

## **Intravenous Therapy and Blood Withdrawal Certification Class Syllabus**

*(Provider approved by the California Board of Vocational Nursing and Psychiatric Technicians for 36 Contact Hours and provides certification for Licensed Vocational Nurses in Intravenous Therapy and Blood Withdrawal. The BVNPT approval number is IB 15059)*

### **COURSE DESCRIPTION**

- Review of the anatomy and physiology of the cardiovascular system and fluid and electrolyte balance.
- IV and Blood Withdrawal methods, peripheral vein selection, IV solutions, IV preparation and patient preparation and live practice
- Review of common IV medical terminology and abbreviations, different types of IV equipment and their uses
- Various means of delivery IV therapy, including different catheter types and their use, special IV therapies, PICC lines and Central lines and the care and maintenance of each.
- Adverse reactions and complications associated with IVs, the appropriate and accurate administration of IV medications and solutions, including those delivered via a central line; caring for patients receiving IV therapy, blood and blood components, and parenteral nutrition; and the incorporation of infection control procedures into all aspects of venipuncture and intravenous therapy.
- The class also includes essential patient teaching, psychological preparation, patient assessment and observation and essential documentation.

### **INTENDED AUDIENCE AND PARTICIPANTS**

- This course can be taken by Licensed Vocational Nurses (LVNS), Registered Nurses and unlicensed LVN and RN students and new graduates of LVN and RN programs. This course fulfills the California Board of Vocational Nursing 36-hour requirement for IV and Blood Withdrawal Certification. It is designed to include both lecture and clinical experience. The theory portion of the class can be given to live or online participants. The clinical portion must be completed in the classroom under the supervision of an approved RN instructor. Only LVN's will receive certification. RN's will receive a certificate of completion but no CEU's.
- BVNPT Course Provided IB 15059
- Nursing Students, RNs, EMT's Certified Phlebotomy Technicians, Dentists, Physicians, Surgery Assistants, and other Healthcare Professionals.
- LVN Students – may attend prior to graduation and before receiving the LVN license.
- If you are an RN student or New Grad, RN, EMT, Paramedic, Physician, Phlebotomist you may take one or both of the clinical practice labs. [Select the Blood Withdrawal or IV Insertion Lab or both.](#)

### **COURSE COMPLETION AND CERTIFICATION**

- LVNs – this course will provide you with a Certificate of Completion and Certification from the BVNPT and 36 hours of Continuing Education (participants must pass the NCLEX and become licensed to get the BVNPT Certification). There is a license fee charged by the BVNPT of about \$25 – this cost is not included in the price of this program.
- All other Health Care Providers will receive a certificate of completion for the theory course or clinical lab completed.

**OBJECTIVES:**

**At the conclusion of this course, the learner will be able to:**

1. Detail the anatomy and physiology of the skin, venous and arterial systems, and discuss the purposes of and indications for intravenous therapy.
2. Discuss osmosis, diffusion and the effects of numerous intravenous fluids on the body.
3. Define a multitude of medical terms that are pertinent to intravenous therapy.
4. Accurately calculate IV flow rates, total infusion time, and intravenous rates based on body weight.
5. Describe the legal aspects of IV administration including competency and scope of practice.
6. Fully detail infection control practices and universal precautions during venipuncture and during the course intravenous therapy.
7. Relate the procedures for venipuncture and starting and managing peripheral, midline, and central venous catheter lines.
8. Describe the purpose of and care of the patient with a peripheral IV, a midline catheter, and a central line.
9. Recognize and intervene appropriately when a complication or adverse reaction to intravenous therapy arises.
10. Describe the patient care priorities, safety measures and observations and assessments for patients receiving IV medications, chemotherapy, blood and blood products, and parenteral nutrition.
11. Demonstrate three (3) individually supervised, successful venipunctures on live subjects.
12. Demonstrate proper vein selection and proper preparation and immobilization of the venipuncture site.
13. Always demonstrate excellent infection control measures during venipuncture practice.
14. Discuss and identify the various types of venipuncture devices, types of delivery systems and types of intravenous fluids.

