MA107 Algebra for Health Care (3)
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Office Hours Tuesday 1:30-2:30

Catalog Description: Algebra for Health Care Professionals is a required course for all nursing majors. This is a college-algebra based course that also promotes math competency to prevent errors in a variety of calculations used in nursing. The Quality and Safety Education for Nurses (QSEN) competency of patient safety is addressed through application of algebraic operations that include calculations used in nursing, such as solution/dosage preparations and healthcare facilities/inventories management. Credits cannot be transferred in to meet this mathematics requirement. Fulfills Track E general education requirement in mathematics. Prerequisites: MA 102 or placement.

Course Objectives: At the end of this course, the students will demonstrate:
1. (MLO #1,3) (NLO #2,5) The conversion of measurements between apothecary, metric, household systems.
2. (MLO #1,2,3) (NLO #2,5) The necessary calculations for the preparation of oral parenteral medication and with 100% accuracy.
3. The performance of the calculations in objective #2 using dimensional analysis, ratio and proportions, and formula method.
4. The performance of the calculations in objective #2 on a simple arithmetic calculator with minimal steps.
5. (MLO #1,2,3) (NLO #2,5) The identification and prevention of errors in medical math calculations.
6. (MLO #2,3) (NLO #2,5) The performance of calculations necessary for managing a healthcare facility, inventory, and medical staff.
7. (MLO #1,2,3) (NLO #2,5,6) The use of technology to collect and analyze data to assess possible medical conditions.

Linkages between Course Objectives (COs) and Math Learning Outcomes (MLOs):

CO	MLO 1	MLO 2	MLO 3
1	D		D
2	M	M	M
3	D	D	D
4	M	M	M
5	M	M	M
6		I	I
7	I	I	I

(Key: I=Introduced, D= Developed, M=Mastered)

Course Requirements/Method of Evaluation: Your grade in this course will be based on the following:
Attendance/Participation/Quizzes/Assignments
Four regular exams
One final exam
Service Learning Project

Course Grading: The proportion that each of the above contributes to your grade in this course is as follows:

Attendance/Participation/Quizzes/Assignments	100 points
Three Exams	300 points
Service learning	50 points
Comprehensive Final	200 points
	650 Points Total

Of the total points   Points range
      90% = A
      80% = B
      70% = C
      60% = D
      < 50% =   F

Grading of tests Some exam answers will be graded on the partial credit system. However, no partial credit will be given for dosage related calculations. The instructor will indicate what will not be subject to partial credit as the material is covered. 20% of each exam will be no partial credit

Text: Gustafson & Frisk, *Algebra for College Students*, 7th ed. Brooks/Cole Thomson Learning

Course Schedule:
Unit 1:
Week 1 (13 – 17 Jan) Ch 1: Safety Standards, Operations of Real Numbers, Exponents,
Week 2 (20 − 24 Jan) Ch 1 Perimeter, Area, Surface Area, Linear Equations in 1 variable, <u>Mixtures, Solutions, One Step Conversions</u>
Week 3 (21 – 31 Jan) Ch 2 Linear Equations in two variables
Week 4 (3 – 7 Feb) Ch 3 Systems of Equations <u>Mixtures</u>
Unit 1 Exam 100pts

Unit 2:
Week 5 (10 − 14 Feb) Ch 4 Inequalities, Linear Programming
Week 6 (17– 21 Feb) Ch 5 Polynomials
Week 7 (24 − 28 Feb) Ch 6 Ratios, Proportions, <u>Dosage Caluculations</u>
Week 8 (3 − 7 Mar) Ch 6 continued
Unit 2 Exam 100 pts

Unit 3:
Week 9 (10 − 14 Mar) IV <u>Calculations, Two Step Conversions</u>
Week 10 (17 − 21 Mar) continued
Spring Break (24 − 28 Mar)
Week 11 (31 Mar – 4 Apr) Ch 7 Radicals
Week 12 (7 − 11 Apr) Ch 8 Quadratics
Unit 3 Exam 100 pts

Unit 4:
Week 13 (14 − 18 Apr) Ch 10 Exponential and Logarithmic Equations
Week 14 (21-25 Apr) Continued
Week 15 (28 Apr 2 May) Ch 13 Series and Sequences

Comprehensive Final Exam 200 pts

As needed, the class schedule may change, with notice.

<u>Classroom and University-Wide Policies</u>
The following policies are summarized from the 2013-2014 *University Catalog*. Please be sure that you have reviewed these and the other policies that the catalog contains. The catalog is available under Academics on the university homepage at www.chaminade.edu.

Attendance: Students are expected to attend regularly all courses for which they are registered. Students should notify their instructors when illness prevents them from attending class. Any student who stops attending a course without officially withdrawing may receive a failing grade. Unexcused absences equivalent to more than a week of classes may lead to a grade reduction for the course. Any absence of two weeks or more must be reported to the Associate Provost and the Records Office by the instructor.

Academic Honesty: Students are responsible for promoting academic honesty at Chaminade by not participating in any act of dishonesty and by reporting any incidence of academic dishonesty to an instructor or to a University official. Academic dishonesty may include theft of records or examinations, alteration of grades, and plagiarism. Please read pages 52 of the 2009 – 2010 *Catalog*.

