MARIAN UNIVERSITY
Indianapolis
Leighton School of Nursing

ADDENDUM TO STUDENT HANDBOOK
EFFECTIVE JANUARY 1, 2019
APPROVED BY FACULTY COUNCIL MAY 15, 2018

Mathematics Competency and Remediation Policy

Marian University Leighton School of Nursing recognizes its responsibility to provide educational opportunity for students to acquire adequate mathematical skills. This in turn will lead to confidence and competence in approaching nursing problems which have solutions that require mathematical concepts. The following policy has been developed to provide basic expectations for the faculty and students.

In every nursing course that involves medication administration or instruction in medication administration, students will be expected to pass a mathematics competency examination at a course determined proficiency level. Each mathematics competency examination will be specific for each nursing course that involves medication administration, and will test students for the appropriate mathematics skills and knowledge needed to safely administer medications. Each course will determine a time limit for the math proficiency tests to be completed.

1. Course Leads for the following courses are responsible for testing, grading, and implementing any required remediation:
    a. NSG 251
    b. NSG 307/317
    c. NSG 331
    d. NSG 431
    e. NSG 451
2. Students enrolled in NSG 251 must pass the mid-term dosage competency exam with a 90% score.
    a. Students who do not meet the benchmark will remediate with the course instructor and retake the exam. **The initial grade will stand in the gradebook**.
    b. This remediation is mandatory.
    c. The student will have an opportunity to retake the competency exam two (2) additional times.
    d. The student will be required to withdraw from the course on the third (3rd) unsuccessful score.
3. Students enrolled in 300 level courses must score a 95% and students enrolled in 400 level courses must score a 100% on the dosage competency exam for that course prior to the beginning of the course.
    a. Students who do not meet the benchmark will be allowed to remediate and retake the dosage competency exam.
    b. Students who do not meet the benchmark on the second (2nd) attempt must complete the required remediation.

   c. The student will be required to withdraw from the course on the third (3rd) unsuccessful score.

4. Dosage Competency exams will be available for students in the Canvas course.
   a. Faculty will be responsible for accessing exam results and monitoring student success.
5. Remediation plan to be followed for students who do not meet the benchmark:
   a. The student will be required to utilize the four (4) Kaplan Math Focused Review Tests.
   b. The student in NSG 251/NSG 241 will not be allowed to pass ANY medications in ANY clinical setting until successful score is obtained.
6. Scores and results of retakes will be recorded and documented in the student file.
7. There will be no course points awarded for the exam in the 300 level and 400 level courses but meeting the benchmark is required to demonstrate competency.
8. The following guidelines for grading the mathematics competency exams will be followed. One-half point from each answer will be subtracted from the final score if the student fails to appropriately apply the rules listed below:
   - Incorrect rounding. See the rounding rules.
   - Fractional parts of a unit are always expressed as decimal fractions
     - Example: 1.5 mL not 1 ½ mL
   - A zero is always placed in front of the decimal point when it is not preceded by a whole number.
     - Example: Write 0.8 mL, not .8 mL
   - Excess zeros following a decimal fraction are eliminated.
     - Example: Write 0.5, not 0.500
   - All answers must be labeled appropriately.
     - Example: tab or gtt/min
   - Time: All questions and answers concerning time will be expressed using the 24-hour clock (military time).

Each test will share the following characteristics:

1. The test will consist of 20 questions
2. The mathematical method used will be dimensional analysis.
3. Each test may contain questions requiring the following calculations:
   - tablets/capsules
   - mL needed to prepare a dose
   - drops per minute (IV infusions)
   - ml/hr (IV infusions)
   - weight-based dosages (kg)
   - dosages requiring conversions
   - additional questions related to specific course content

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Rounding Rules for Dosage Calculation

The overall rule is:

0.4 or below do not round
0.5 or greater round up

Tablets and capsules: to the whole tablet or capsule or half tablet (you cannot give ½ of a capsule).

Oral liquids: round to the whole mL for adult dosages and to the 10th place (one decimal point) for pediatric dosages. Injections (IV, ID, Subcut, or IM): Round to the 10th place (one decimal point) using the rule above.

Weight-based dosages: kilograms are always rounded to the 10th place (one decimal point). When you divide the weight in pounds by 2.2 you immediately round that number to the 10th place (one decimal point) using the rule above. Clear your calculator and put the weight in kg (rounded to the 10th place-one decimal point) back in the calculator to do the calculations). Example: Administer rifampin 5 mg/kg, IV, every 12 hours for 4 days. The patient weighs 186 lbs. determine mg/dose. Answer: 211.3 mg/dose

IV Rates (mL/hr): Round to the nearest whole number. Drop rates (gtt/min): always round to the nearest whole drop using the rule above. Infusion times: Round hours to the 10th place (one decimal point) before continuing with the problem. Example: The order reads: Infuse 500 mL or NS at 42 mL/hr. What is the infusion time? Hr = 1 Hr x 500 mL = 500 = 11.904761 Hrs = 0.9 x 60 = 54 minutes 42 mL 42 Answer: 11 Hrs 54 minutes