

Syllabus

Class: MAT 108 “Quantitative Reasoning” (3 credits)

Meeting Times: 11:00–11:50 a.m., MWF

Instructor: Peter L. Vachuska, office 249, phone 335-5250 ext. 249. I can also be reached by email at Peter.Vachuska@uwc.edu.

Office Hours: 10:00–10:50 daily or by appointment.

Textbook: *Mathematics: A Practical Odyssey* by Johnson and Mowry

Grading: Grades will be based on six hour exams, each 100 points and a final worth 200 points. Students receiving a failing grade on an exam may be given the opportunity to retake the exam, but this must be arranged promptly before the next exam. My grading scale is: 100-90% being the A’s, 90-80% being the B’s, etc. . . . This scale may change as the course develops – but by only possibly 1 or 2 percentage points.

Material Covered: We will cover the sections listed on other side. We may possibly omit some sections if other sections take more time than anticipated.

To do well in this class:

- Do all or most of the suggested problems. This class is built around applications and the understanding of these *word problems* requires quite a bit of practice.
- Since time to go over questions in class is limited, try to see me right before or after class to go over these questions.
- Attend class and don’t fall behind.
- Make use of office hours, learning center, study groups, etc., asking question when needed.
- Go beyond the minimum amount that you need to know.

Important Dates:

February 8: Last day to add or to change from or to pass/fail or from audit to credit.

March 23-27: Spring Break.

April 12: Last day to drop or to change from credit to audit.

May 12: Last day of classes.

May 15: Final Exam, 10:30–12:00.

Schedule and Suggested Problems*†

Date	Section	Problems
January 26	2.1 Sets and Set Operations.	page 72: 1–53
January 28	2.2 Applications of Venn Diagrams.	page 84: 1–41
January 30	2.3 Introduction to Combinatorics.	page 94: 1–45
February 2	2.4 Permutations and Combinations.	page 108: 1–53
February 4	2.5 Infinite Sets.	page 120: 1–23
February 6	Review	
February 9	Exam 1	
February 11	3.2 Basic Terms of Probability.	page 146: 3–69
February 13	3.3 Basic Rules of Probability.	page 159: 1–57
February 16	3.4 Combinatorics and Probability.	page 173: 1–29
February 18	3.5 Expected Value.	page 180: 1–37
February 20	3.6 Conditional Probability.	page 194: 1–47
February 23	Review	
February 25	Exam 2	
February 27	4.1 Population, Sample, and Data.	page 231: 1–21
March 2	4.2 Measures of Central Tendency.	page 254: 1–33
March 4	4.3 Measures of Dispersion.	page 267: 1–21
March 6	4.4 The Normal Distribution.	page 291: 1–27
March 9	4.5 Polls and Margin of Error.	page 304: 1–23
March 11	Review	
March 13	Exam 3	
March 16	5.1 Simple Interest.	page 335: 1–41
March 18	5.2 Compound Interest.	page 348: 1–39
March 20	5.3 Annuities.	page 363: 1–33
March 30	5.4 Amortized Loans.	page 375: 1–31
April 1	Review	
April 3	Exam 4	
April 6	8.1 Perimeter and Area.	page 354: 1–41
April 8	8.2 Volume and Surface Area.	page 546: 1–33
April 10	8.3 Egyptian Geometry.	page 559: 1–23
April 13	8.4 The Greeks.	page 571: 1–23
April 15	8.5 Right Triangle Trigonometry.	page 585: 1–43
April 17	Review	
April 20	Exam 5	
April 22	10.0A Review of Exponentials and Logarithms.	page 733: 1–57
April 24	10.0B Review of Properties of Logarithms.	page 746: 1–69
April 27	10.1 Exponential Growth.	page 759: 1–27
April 29	10.2 Exponential Decay.	page 778: 1–31
May 1	10.3 Logarithmic Scales.	page 795: 1–33
May 4	Review	
May 6	Exam 6	
May 8	Review	
May 11	Review	
May 15	Final Exam	10:30–12:00

*This schedule may be adjusted if we need more time to cover the material. In case this happens fewer days will be spent during the last week reviewing for the final.

†All exercises are odds only (answers to odd problems are in the back of the text.)