# Cedar Crest College

## *Mathematics for Health Care Professionals – Math 107*
3 Credits
Fall 2008

**Instructor:**  Melissa Ulicny
maulicny@cedarcrest.edu
Ext. 6467
610-504-5979, cell phone (between 9 am and 7 pm)

**Text:** *Calculate with Confidence* – Deborah Gray Morris
A calculator and notebook is also needed for this course.  (No graphing calculators.)
The use of cell phones as a calculator is NOT permitted!

**Course Objectives:**
1. To be able to complete basic math problems involving fractions, percents, and decimals.
2. To use ratio and proportions, analogies, formulas, and dimensional analysis when making conversions.
3. To be able to convert between and within different units of measure – specifically metric, English, and apothecary.
4. To be able to accurately calculate drug dosages with confidence
5. To practice problem solving strategies and skills throughout the semester.

**Instructor Assistance:**  I would gladly help to clarify any areas of uncertainty during the semester.  Please drop in at my office hours listed below in the adjunct office located at Curtis Hall Room 204.

Tues and Thurs: 1:30-2:20
OR BY APPOINTMENT.

**Attendance:**  Attendance will be taken at all classes.  If you will be absent from class, I ask that you please write me an email or leave me a message as to your absence.  It is your responsibility to get all missed information from a classmate.  You will be allowed one UNEXCUSED absence per semester.  More than one unexcused absence will result in a 1% deduction from your course grade for each absence.  **If you are absent from a test or quiz, a valid doctor's excuse is necessary to retake the test.**  If no valid excuse is produced, you will receive a grade of zero for that test.

**Instructional Method:**  Class time will be used for instructor demonstration, class discussion, and student practice.  Homework assignments will be given for student practice.  Practice is essential to success in this course.  Question regarding class material and assignments can be addressed in class or during office hours.

**Grading Procedures:**

Abbreviation and Conversion Quiz:  5% - Based on the abbreviations found on pg 128, 129

Units 1 and 2 Quiz:  5%

Unit 3 Quiz: 5%

Midterm:  25% - Based on Chapters 1 – 16 of text and class discussion/materials.

Unit 4 Quiz: 5%

Project: 5% - description will be given in class

Unit 5 Quiz: 5%

Final:  40% - Based on Chapters 1-24 of text and class discussion/materials.

Assignments:  5% - Unit reviews will be checked throughout the semester.  Work must be clearly labeled and legible for full credit to be awarded.  **All assignments are due in class on the due date and will not be accepted otherwise without prior notification and documentation of a legitimate excuse.**

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| A | 93-100 | C+ | 77-79 | | |
| A- | 90-92 | C | 73-76 | | |
| B+ | 87-89 | C- | 72-70 | | |
| B | 83-86 | D+ | 67-69 | | |
| B- | 80-82 | D | 60-66 | F | 0-59 |

**Class Cancellations:**  College wide class cancellations are announced on the regular media and on the college inclement weather hotline.  In a rare event that I need to cancel an individual class, every effort will be made to notify students via email of the class cancellation.  When a class is cancelled, the following will occur:

- If a class is cancelled on the day of a test, the test will be given at the next class.
- If a class is cancelled on the day an assignment is due, the assignment will be collected at the next class.

**Students with Disabilities:**  Students with documented disabilities who may be in need of academic accommodations should discuss these needs with me during the first week of class.

*This syllabus is subject to change.  Notice will be given to any changes during the semester.*

| Date | Section/Topic |
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| T Aug 26 | Syllabus, Pre-Test,<br>Chapter 1 Roman Numerals,<br><br>Assignment:  Practice Problems |
| R Aug 28 | Optional Class:<br>Chapter 2 Fractions,<br>Chapter 3 Decimals<br><br>Assignment: Practice Problems  (Everyone must complete assignment) |
| T Sept  2 | **Abbreviations Quiz**<br>Chapter 4 Ratio and Proportion,<br><br>Assignment:  Practice Problems |
| R Sept 4 | Chapter 5 Percents<br><br>Assignment:  Practice Problems<br><br>**Unit One Review: (Due Sept 11)**<br>Chapter 1 Review: pg 9 #1-15 odd<br>Chapter 2 Review: pg 21 #1-3, 11-13, 22, 29, 36, 37, 46, 47, 57-65 odd<br>Chapter 3 Review: pg 35 #1, 7, 8, 12, 13, 17, 19, 21, 25, 26,29,31,37,41, 46,48,49<br>Chapter 4 Review: pg 45 #2, 8, 12, 13, 20, 24, 28, 29, 36, 39<br>Chapter 5 Review: pg 54 #2, 4, 11-29 odd |
| T Sept 9 | Chapter 6 Metric System,<br>Chapter 7 Apothecary and Household System,<br><br>Assignment:  Practice Problems |
| R Sept 11 | Chapter 8 Conversions,<br>Chapter 9 Additional Conversions<br><br>Assignment:  Practice Problems<br><br>**Unit Two Review:  (Due Sept 16)**<br>Chapter 6 Review:  pg 69 #1-35<br>Chapter 7 Review:  pg 79 #1-22<br>Chapter 8 Review: pg 95 #1-70 odd<br>Chapter 9 Review:  pg 106 #1-9 odd, 25-31 odd, 37, 41, 46-52 |