*Pursuant to the California Code of Regulations, Title 16, Division 25, Chapter 1, Article 8, the licensed vocational nurse (LVN) who holds post-licensure certification issued by the Board may start and superimpose intravenous fluids in patients pursuant to California B&P Code Sections 1242.6 (b) and 2860.5 (c).*

The class meets for 36 hours and meets the State requirement for 36 actual hours of training. LVN's and LVN students must attend 100% of the program, complete three successful venipunctures and three successful blood draws and score at least 75% on all tests and assignments. Attending the live and online classes is mandatory as the Board requires 36 hours of instruction for State Certification in IV therapy and Blood Withdrawal. Those who do not attend all live or online lectures and in-person labs may come back and complete the portion missed with another class for a fee.

**Textbooks:** Fulcher, Eugenia. Introduction to Intravenous Therapy for HealthCare Professionals. Elsevier/Saunders. 2007. Hadaway, Lynn. Infusion Therapy Made Incredibly Easy. Fifth Edition. Wolters Kluwer, 2018.

**Student Evaluation/ Grading Policies:**

**Grading Scale:**

Grade	Description	Percentage Breakdown	Quality Points per Credit Hour
A	Superior achievement	91-100	4.0
B	Above average achievement	82-90.9	3.0
C	Average achievement	81.9-75	2.0
D/F	Failure	Below 75%	0
I	Incomplete	Computed as F in GPA	

**Evaluations:**

	Total Points	Total Percent
<b>Assignments</b>	<b>24 points</b>	<b>23%</b>
Assignment #1 Homework	24	
<b>Quizzes</b>	<b>55 points</b>	<b>52%</b>
Quiz #1	25	
Final	30	
<b>Lab completion</b> (5 points each successful VP)	<b>25 points</b>	<b>23%</b>
Total Points possible	<b>104 points</b>	

**Examination Policy:** Exams will be given after each lecture. Study guides will be provided. Remediation and one retake is available for all tests. A retake must be taken within one week of the test. A different test may be used. The BVNPT requires 3 successful IV venipunctures and 3 blood withdrawals. Students may complete more if they desire. Participants may practice on manikins prior completion of a venipuncture.

**Expectations of Students:**

Students are expected to pay attention in class. Cell phones and computers are not allowed as these are distracting to the instructor and other students. Taking notes is encouraged and class participation. Students should not be doing homework or other activities during lectures. Students may be called upon to read or participate in a case study during class. Students are required to complete all assignments on time. Students are required to participate in all class labs to learn the necessary nursing skills for clinical experience.

**Assignments:** Students are required to read assignments and complete homework assignments each day. Homework must be turned in on time. In class assignments are also required as directed by instructor.

**Course Policies Attendance Policy:** Regular attendance is mandatory for satisfactory achievement and is the responsibility of the student. All absences must be made up with the next available class. Missed tests must be made up within three days of absence.

**Classroom Disruption Policy:** Cell phones and electronics must be put away and can only be used with authorization from the instructor. Students should pay attention and not talk in class unless called upon.

**Course Outline For 3 day Course**

**Theory Content**

- Day One
  - Indications for IV therapy
  - Universal Precautions for Infection Control (hand-hygiene lab and PPE demonstration)
  - Asepsis in infection control

- Legal Implications
- Avoiding Errors
- Regulation of IV Fluids and dosage calculations for IV therapy
- Equipment and Supplies for IV therapy
  
- Day Two
  - Legal aspects as set forth in the California Business and Professions Code
  - Anatomy and Physiology review of Cardiovascular System and peripheral veins
  - Fluid and Electrolyte Balance - Discuss and identify hypertonic, hypotonic and isotonic solutions
  - Types of Lines - Discuss and identify types of delivery systems
  - IV Complications and how to avoid them
  - Observation, assessment and documentation (practice receiving and writing a physician's order, review I&O and MAR charting for IV therapy)
  - Patient preparation
  - Transfusion Therapy
  - Discuss various blood products and the nursing implications and nursing measures for each product
  - Describe signs and symptoms of blood reactions and allergic reactions
  - Discuss and demonstrate IV calculations to determine proper infusion rates and flow rates.
  - Review metric conversions
  
