

## Syllabus Math 106, Quantitative Reasoning

**Instructor:** ABDELLAH ZARAK

**Location :** Robinson Hall A room 208

**Time: Monday and Wednesday :** 12:00 -1:15 pm

**Office Hours and location:** Monday from 7:30 pm to 9:30pm adjunct office.

**Email:** azarak@gmu.edu

**Text:** Mathematical Ideas, by Miller, Hereen and Hornsby, *Custom Edition* or 12<sup>th</sup> edition Pearson, 2012 (ISBN: 978-1-256-71962-5)

The textbook bundled with a MyMathLab access code can be purchased in the campus bookstore.

Alternatively, the ebook and MyMathLab access code which will provide access to a digital version of the text and the on line tools can also be purchased online (<http://www.mymathlab.com>). It is strongly recommended that you purchase the physical text as most students are more successful using a physical book, and we made the custom edition to reduce the total cost to you. The publisher has gone to the 13<sup>th</sup> edition, but we are staying in the 12<sup>th</sup> a bit longer to reduce the price for you. MyMathLab code is not required.

**Calculators:** You will need a Scientific Calculator for the course.

**Course Description:** This course meets the quantitative reasoning requirement, one of the Foundation requirements of the University General Education program. The goal of the Foundation requirement is to help ensure that students are equipped with the tools and techniques necessary to succeed in college and throughout their lives and careers.

The learning objectives for this requirement are:

1. Students are able to interpret quantitative information (i.e., formulas, graphs, tables, models, and schematics) and draw inferences from them.
2. Given a quantitative problem, students are able to formulate the problem quantitatively and use appropriate arithmetical, algebraic, and/or statistical methods to solve the problem.
3. Students are able to evaluate logical arguments using quantitative reasoning.
4. Students are able to communicate and present quantitative results effectively.

**Disability statement:** If you are a student with a disability and you need academic accommodations, please see me and contact the Office of Disability Resources at 703.993.2474. All academic accommodations must be arranged through that office.

**Tutoring Center:** The Math Tutoring Center is located in the Johnson Center Room 344. Help is available on a walk-in basis. For hours of operation see <http://math.gmu.edu/tutor-center.php>

**University Honor Code:** You are expected to follow the GMU Honor Code <http://oai.gmu.edu/the-mason-honor-code/>

### Grading:

- Three exams (100 points each for a total of 300 points)
- Written homework (10 points each for a total of 100 points)
- Final Exam (200 points)
- We will have the final exam in the same room( Robinson Hall A room 208)

The grading scale will be: A: 90-100%; B: 80-89%; C: 70-79%; D: 60-69%; F: below 60% .  
 + or – may be attached to the grade for *approximately* the upper or lower 2 points.

**Homework:**

We will have homework assigned weekly. I will mention the due date of each homework in class. The lowest two grades of the homework will be dropped.

**Tentative schedule: We will stick to the schedule below**

Week	Topic	Sections Covered
1	Inductive/Deductive Reasoning, Problem Solving and Sets	1.1, Ch2
2	Set Theory	Ch 2
3	Logic	Ch 3
4	Logic <b>TEST 1</b>	Ch 3
5	Decimals, Percent and Begin Counting	6.5, Ch 10
6	Counting and Begin Probability	Ch 10, 11
7	Probability	Ch 11
8	Probability <b>TEST 2</b> Exponents and Scientific Notation	Ch 11
9	Statistics	Ch12
10	Statistics	Ch12
11	Algebra Review and Regression <b>Test 3</b>	7.1,2 and Ch12 extension on Regression
12	Financial Math	13.1
13	Applications of Financial math using excel .We will bring computers to class.We will come back to section 1.2	Open class: we will review all the questions that you might have.
14	<b>FINAL EXAM</b> :  Monday 12/18 10:30 am – 1:15 pm	

## **Homework practice from the book:**

### Chapter 1:

Section 1.1: 4,5,9,12,19,20,21,22,23,24,25,26,27

### Chapter 2:

Section 2.1: 2,4,6,8,9,12,14,18,21,22,46,47,87

Section 2.2: 1,8,9,42,43,44,45,47,49

Section 2.3: 1,2,3,4,5,6,7,8,9,10.

Section 2.4: 1,2,3,4,5,6,17

### Chapter 3:

Section 3.1: 2,4,6,8,10,12,14,16,18,20,67,77,78

Section 3.2: 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,31,32,33,34,35,36,37,38

Section 3.3: 1,5,7,8,16,60,66

Section 3.4: 1,2,3,4,5,6,45,46,47,48,49

Section 3.5: 1,2,3,4,5

Section 3.6: 1,2,3,41,42,43,44,45,46,47,48

### Chapter 6

Section 6.5: 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18

### Chapter 10:

Section 10.1: 1,2,3,4,5,6,7,8,32,34,36,44

Section 10.2: 1,2,3,4,16,29,32,33,35

Section 10.3: 1,2,6,21,22,23,24,25,30,35,44

Section 10.4: 2,4,6,8,10,22,24,26,28,30

Section 10.5: 1,2,3,4,5,16,17,18,19,21,22,34

### Chapter 11:

Section 11.1: 1,2,3,6,8,10,22,24,28

Section 11.2: 1,2,3,4,10,12,14,16,18,24,30,37,38

Section 11.3: 2,4,6,8,10,12,14,16,18,20,22,24,26

Section 11.4: 1,2,3,7,9,12,16,28

Section 11.5: 1,2,11,29,30,34,36

### Chapter 12

Section 12.1: 1,2,3,4,10,12,14,16,18,20,22,24,25

Section 12.2: 10,11,12,13,14,15,16,17,18,19,20

Section 12.3: 1,2,3,4,5,6,12,14,16,18,20,33,34,35,36,37

Section 12.4: 1,2,3,4,5,7,11,12,14,16,18,20,21,22,23,24,25,26

Section 12.5: 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18

### Chapter 7

Section 7.1: 1,2,3,4,5,6,7,10,11,14

Section 7.2: 1,10,11,13,15,18

### Chapter 13:

