MA107 Algebra for Health Care (3)
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Spr 13

Office Hours 10-11 Tues or by appt

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 098, 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**,** Three regular exams**,** One final exam.

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
Service Learning	50
Three Exams	300 points
Comprehensive Final	200 points
	650 Points Total

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 medical related calculations. The instructor will indicate what will not be subject to partial credit as the material is covered.

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

Course Schedule:

Unit 1:
Week 1 (Jan 14-18**) Ch1:** Safety Standards: Operations of Real Numbers: Exponents
Week 2 (Jan 21–25) **Ch 1:** Exponents: Linear Equations in One Variable: Mixtures, Conversions
Week 3 (Jan 28–Feb 1) **Ch 2** Linear Equations**:** Functions
Week 4 (Feb 4–Feb 8) **Ch 3** Systems of Equations: Mixtures
Unit 1 Exam

Unit 2
Week 5 (Feb 11–Feb 15) **Ch 4:** Inequalities: Linear Programming
Week 6 (Feb 18–22) **Ch 5:** Polynomials
Week 7 (Feb 25–Mar 1) **Ch 6:** Ratios: Proportions: Dosage Calculations
Week 8 (Mar 4–Mar 8) **Ch 6**: Continued
Unit 2 Exam

Unit 3
Week 9 (Mar 11–15) IV Calculations, Two Step Conversions
Week 10 (Mar 18–22) continued
SB
Week 11 (Apr 1–Apr 5) Ch 7 Radicals
Week 12 (Apr 8-Apr 12) Ch 8 Quadratics
Unit 3Exam

Unit 4
Week 13 (Apr 15-Apr19) Ch 10 Exponential and Logarithmic Functions
Week 14 (Apr 22 – Apr 26) Ch 10 continued
Week 15 (Apr 29 – May 3) Ch 13 Series and Sequences

Comprehensive Final Exam (May6 – 9)

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

Classroom and University-Wide Policies

The following policies are summarized from the *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.

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!

MA107 SERVICE-LEARNING PROJECT: 10+ hours of direct service with written reflection (50 points of total grade)

"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)
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)
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

Policies: 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 2/12/2013**. Timesheets are due to H117 **BEFORE 4/30/2013**.

Reflection:
Please submit a one page reflection essay in APA format. Your essay should include discussion of the math topics that you covered in your tutor sessions. How did the experience help your math learning? How did the experience help your students' math learning? Submit a copy of your paper (attached as a MS word Document) to service.learning.cuh@gmail.com and sheryl.dohm@chaminade.edu Place in subject line "MA107 SL Reflection " Make sure the attachment has your name in the title.