Math 20 - Arithmetic

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Hours: MWF: 9:30-10:30, TuTh: 12:00-1:00, or by arrangement

Prerequisites:
None

The Course:
This course provides instruction on the fundamentals of arithmetic. The emphasis of the course will be active participation and problem solving by you in class. During each class meeting new theory will be introduced, I’ll go over example problems on the board (with your help), and the rest of the class meeting will be spent by you working on problems either individually or in a group. I will be available for guidance and questions during this problem solving time.

The text for this course is more of a workbook than a traditional textbook. Most examples that I present on the board can be found in this “workbook”. You can therefore write notes directly in your text, giving you more time to listen and participate in the board work.

There are several goals for this course. The obvious one is to develop your understanding of the core concepts of arithmetic that you will be need in future courses. A more subtle goal is to develop your problem solving skills and start you on the way to becoming an independent learner where you are able to reason through problems on your own without having to rely on someone like a teacher.

Teaching Style/Expectations:
Learning mathematics is like learning tennis. You can read about it and have people show you how to do it, but the only way to really learn is to do it yourself and practice, practice, practice. That means lots of homework problems. It also means I will maximize in-class time for you to work on problems, typically in groups, where I can answer individual questions. Note this is a successful strategy only if you ask questions. This is the biggest expectation I have of you – ask lots of questions!!!

Warning! Many of your questions will be answered by questions of my own. I will not work a problem for you. You learn by doing. My goal is to guide you to solving the problem yourself. If you accept the fact that I will not spoon-feed you answers, then it will save you a lot of frustration this semester.

Assessment:
I will determine your grade by adding up the points you accumulate throughout the semester. Point values are equally weighted. For example, the 1 point daily quizzes have the same “value” as 1 points from the chapter tests. Calculators, notes, and the text will not be allowed on any tests/quizzes. Your grade in this class will be based on the following:

Chapter Tests: Throughout the semester, a test worth 30 points will be given after the completion of each chapter. We will cover approximately 8 chapters this semseter. Your two lowest test scores will be dropped. This is to be used for unavoidable absences. For this reason no make-up tests will be given regardless of the reason for missing a test!
**Midterm:** On about the 9th week, a 50-point midterm will be given comprising of material we covered in the first half of the semester.

**Final:** An 80-point final will be given during finals week comprising of all of the material we covered. Your homework and class notes should be your study-guide so work accordingly.

**Daily Quiz:** A quiz will be given at the beginning of every class meeting unless we are having a chapter test. It will consist of one problem based on the material from the previous lecture. The question can either be answered correctly (1 point) or incorrectly (0 points). If you are absent or arrive late, then you receive a zero for the quiz. We will have approximately 25 of these quizzes (i.e., 25 points total). To allow for unavoidable absences and “lates”, I will use a total of 20 possible points for calculating your grades even though I will include all of your quizzes in your total score. In other words, if you’re perfect on every quiz, then you would have 5 points of “extra credit” (i.e., 25 points out of 20 possible). Make sure that you study for these quizzes. Zeros add up quickly and can make a difference between passing and failing.

**Grade Summary:**

- A≥90%  
- B: 89.9% - 80%  
- C: 79.9% - 70%  
- D: 69.9% - 60%

- Daily Quiz  
  - 1 pt. each  
  - 20 pts. possible (approximate)
- Chapter Tests  
  - 25 pts. each  
  - 180 pts. possible (after dropping 2 tests)
- Midterm  
  - 50 points  
  - 50 pts. possible
- Final  
  - 80 points  
  - 80 pts. possible
  - 330 pts. possible

An additional factor that may affect your grade is based on your classroom conduct. You may receive a few bonus points based on the "effort" that I see from you. If you are only one point away from a C and I know you’ve worked hard in this class then you will probably receive a C. If I saw little or no effort from you then you receive a D. Conversely, unprofessional behavior will result in your receiving negative points that will lower your total score. These negative points will be assigned as needed per incident.

After each test, I will pass around a grade sheet that looks like the following, though with more rows. Note you will need to know your student ID to follow your grade progress.