- Day 3
  - Discuss and identify various complications of IV therapy
  - Discuss nursing interventions for complications of IV therapy
  - Discuss ways to prevent the complications of IV therapy
  - Discuss and demonstrate an IV dressing change using aseptic technique
  - Discuss TPN and central line care
  - Discuss administration of medication through IV lines

### **Clinical Content**

- Lab 1 – Blood Withdrawal
  - Watch film on Blood Withdrawal
  - Discuss and demonstrate choice of proper vein and vein dilation techniques
  - Demonstrate proper venipuncture technique (practice vein selection, preparation of site and three successful venipunctures on partner)
  - Discuss and demonstrate proper methods for blood collection
  - Discuss and Identify the Order of the Blood Draw and various collection devices and tubes
  - Obtain a capillary blood specimen on a finger stick
  
- Lab 2 – IV Therapy
  - Discuss and Identify types of IV fluids
  - Watch film on IV therapy
  - Discuss and demonstrate proper vein selection for IV therapy
  - Purge IV tubing and calculate drop rates
  - Discuss possible IV complications and how to avoid them

- Discuss and demonstrate ways of securing the venipuncture site
- Practice proper venipuncture technique and perform 3 successful venipunctures and secure the IV
- Discuss patient complications of blood transfusions, reactions and nursing interventions.
- Demonstrate proper method for administering a blood transfusion
- Discuss the principles of administration of blood products
- Demonstrate proper procedure for hanging an IV infusion

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Live Classes meet at the Professional Medical Careers Institute campus located at: 920 Hampshire Road Suite S. Westlake Village, Ca. 91361 or approved clinical site.

Contact the Board of Vocational Nursing at [www.bvnpt.ca.gov](http://www.bvnpt.ca.gov) or (916) 263-7800

**Price of live and online 36-hour course with live lab: Tuition and Lab for 36-hour course \$295 (does not include BVNPT certification fee of about \$25) INCLUDES both live labs and practices.**

**Price of Live Blood Withdrawal Lab: \$80**

**Price of Live IV therapy Lab: \$ 85**

**Price for both the IV therapy and Blood Withdrawal Lab: \$150**

#### Rules and Regulations

- Attendance: Attendance is mandatory. LVN's must complete at least 36 hours of instruction for certification according to State regulations. Late arrivals are discouraged as they are disruptive to the class in session.
- Professional Conduct: Students are required to observe high standards of professional behavior, language and conduct in all nursing classes at Professional Medical Careers Institute.
- Fit for Duty: All students must be fit for duty, unimpaired by drugs, alcohol or sleep deprivation.
- Honor Code: Professional Medical Careers Institute does not tolerate academic dishonesty. Those who cheat on an exam and those who do not do their own work will not receive a certificate. All forms of academic dishonesty are prohibited.
- Cell Phones – Cell phone use is prohibited while class is in session during both live and online sessions. Those who are looking at cell phones during class may be asked to leave the class. Cell phones are a distraction and are disruptive to the instructors.
- Food in the classroom: No food is allowed in the classroom. PMCI has a break room and students are encouraged to eat in the break room. Water bottles are allowed.
- A one-half hour break is given for lunch and a few 5 minute breaks
- Students are expected to review and read assignments before the start of class.
- **REFUNDS: Students may receive a refund if they do not attend class – those cancelling less than 7 days before the class starts and those who do not show up for class will be charged \$50. Those attending 2 or more classes will not receive a refund. The application fee is not refundable.**

Methods of instruction include: Lecture, discussions, assignments, reading, power-point presentations, films, demonstrations, role playing, group presentations and return demonstrations. Students will be required to have 3 successful vein punctures for blood withdrawal and 3 successful IV insertions during the live labs.

All students taking the online course must have at least 75% for all assignments, tests and discussions.

