

COURSE SYLLABUS

Course Title:	<u>Intravenous Therapy (hybrid)</u>
Contact hours:	40
Course prerequisites:	Current RN or LPN licensed participants will be eligible for IV training and/or certification
Clock Hours:	(40 hours total) 12 hours classroom instruction/16 hours online study
Lab/ Clinical Hours:	12 total (includes practice hours)
Instructor:	Dr. Lyntressa Grant, DNP, ARNP, RN-CNE

Course description:

This course is designed to provide hospital and pre-hospital caregivers training in intravenous access at the basic level. The intent of this course is to provide a course for professionals who need this training as a requirement for their current position, refresher class of previous IV training, and/or as a pre-requisite class for entry into an RN program. Course content includes fundamental foundations of practice, infection control measures, fundamentals of fluid and electrolyte balance, basic infusion practice, and special problems associated with infusion therapy.

Course objectives: Upon successful completion of the course, the student will be able to:

Module 1: Fundamental Foundations of Practice

1. Define the terminology related to risk management and quality patient management.
2. Identify the areas of breach of duty in I.V. nursing.
3. Identify three occupational risks for the I.V. nurse.

Module 2: Infection Control Measures

4. Identify strategies to prevent infection related to intravenous therapy.
5. Describe the factors that influence formation of infusion phlebitis.
6. State the Intravenous Nurses Standards of Practice for preventing infection.
7. Discuss sources of intravenous cannula-related infections.
8. Related the critical nursing interventions for infection control.

Module 3: Fundamentals of Fluid and Electrolyte Balance

9. Define terminology related to fluids and electrolytes.
10. State the functions of body fluids.
11. Compare and contrast the movement of water in hypotonic, hypertonic, and isotonic solutions.

12. Summarize the major fluid balance disorders.
13. Identify patients with fluid volume deficit and fluid volume excess using a quick assessment guide.
14. Define terminology related to electrolytes.
15. Contrast each of the seven electrolytes and their major roles in body fluids.
16. Identify signs and symptoms of deficits and excesses of sodium, potassium, calcium, magnesium, chloride, and phosphate.
17. Compare clinical manifestations of metabolic acidosis and alkalosis.
18. Identify regulatory organs of acid-base balance.

Module 4: Basic Infusion Practice

19. Identify the three objectives of parenteral therapy.
20. List the key elements in intravenous solutions.
21. Describe the uses of maintenance fluids.
22. Describe the uses of hypotonic, hypertonic, and isotonic fluids.
23. Identify the major groupings of intravenous solutions.
24. Describe the main role of hydrating fluids.
25. Compare the properties of a crystalloid solution with those of a colloid solution.
26. Identify the use of alkalinizing and acidifying fluids.
27. State the most commonly used hypotonic multiple electrolyte solutions and most commonly used isotonic multiple electrolyte solutions.
28. Identify the types and characteristics of infusion delivery solutions.
29. Describe the 5 types of administration sets.
30. Describe the appropriate use of filters, adaptors and connectors, stopcocks, and PRN devices.
31. Compare and contrast scalp vein needles, over-the-needle catheters, through-the-needle catheters, and midline catheters.
32. Compare and contrast infusion regulation devices.
33. Describe the anatomy related to the venous system.
34. Identify the peripheral veins appropriate for venipuncture.
35. List the factors affecting site selection.
36. Demonstrate Phillips' 15-step approach for initiating intravenous therapy.
37. State the Intravenous Nursing Standards of Practice for peripheral infusions.

Module 5: Complications of Intravenous Therapy

38. Define terms related to the hazards associated with intravenous therapy.
39. Differentiate between local and systemic complications.
40. Describe the signs and symptoms of eight local complications.
41. Identify prompt treatment for local and systemic complications.
42. Identify the most hazardous local complication.
43. Use the phlebitis chart for identifying and rating post-infusion phlebitis.

44. Identify prevention techniques for the six systemic complications.
Module 6: Special Problems of Intravenous Therapy

- 45. Identify special considerations related to intravenous therapy in the pediatric patient.
- 46. Identify special considerations related to intravenous therapy in the geriatric patient.
- 47. Identify special considerations related to intravenous therapy with obese patients, patients with edema, and patients with sclerosed or fragile veins.

