Field	11	1515	1630
NRPM 106L: Airway and Injury Management in the Field Lab	15	1630	1800
	150		