

Math 1102 - 002: Mathematics for Health Sciences

Spring 2017

Friday 11:00 AM - 1:50 PM

HSC 1109

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Office Hours: Monday: 1:00 PM - 3:00 PM, 7:00 PM - 7:30 PM;

Tuesday: 2:00 PM - 4:00 PM, 6:00 PM - 6:30 PM;

Wednesday: 1:00 PM - 3:00 PM, 7:00 PM - 7:30 PM;

Thursday: 2:00 PM - 4:00 PM, 6:00 PM - 6:30 PM

Text and Materials:

Mathematics for Health Careers, 1st Ed. by Castellon, Baker, Stone

Math 1102 Student Supplement

Statistics: Decision Through Data by David Moore

Calculator: TI-86 or anything with less sophistication

Course Content: Designed for health science majors. Topics include systems of measurement, use of formulas, dimensional analysis, percents, decimals, fractions, ratio and proportion, direct and inverse variation, solutions, and dosage calculations

Course Goals:

1. Use and convert among the metric, British, and apothecary systems of measurements
2. Compute using decimals, fractions, and percents, and convert from one to another
3. Convert between ordinary notation and scientific notation
4. Use scientific notation
5. Determine uncertainty in measurements and estimate reasonableness of answers
6. Use a formula and solve a formula for a specified variable
7. Solve problems in dimensional analysis
8. Compute ratios
9. Solve proportions
10. Solve problems involving direct and inverse variation
11. Compute strengths and amounts of solutions
12. Use the solution formula: $v_1c_1 = v_2c_2$
13. Calculate dosages

Classes: Students are expected to attend class and PARTICIPATE. Students are responsible for all material covered in each class. Quizzes and exams will be held during class time.

Homework: Homework will be assigned for every lecture. Students need to spend time and at least attempt every assigned homework problem to master the material and be prepared for quizzes and exams. Homework problems often appear on quizzes and exams.

Homework and Quizzes: Quizzes will only consist of two problems. They should take no more than 20 minutes and are intended as a “spot check” for students to know how well they understand the material without outside references. They may be administered at the beginning, middle or end of class and might be on any class day, though if not told otherwise, they will be given on the last lecture day of the week. Calculators might be allowed on quizzes depending on the material, so bring your calculator to every class.

Some weeks, instead of a quiz the instructor will collect the **homework** assigned in the previous week. Two (2) problems on the homework will be graded using the same rubric as quizzes. The two problems that are chosen to be graded on the homework will not be announced before the homework is collected, so students are encouraged to complete every homework problem and seek help on difficulties they may have. Sufficient work **MUST** be shown on the homework to receive full credit. Just writing down the answers to a homework problem is not enough.

From the combined homework and quiz grades, the lowest two (2) will be dropped when computing the final grade.

Exams: There will be three (3) midterms and a final exam given in the course. All exams will be comprehensive and students should expect to be asked about all material leading up to that exam. The midterms will be taken in-class. New material may be covered on exam days, but it will **NOT** appear on that exam. No cell phones will be allowed at all at a student’s desk during the exam. Calculators will be allowed (except possibly on the first exam), but only the calculators stated above or inferior models. Further instruction will be given on exam days.

Any conflicts of exam dates must be discussed with the instructor at least one full day prior to the exam date with follow-up emails documenting what we discussed. Any exam missed without consulting the instructor beforehand will receive 0 points.

Grading:

| | |
|------------|-----------------|
| Quizzes | 100 Points |
| Exams | 100 Points Each |
| Final Exam | 200 Points |
| Total | 600 Points |

In general,

| A | B | C | D | F |
|------------|-----------|-----------|-----------|-----------|
| 540 and up | 480 – 540 | 420 – 480 | 360 – 420 | Below 360 |

Written Style: Student should practice and use good style when answering problems. That means that any answer which requires an explanation should be written in complete sentences, all mathematical notation should be consistent and make sense, and anybody reading the solutions for the first time (namely, the grader) should have no confusion as to both the final answer and the work involved to get there. For example, “ $1 + 1 = 2$ ” is a complete sentence. It has a subject ($1 + 1$), a verb ($=$) and an object (2).

