



MATH 106 section 006, Spring 2018

Quantitative Reasoning

MW, 10:30-11:45 am, Krug Hall 204

Instructor: Sarah Khankan, PhD

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Office TBD

Office Hours: by appointment

**Credit Hours:** 3

**Text(s):** Mathematical Ideas, by Miller, Hereen and Hornsby, 13th ed Pearson, 2016 ISBN: 978-0-321-97707-6

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

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.

**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/>.

MyMathLab is a powerful online, homework, tutorial and assessment system that accompanies your new textbook. Students can take assessments, and receive personalized study plans based on their results. The study plan diagnoses weaknesses and links students to tutorial exercises for objectives they need to study. In many cases students can also access video clips, PowerPoint presentations, and other animations for each section and from selected exercises.

*MyMathLab* is NOT a program operated by GMU. If you are experiencing technical difficulties using the program, then you can email or chat with Customer Support directly through the Pearson Education Customer Service website. Go to <http://247pearsoned.custhelp.com> for more information. Help is available 24 hours a day, seven days a week. You could also call the Pearson Customer Service and Technical Support number at 800-677-6337.

**Grade Distribution:**

Online Homework	15%
Quizzes	25%
Midterm Exam	25%
Final Exam	35%

**Weekly Quizzes:** 10 minutes. Every Monday. Similar to practice problems.

**Letter Grade Distribution:**

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 be using MyMathLab for online homework.

**MyMathLab Course ID: khankan34682**

**Course Policies:**

- Quizzes and exams are closed book, closed notes.
- No makeup quizzes or exams will be given.
- Assignments: Students are expected to work independently. Discussion amongst students is encouraged, but when in doubt, direct your questions to the professor or tutor.
- No late assignments will be accepted under any circumstances.
- Practice problems: Group work is highly encouraged.
- Attendance is expected.

- Students are responsible for all missed work, regardless of the reason for absence. It is also the absentee's responsibility to get all missing notes or materials.

**Tentative Course Outline:**

The weekly coverage might change as it depends on the progress of the class.

<b>Week</b>	<b>Content</b>	<b>Sections covered</b>
1	<ul style="list-style-type: none"> <li>• Financial Math</li> </ul>	13.1
2	<ul style="list-style-type: none"> <li>• Inductive/Deductive Reasoning, Problem Solving</li> <li>• Sets</li> </ul>	1.1, Ch 2
3	<ul style="list-style-type: none"> <li>• Set Theory</li> </ul>	Ch 2
4	<ul style="list-style-type: none"> <li>• Logic</li> </ul>	Ch 3
5	<ul style="list-style-type: none"> <li>• Logic</li> </ul>	Ch 3
6	<ul style="list-style-type: none"> <li>• Decimals, Percent</li> <li>• Counting</li> </ul>	Section 6.5, Ch 10
7	<ul style="list-style-type: none"> <li>• Counting</li> <li>• Probability</li> </ul>	Ch 10, 11
8	<ul style="list-style-type: none"> <li>• Probability</li> </ul>	Ch 11
9	<ul style="list-style-type: none"> <li>• Probability</li> </ul>	Ch 11
10	<ul style="list-style-type: none"> <li>• Statistics</li> </ul>	Ch 12
11	<ul style="list-style-type: none"> <li>• Statistics</li> </ul>	Ch 12
12	<ul style="list-style-type: none"> <li>• Algebra review</li> <li>• Regression</li> </ul>	Ch 7
13	<ul style="list-style-type: none"> <li>• Topic of your choice (Number theory, Geometry...)</li> <li>• Review for Final Exam</li> </ul>	
14	<ul style="list-style-type: none"> <li>• Final Exam</li> <li>• Wednesday 05/09, 10:30am-1:15pm, Room TBD</li> </ul>	

## Practice Problems:

Weekly quizzes will be very similar to those practice problems.

Section	Practice Problems
13.1	1-10,12,14,28,31,33,36,39,41,44,47,53,60
1.1	2,6,24,26,37
2.1	1-8,18,23,25,46,49,52,59-65,79-84,92
2.2	21-36,37-40,41-44,61
2.3	7-24,25-28,37-40,41-44,57-65,89
2.4	5,7,9,15,18,22,26,27,31
3.1	23-32,39-48,49-54
3.2	9-20,23-32,41-46,63-72
3.3	25-30,61-66
3.4	1,4,11-16,45-48
3.6	1-6,13-20,41-48
6.5	1-13,23,26,38-40,44-47,63-67
7.1	13-31 (odd numbers only),43,45,48,50,54,57,59,61
7.2	13-16-18-22-26-29-32-37-47-48-53-60
7.3	5-8,17-22,26,28,66
7.5	20-30,35-53 (odd numbers only),55-65(odd numbers only)
10.1	1-6,30-36,51
10.2	1-12,29-32,38,41-44,53-58,67
10.3	1-8,21-28,32,33,35,44,61,70
10.4	13-16,17-20,21-26,27,28
10.5	1-4,9-12,13-16,25,26,31,37-40,47-50
11.1	5,6,8,11,30-38,51-54,61-64,72,73,74
11.2	1-16,33,34,39-42,43-46
11.3	1-10,27-32,43-49,58-62,67-70,83-86,91
11.4	1-8,11-18,23-26
11.5	2,3,11,12,18,21,22,23,27-29
12.1	1-6,11-15,23,40-42
12.2	1-8,25-27,30,31,37-39,48
12.3	9,10,15-18,23-28,37
12.4	1-4,7,9-19,36,44,45,49,51
12.5	1-6,11-14,19,21,23,24,33-36,45,46