<table>
<thead>
<tr>
<th>Possible Points: 284</th>
<th>Math 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>A ≥ 256</td>
<td>ID</td>
</tr>
<tr>
<td>B ≥ 227</td>
<td>Test #</td>
</tr>
<tr>
<td>C ≥ 199</td>
<td>Assignment #</td>
</tr>
<tr>
<td>Tests Dropped: 2</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Total Score</td>
</tr>
<tr>
<td>2015299</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>224</td>
</tr>
</tbody>
</table>

**Classroom Conduct:**
I am disappointed that I need to mention classroom conduct, but unfortunately there are a minority of people that do not understand that common sense rules for professional behavior extends into the
classroom. I expect, as should you, an environment of mutual respect – between teacher and student, and between students. Lapses will result in negative points as discussed above.

I also have a pet peeve. Cell phones are great. I love mine. It’s amazing what you can do with them. However, the classroom is not the place for their use. If you need to do calculations then use a calculator. Save the picture taking and text messaging for after class. If I see or hear a cell phone, then the offending party loses one point from his/her quiz scores. I hate doing things like this so please make sure phones are off and out of sight.

Attendance:
You are expected to attend all lectures. The college defines excessive absence as the number of unexcused absences that equal the weekly number of class meetings. You should consider yourself in danger of being dropped from the class if you exceed this number. If you are late, it is your responsibility to let me know at the end of class that you were not absent. If “lates” or leaving class early becomes excessive, then expect your total score to be negatively effected. Note you are responsible for any information you did not receive due to an absence or lateness.

Student Learning Outcomes:
Upon completion of this course, you will be able to:

- compute with accuracy problems involving the basic operations of arithmetic (addition, subtraction, multiplication, division, exponents, order of operations) on whole numbers, fractions, and decimals.
- convert numeric information into any of the three forms: fraction, percent, decimal.
- solve computation problems involving ratios, proportions, and percents.
- solve applied problems involving whole numbers, fractions, decimals, proportions, measurement, and percents.
- convert measurement units between English and Metric using multiplication, division, and unit fractions.
Guidelines for Success

Keep this handout with you throughout the semester for use as a guide for successful completion of this course.

1) **Attend class regularly.** This sounds innocent enough but it can be difficult for some students. You are studying a difficult subject. If it were possible to learn math by reading a book then there would be no need for this college course.

2) **There is no such thing as a dumb question.** If a problem or a concept is giving you trouble then ask a question or as many questions as it takes to resolve your difficulties. It can be during lecture, in my office or it can be among your classmates (see #3). One of your most valuable resources is my office hours. Please take advantage of them. Answering students’ questions is not an inconvenience. I became a teacher specifically to help students and I look forward to your visits.

3) **Take advantage of your classmates.** I don’t mean that in the negative way. You are all in this struggle together. Use each other as resources. Get to know your classmates. Exchange phone numbers. One of the most effective ways of studying is working in groups (as long as all group members are actively involved).

4) **Practice. Practice. Practice.** Just like when you learn to play the piano or tennis, if you just read about it and don’t practice, then you won’t become very proficient. Most of your practice will be done in class in the form of group or individual problem solving. At other times, homework will be assigned. Remember that the purpose of working on all of these problems is not just to get the right answer, but to use it to practice and learn the concepts from class.

5) **Don't psyche yourself out.** Of all the subjects in college, none causes more fear and anxiety than mathematics. In some ways this is justified because there is a simple truth that needs to be accepted. Math is difficult. It is not, however, impossible to understand. I don't believe that there are people out there who "just don't get it". There are, however, people who have convinced themselves that they "just don't, and never will get it". Foreign languages don't seem to cause as much anxiety, so that is one way of approaching this class. Math is a foreign language with its own set of rules and guidelines. Just as in Spanish, these rules must be memorized, understood and practiced throughout the semester for successful study.

6) **Everybody reading this guideline has the skills needed to succeed in this course.** This is very important to keep in mind. It is also important to remember that it probably won’t be easy. However, the only requirement for success is effort from you, partially by using the above as a guide.

7) **Keep up with the course material.** It is very difficult to catch up in math classes once you have fallen behind.
I ______________________________, have read and understand all sections of the syllabus for ______________________________. All of my questions have been answered satisfactorily. I will keep the syllabus with my lecture notes and will take full responsibility for understanding all of its aspects throughout the semester. I am aware that there may be changes made to the syllabus announced during the semester and will make a note of these changes on my handout. I will be responsible for these changes even if I am absent for the relevant announcement.

x______________________________

(name) (course) (signature) (date)