Academic Integrity: Students should be aware of the Code of Academic Conduct and know the consequences should the code be violated. The document can be found at www.cod.edu/dept/boardpolicy/5050pr.doc. Violations of academic integrity will result in a score of 0 for that assignment with further punishments possible.

Attendance Policy: Students are expected to attend every class and to understand material for classes they miss. Quizzes CANNOT be made up. **NO** exam will be given after the exam day. If the student has a valid excuse with a valid written note explaining the emergency (at the instructor’s discretion) for missing an exam, then a grade on a future exam may count towards the missed exam as well or a different make-up exam will be administered. This is not an ideal situation and should be avoided. If a student has a valid excuse but does not maintain adequate communication (email/in-person conversations) to make a plan to recoup the missed points, then they will forfeit the missed points. Do not miss class!

While in class, students should be respectful of other students as well as the instructor. Students should not distract others with their computers or cell phones. Any distractible cell phone use should be done outside the classroom. All communication between instructor and students will be conducted either through Blackboard or via a COD email account. Make sure you check your COD email regularly.

Center for Access and Accommodations: Students who require any type of special accommodations for access and participation in this course must be registered with the Center for Access and Accommodations, SSC 3249.

Tentative Course Calendar

| MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY |
|------------------------------------|------------------------------------|------------------------------------|------------------------------------|--|
| Jan 23rd | 24th | 25th | 26th | 27th 1 Introduction, Defining Terms & Fractions: §1.1-1.4 |
| 30th | 31st | Feb 1st | 2nd | 3rd 2 Word Problems, Decimals: §1.5, §2.1-2.5 |
| 6th | 7th | 8th | 9th | 10th 3 More Decimals, Ratios: §2.6-2.7, §3.1-3.3 |
| 13th | 14th | 15th | 16th | 17th 4 Ratio Word Problems, Apothecaries' & Household System: §3.4, §4.1-4.3 |
| 20th | 21st | 22nd | 23rd | 24th 5 Exam 1 , A&H System Word Problems: §4.4-4.6 |
| 27th | 28th | Mar 1st | 2nd | 3rd 6 Recording Measurements: Supplement Ch.1 |
| 6th | 7th | 8th | 9th | 10th 7 Metric System: §5.1-5.8 |
| 13th | 14th | 15th | 16th | 17th 8 Conversions, Dosages: §6.1-6.3, §7.1-7.2 |
| 20th | 21st | 22nd | 23rd | 24th 9 More Dosages: §7.3-7.7 |
| 27th Spring Break No Classes | 28th Spring Break No Classes | 29th Spring Break No Classes | 30th Spring Break No Classes | 31st Spring Break No Classes |

| MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY |
|---------|---------|---|----------|--|
| Apr 3rd | 4th | 5th | 6th | 7th 10 Exam 2, Using Formulas: Supplement Ch. 2 |
| 10th | 11th | 12th <i>Last Day to Withdraw: Saturday, April 15!!</i> | 13th | 14th 11 IV Rates: §8.1-8.3 |
| 17th | 18th | 19th | 20th | 21st 12 CLASS CANCELED Variation: Supplement Ch. 3 |
| 24th | 25th | 26th | 27th | 28th 13 More IV Rates: §8.4-8.6 |
| May 1st | 2nd | 3rd | 4th | 5th 14 Statistics |
| 8th | 9th | 10th | 11th | 12th 15 Exam 3, Conclusion, Final Exam Review |
| 15th | 16th | 17th | 18th | 19th 16 Final Exam 12 PM - 1:50 PM HSC 1109 |
| 22nd | 23rd | 24th | 25th | 26th 17 |