Required textbook:

Phillips, L.D. (2015). *Manual of I.V. therapeutics*(6th. ed.). Philadelphia: F.A. Davis Company.

Recommended textbook:

Phillips, L.D. (2017). *IV therapy notes: Nurse's clinical pocket guide*. Philadelphia: F.A. Davis Company. (Not necessary for course completion but is an excellent pocket guide to use in the clinical setting.)

CLASSIFICATION OF INSTRUCTION

This course is offered as needed. Course is a hybrid course. Instruction will be both on-line and in learning lab/clinical.

COURSE DESCRIPTION

This course is designed for the student to use components of the nursing process in promoting the physiological and psychosocial integrity of clients receiving intravenous therapy. Appropriate clinical experiences are correlated with theory within the hospital setting.

PREREQUISITES AND/OR COREQUISITES

Licensed Registered Nurse or licensed Practical Nurse.

COURSE OUTCOMES/COMPETENCIES

At the completion of the course, the student will:

(Theory)

1. Use all components of the nursing process in promoting the physiological and psychosocial integrity of selected clients receiving intravenous therapy.
2. Identify actual or potential factors that influence adaptation in planning nursing care of the client receiving intravenous therapy.
3. Identify the role of the Licensed Practical Nurse in the administration of intravenous therapy, medications administered intravenously, and the monitoring of central venous lines and blood therapy.

(Clinical)

1. Apply the five (5) components of the nursing process to meet the needs of clients in conditions receiving intravenous therapy.
2. Apply theory knowledge in the clinical setting when caring for clients receiving intravenous therapy.
3. Demonstrate aseptic technique in the initiation and maintenance of intravenous therapy.
4. Identify adverse reactions and or side effects associated with intravenous therapy and medications administered.

COURSE OUTLINE

UNIT I. PERIPHERAL INTRAVENOUS THERAPY

UNIT II. MONITORING CENTRAL LINES AND BLOOD THERAPY

UNIT III. DRUG ADMINISTRATION

INSTRUCTIONAL METHODS

➤ ***Classroom***

Lectures and discussions, demonstrations, audio-visual aids, self-study with aids and programmed materials.

➤ ***Laboratory***

Scheduled classroom laboratory

Post-clinical conferences

Non-scheduled self-study laboratory

➤ ***Teaching Facilities***

Contracted hospitals

➤ ***Visuals/Audio-Visuals***

Audio-visuals

Models and/or simulators

STUDENT REQUIREMENTS AND METHOD OF EVALUATION

- Return demonstration.
- On-line quizzes – there are seven quizzes to assist the student in understanding the concepts of IV therapy.
- On-line in class final exam. Student must pass with an 80% or greater in order to be IV certified.
- Skills performance and oral test in classroom laboratory – there are five learning lab skills to be completed. The student must average 85% on these five skills.
- Performance evaluation in clinical area
- Final Clinical Competency must be 100% on all procedures.
- Attendance - both theory and clinical

GRADING SCALE

Grading scale: 94 - 100% A Skills check off: 1st attempt 100%

86- 93% B 2nd attempt 90%

80 - 85% C 3rd attempt 85%

76 - 79% D 4th attempt 80%

0 - 75% F 5th attempt 75%

ASSESSMENT OF STUDENT GAIN

Assessment of student gain will be measured by comparing the student's knowledge of the subject when the class begins and then by using the same measurement at the close of the class. This measurement will be done via pre and post- tests over the stated course competencies.

ATTENDANCE POLICY

Unless students are participating in a school activity or are excused by the instructor, they are expected to attend schedule class. If a student's unexcused absences exceed one-third for required time for the course, the instructor has the right, but is not required, to withdraw a student from the course. Once the student has been dropped for excessive absences, the administrator will send a letter via email to the student, stating that he or she has been dropped. There will be no refunds for dropped students.

Academic Integrity

GPS-NSG expects every student to demonstrate ethical behavior with regard to academic pursuits. Academic integrity in the classroom is a specific requirement. Consequences of violation of the Academic Integrity policy can range from redoing the assignment for partial credit to course dismissal at the discretion of the instructor. Definitions and examples of Academic Integrity, as well as the appeals process, can be found in the Student Handbook, and/or Code of Student Conduct.

Cell Phone Policy

Student cell phones and other devices must be turned off during class times. Faculty may approve an exception for special circumstances.