

CONCEPTS OF MATHEMATICS

Instructor: Sam Riley

Class Time: Mon/Wed/Thu 1:00pm – 3:05pm

Class Room: MP 010

Text: Math in Society, David Lippman <http://www.opentextbookstore.com/mathinsociety/index.html>

Office: AC IV, B-wing, Room 349

Mailbox: Math/Psych 410 (front counter)

Office Hours: by request

Contact Info: 410-455-2441 or sriley4@umbc.edu

Topics Include:

Statistics:

Exploring Data Visually

Data formulation and how media uses data

History of Math and Logic

Intro to Logic and Set Theory

Euclidean and Non-Euclidean Geometry

Finance

Savings Models

Borrowing Models

Grading: Your final grade for the course will be computed at follows:

Statistics: 35 points

Logic or whatever I decide?: 30 points

Finance: 35 points

Total of 100 points

Standard Grading Applies

A - 90 to 100

B - 80 to 89

C - 70 to 79

D - 60 to 69

F - 0 to 59

Academic Integrity: By enrolling in this course, each student assumes the responsibilities of an active participant in UMBC's scholarly community in which everyone's academic work and behavior are held to the highest standards of honesty. Cheating, fabrication, plagiarism, and helping others to commit these acts are all forms of academic dishonesty, and they are wrong. Academic misconduct could result in disciplinary action that may include, but is not limited to, suspension or dismissal. To read the full Student Academic Conduct Policy, consult the UMBC Student Handbook, the Faculty Handbook, or the UMBC Policies section of the UMBC Directory.

Schedule of Classes

The schedule is apt to change depending on the flow of the class

Week 1 & 2: Statistics

Day	Lesson	Chapter in Book	Homework
Monday, June 6	Sampling and Surveys	Statistics	From Statistics Chapter: 1, 3, 6, 9 Due Monday 7/13
Wednesday, June 8	Reading Data, Presenting Data	Describing Data	Posted on Blackboard, Due Monday 7/13
Thursday, June 9	Group Project	Describing Data	Continue working on Project
Monday, June 13	Standard Deviation, Correlation, Linear Models	Describing Data (pgs 258 - 266) Growth Models (pgs 173 - 178)	From Growth Models Chapter: 1, 2, 16. The rest posted to Blackboard Due Thursday 7/16
Wednesday, June 15	Data in the Media, Research Studies, Margin of Error	Statistics and extra reading posted to Blackboard	From Statistics Chapter: 11, 12, 15, 20. Rest posted on Blackboard Due Thursday 7/16
Thursday, June 16	Test 1		

Graded Work:

1 Project (15 points)

Two Homeworks (10 points)

Test (10 points)

Week 3 & 4: History and Logic

Day	Lesson	Chapter in Book	Homework
Monday, July 20	Basic History	Historical Counting Systems, also a lot of good stuff on the site: http://www-history.mcs.st-and.ac.uk/Indexes/Hist_Topics_alph.html	From Book (Historical Counting Systems Chapter), 24, 25, 27, 30, 32, 43, 44, 47, 48, 58. Posted to Blackboard Due Monday 7/27
Wednesday, July 22	Set Theory	Sets	Posted to Blackboard - Due Monday 7/27
Thursday, July 23	Intro to Proofs/Logic	Logic (and other material on Blackboard) Intro to writing proofs Direct Proofs Induction Proofs Proof by Contradiction Counterexamples	Paper assigned due Thursday 7/30
Monday, July 27	Euclidean Geometry	Euclid's Elements History of Non-Euclidean	Posted to Blackboard, Due Monday 8/3
Wednesday, July 29	Euclidean and Non-Euclidean Geometry	Shapes in Spherical Geometry Shapes in Hyperbolic Geometry	
Thursday, June 16	Test 2		

Graded Work:

1 Paper (10 points)

Two Homeworks (10 points)

Test (10 points)

Week 5 & 6: Finance

Day	Lesson	Chapter in Book	Homework
Monday, 8/3	Savings Models, Interest Formulas	Finance	Posted to Blackboard Due Monday 7/27
Wednesday, 8/5	Savings Models, Various Accounts	Finance	Due Monday 7/27
Thursday, 8/6	At home class, work on Project!	Finance and other sources	Project assigned due Thursday 7/30
Monday, 8/10	Borrowing Models, Loans and Credit Cards	Finance and other sources	Posted to Blackboard, due Thursday 7/30
Wednesday, 8/12	Borrowing Models, Financial Management	Sources posted soon	
Thursday, 8/13	Test 3	-	

Graded Work:

1 Project (15 points)

Two Homeworks (10 points)

Test (15 points)