Policy U-8
FLORIDA STATE UNIVERSITY
COLLEGE OF NURSING

TITLE: **DRUG MATH**

POLICY: A student must achieve 100% accuracy to meet the drug math benchmarks for dosage and calculation in each of the following courses: NUR 3225L, NUR 4445L, NUR 4766L, and NUR 4954L. If a student fails to achieve 100% by the third test, the student will be required to withdraw from the clinical course.

RATIONALE: Students' participation in clinical experience requires that they meet the academic and professional standards of behavior that ensure patient comfort and safety.

PROCEDURE:

1. Content including dosage and drug math calculation is introduced in NUR 3145.

2. Dosage and drug math calculation tests in NUR 3225L and NUR 4766L will be administered prior to the clinical rotations. If any student fails to achieve 100% by the third test in each course, the student will be required to withdraw from the clinical course.

3. Pediatric dosage and drug math is introduced in NUR 4445: Nursing Care of Women, Children and Families and the drug math test is administered prior to the pediatric clinical rotation in NUR 4555L. If any student fails to achieve 100% by the third test, the student will be required to withdraw from the clinical course.

4. Prior to the internship experience, students in NUR 4954L will complete dosage and drug math calculation tests. If any student fails to achieve 100% by the third test in each course, the student will be required to withdraw from the course.

5. Three drug math competency exams will be scheduled at least 48 hours apart. Students must review their tests and complete remediation prior to retesting.

6. Demonstration of drug math competency by achieving 100% will provide evidence that the student is prepared for drug math and may administer medications in the clinical setting.

7. The College of Nursing will provide simple calculators for use with paper-pencil tests. For computer delivered tests, students will use the built-in calculator or faculty-approved calculator.

8. Sixty (60) minutes will be allowed for the exam.

9. Sample questions will be available for student review.

10. Tutoring will be available through faculty, student-success coaches or student mentors.

Approved: Pending

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Attachment #1

DRUG MATH OBJECTIVES Associated with NUR 3225L

In order to pass the NUR 3225L drug math exam with 100% accuracy the student will:

1.   Recognize abbreviations for recommended times for administering
       medications;

2.   Be able to convert between military time and A.M.-P.M. time;

3.   Be able to read a drug label;

4.   Be able to convert between apothecaries' and metric system of measurement;

5.   When given a statement of a healthcare provider order, will be able to
       determine how much medication the nurse would administer to the patient
       (oral drugs, parenteral drugs, and dosages measured in units);

6.   Accurately calculate the following: (a) milliliters given per hour (mL/hr), (b)
       milliliters given per minute (mL/min), (c) drops given per minute (gtt/min),
       and (d) when the total volume and length of time over which the IV is to
       infuse is given in hours and minutes;

7.   Be able to calculate reconstitution problems for oral or parenteral
       administration; and,

8.   Be able to convert a heparin drip from units/hour (units/hr) to mL/hr,
       and vice versa.

DRUG MATH OBJECTIVES Associated with NUR 4766L

In order to pass the NUR 4766L drug math exam with 100% accuracy the student will:

1.   Recognize abbreviations for recommended times for administering
       medications;

2.   Be able to convert between military time and A.M.-P.M. time;

3.   Be able to read a drug label;

4.   Be able to convert between apothecaries' and metric system of measurement;

5.   When given a statement of a healthcare provider order, will be able to determine how much medication the nurse would administer to the patient (oral drugs, parenteral drugs, and dosages measured in units);

6.   Accurately calculate the following: (a) milliliters given per hour (mL/hr), (b) milliliters given per minute (mL/min), (c) drops given per minute (gtt/min), and (d) when the total volume and length of time over which the IV is to infuse is given in hours and minutes;

7.   Be able to calculate reconstitution problems for oral or parenteral administration;

8.   Be able to convert a heparin drip from units/hour (units/hr) to mL/hr, and vice versa;

9.   When given a percentage solution, be able (a) to convert to grams per milliliters and (b) to calculate answers to problems;

10.   When given a problem using solutions in the form or 1:1,000, be able (a) to identify the constitution of the solution and (b) to calculate answers to problems; and,

11.   Given the patient's weight, amount of medication, amount of intravenous fluids, and a healthcare provider's order, calculate the following infusion drips: (a) mcg/kg/min, (b) mcg/min, (c) mg/kg/hr, (d) mL/hr, and (e) mg/hr.

PEDIATRIC DRUG MATH OBJECTIVES Associated with NUR 4555L

In order to pass the NUR 4555L drug math exam with 100% accuracy the student will:

1.   Recognize abbreviations for recommended times for administering medications;

2.   Be able to convert between military time and A.M.-P.M. time;

3.   Be able to read a drug label;

4.   Be able to convert between apothecaries' and metric system of measurement;

5.   When given a statement of a healthcare provider order, will be able to determine how much medication the nurse would administer to the patient (oral drugs, parenteral drugs, and dosages measured in units);

6.   Accurately calculate the following: (a) milliliters given per hour (mL/hr), (b) milliliters given per minute (mL/min), (c) drops given per minute (gtt/min), and (d) when the total volume and length of time over which the

IV is to infuse is given in minutes and hours;

7. Be able to calculate reconstitution problems for oral or parenteral administration;

8. When given a percentage solution, be able (a) to convert to grams per milliliters and (b) to calculate answers to problems;

9. When given a problem using solutions in the form or 1:1,000, be able (a) to identify the constitution of the solution and (b) to calculate answers to problems;

10. Be able to convert a heparin drip from units/hour (units/hr) to mL/hr, and vice versa;

11. Given the pediatric patient's weight, amount of medication, amount of intravenous fluids, and a healthcare provider's order, calculate the following infusion drips: (a) mcg/kg/min, (b) mcg/min, (c) mg/kg/hr, and (d) mL/hr;

12. When given a pediatric patient's weight, calculate low and high dose range for each dose and for the day; and,

13. When given a pediatric patient's weight, calculate intravenous fluid requirements for the day and for the hour.

INTERNSHIP DRUG MATH OBJECTIVES Associated with NUR 4945L

In order to pass the NUR 4954L drug math exam with 100% accuracy the student will:

1. Recognize abbreviations for recommended times for administering medications;

2. Be able to convert between military time and A.M.-P.M. time;

3. Be able to read a drug label;

4. Be able to convert between apothecaries' and metric system of measurement;

5. When given a statement of a healthcare provider order, will be able to determine how much medication the nurse would administer to the patient (oral drugs, parenteral drugs, and dosages measured in units);

6. Accurately calculate the following: (a) milliliters given per hour (mL/hr), (b) milliliters given per minute (mlL/min), (c) drops given per minute (gtt/min), and (d) when the total volume and length of time over which the IV is to infuse is given in hours and minutes;

7. Be able to calculate reconstitution problems for oral or parenteral

administration;

8.   Be able to convert a heparin drip from units/hour (units/hr) to mL/hr, and vice versa;

9.   When given a percentage solution, be able (a) to convert to grams per milliliters and (b) to calculate answers to problems;

10..   When given a problem using solutions in the form or 1:1,000, be able (a) to identify the constitution of the solution and (b) to calculate answers to problems; and,

11.   Given the patient's weight, amount of medication, amount of intravenous fluids, and a healthcare provider's order, calculate the following infusion drips: (a) mcg/kg/min, (b) mcg/min, (c) mg/kg/hr, (d) mL/hr, and (e) mg/hr.