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| T Sept 16 | **Unit One and Two Quiz**<br>Chapter 10 Medication Administration<br><br>Assignment: Practice Problems and read chapter |
| R Sept 18 | Chapter 11 Understanding Medication Orders<br>Chapter 12 Medication Administration Records<br>Chapter 13 Reading Medication Labels<br><br>Assignment: Practice Problems and read chapter (all chapters) |
| T Sept 23 | Chapter 14 Dosage Calculations: Ratio and Proportion<br>Chapter 15 Dosage Calculations: Formula Methods<br><br>Assignment:<br>Chapter 14 Practice Problems #3-39 odd<br>Chapter 15 Practice Problems odds, |
| R Sept 25 | Finish Chapter 15 Dosage Calculations: Formula Methods<br>Chapter 16 Dosage Calculations: Dimensional Analysis<br><br>Assignment:<br>Chapter 15 Practice Problems odds,<br>Chapter 16 Practice Problems #1-5, 11-19 odd<br><br>**Unit Three Review:  (Due Sept 30)**<br>Chapter 10 Review: pg 124 #1-15<br>Chapter 11 Review:  pg. 136 #1-7, 9-67 odd<br>Chapter 12 Review:  pg 155 #1-15, Exercise 2<br>Chapter 13 Review: pg 175 #7-39 odd<br>Chapter 14 Review:  pg 194 #15-67 odd<br>Chapter 15 Review:  pg 220 #11-55 odd<br>Chapter 16 Review: pg 241 #1-4, 15-20, 29-32 |
| T Sept 30 | **Unit Three Quiz** |
| R Oct 2 | Practice Midterm (Chapters 1-16), Midterm Review |
| T Oct 7 | **Midterm Exam** |
| R Oct 9 | Chapter 17 Calculation of Oral Medications<br>Chapter 18 Parenteral Medications<br><br>Assignment:<br>Chapter 17 Practice Problems #1-25 odd, 45-53 odd, 54<br>Chapter 18 Practice Problems #1-22 |

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| T Oct 14 | No Class – Fall Break |
| R Oct16 | Chapter 19 Reconstitution of Solutions<br><br>Assignment: Practice Problems |
| T Oct 21 | Chapter 20 Insulin, **Project Description**<br><br>Assignment: Practice Problems |
| R Oct 23 | Chapter 21 Pediatric and Adult Dosage Calculation Based on Weight<br><br>Assignment: Practice Problems |
| T Oct 28 | **Work on project (bring data to class)** |
| R Oct 30 | **Project Due**<br><br>**Unit Four Review:  (Due Nov 4)**<br>Chapter 17 Review pg 285 #7-47 odd<br>Chapter 18 Review pg 335 #11-43 odd<br>Chapter 19 Review pg 375 #9-39 odd<br>Chapter 20 Review pg   #1-39 odd<br>Chapter 21 Review pg 447 #7-69 odd |
| T Nov 4 | **Unit Four Quiz**<br>Chapter 22 IV Calculations, Solutions and Equipment<br><br>Assignment: Finish Practice Problems |
| R Nov 6 | Chapter 23 Heparin Labels<br><br>Assignment: Practice Problems |
| T Nov 11 | Finish Chapter 23 Heparin Labels<br>Chapter 24 Critical Care Calculations<br><br>Assignment: Practice Problems |
| R Nov 13 | Finish Chapter 24 Critical Care Calculations<br><br>Assignment: Finish Practice Problems |

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| T Nov 18 | **Unit Five Review:  (Due on Nov 20)**<br>Chapter 22 Review: pg.525 #1-93 odd<br>Chapter 23 Review: pg.543 #1-49 odd<br>Chapter 24 Review: pg.561 #1-43 odd |
| R Nov 20 | **Unit Five Quiz** |
| T Nov  25 | Practice Final Exam<br>Comprehensive Post Test |
| R Nov 27 | **No Class – Thanksgiving Break** |
| T Dec 2 | Optional Class-Come in to review for final or ask questions. |
| R Dec 4 | **Final Exam** |