Classroom guidelines:
- Radios, CD players, headsets, televisions, and other personal audiovisual equipment not pertinent to the class are prohibited during class.
- Cellular telephones are also prohibited during class except in extenuating circumstances approved in advance by the instructor.
- The use of any camera or video devices while in class is prohibited
- Please note that it is the instructor's sole prerogative to determine whether a student is: 1) in a fit condition to perform classroom work, 2) indeed working on assignments for that particular class, and 3) distracting other students as to impair the learning environment.

Please Note: If the instructor finds a student in violation of any of these provisions, or the policies outlined in the catalog, he or she may require the student to leave the classroom and may subsequently mark the student absent, which could eventually affect the student's final grade. Failure on the part of the student to honor the instructor's request to leave the classroom may result in removal of the student by the University security personnel and initiation of the University disciplinary process.

Music Devices and Cellphones: Use of music devices and cell phones is prohibited during all Natural Science and Mathematics classes at Chaminade, unless specifically permitted by your instructor. Use of cellphones and music devices in laboratories is a safety issue. In addition, use of cellphones and music devices in any class is discourteous and may lead to suspicion of academic misconduct. Students who cannot comply with this rule will be asked to leave class and may be subject to laboratory safety violation fines. Please refer any questions to the Dean of Natural Sciences and Mathematics.

ADA Accommodations: Students with special needs who meet criteria for the Americans with Disabilities Act (ADA) provisions must provide written documentation of the need for accommodations from the CUH Counseling Center (Dr. June Yasuhara; phone 735 4845) by the end of week three of the class, in order for the instructor to plan accordingly. Failure to provide written documentation will prevent your instructor from making the necessary accommodations. Please refer any questions to the Dean of Students and review the procedures at http://www.chaminade.edu/student_life/sss/counseling_services.php.

Course Atmosphere: Health care is an exciting and rewarding profession. However, medication math errors are one of the major causes of death. Your future patients will depend on you, often with their lives, to make certain math calculations with 0% error. As part of the class participation grade, your treatment of the course material, fellow classmates, and instructor should reflect your understanding of the trust given to you as a nurse. **You are responsible for all of the information in this document: losing it or not reading it are not excuses for not knowing what's in it!**

<u>MA107 SERVICE-LEARNING PROJECT: 10+ hours of direct service with written reflection (50 points)</u>

"The best way to learn math is to teach it." Service-learning provides "real world" connections to the classroom; it looks great on your resume', and it helps to foster civic and corporate responsibility. It also brings much-needed support to communities in need. Commit to ONE of these sites by following site instructions posted online*; be sure to explain to the site coordinator that you are focusing on MATH tutoring.*

A)   Math tutoring at Palolo Elementary School (1-2hr. shifts between 8:30-1:30 during school day or Mon./Tue./Thur./Fri.: 2:10 pm-3:15 pm) Another option = create 3 special projects/games to make math fun.
http://www.chaminade.edu/service_learning/projects-palolo_elem.php

B)   Math tutoring at Jarrett Middle School, during the "homework help" after-school session
http://www.chaminade.edu/service_learning/projects-jarrett_middle.php

C)   Math tutoring at Ali'iolani Elementary (Mon./Tue./Thur./Fri. from 2:30pm-3:15pm and/or 3:15pm-4:00pm) Sign up for at least 7 tutoring dates.
http://www.chaminade.edu/service_learning/AliiolaniElementarySchool.php

D)   Math tutoring at Next Step Homeless Shelter (Sun./Mon./Tue.: 1-2 hr. shifts between 5:30 & 8:30pm OR weekend days according to schedule set up with coordinator)   *20-hr. minimum commitment for this site
http://www.chaminade.edu/service_learning/projects-homeless.php

E)   Math mentoring with the Stock Market Project (Each Thursday 3:30-4:15 @Palolo El; Jarrett day/time TBA) Teach online research skills, ratios and fractions and other means of numerical analyses, ethics, etc. Trainings TBA.
http://www.chaminade.edu/service_learning/Palolo-ChaminadeTeamsEarnTopAwardsinTheStockMarketGame.php

<u>POLICIES</u>: You must choose a site from the list above. No "double-dipping;" your 10 hours must be done exclusively for this course. ONLY IF you are doing 20+ hours of service-learning this term, you may count these 10 hours for more than one course.
If it's your first time as a volunteer at the site you choose, you will need to attend training according to site policy. Training time does not count as "hours" but will be useful to you. Don't miss the pre-scheduled trainings:
http://www.chaminade.edu/service_learning/calendar-training.php

Connection Forms will be passed out in class. Because of this special arrangement, online registration is only needed if you are doing S-L for more than one course. Complete training, submit form to H117, and pick up a timesheet **BEFORE 2/4/2013**. Timesheets are due to H117 **BEFORE 4/22/2013**.

<u>REFLECTION PAPER REQUIREMENTS:</u>
Grading will be based on the learning demonstrated through your reflection paper (prerequisite: 10+ hours completed w/good supervisor evaluations). Your paper should be in APA format.

How did the service experience help you achieve the **course learning objectives stated in your syllabus**? Explicitly state which learning objectives you achieved, and explain the connection to specific experiences during your service. Also, describe how the experience contributed to your understanding of….
- the importance of a basic knowledge of mathematical concepts & accuracy
- the role of nurses as educators
- the effects of culture, socioeconomic status, and learning styles on student learning
- the value of helping others to learn & grow
Summarize your paper on one powerpoint slide. Submit a copy of your paper AND slide to
service.learning.cuh@gmail.com