

**UNIVERSITY OF RHODE ISLAND  
SYLLABUS**

**MTH107-003: INTRODUCTION TO FINITE MATHEMATICS  
3 CREDITS**

**FALL 2019**

**INSTRUCTOR:** Mr. Daniel Hadley

**E-MAIL:** dhadley@uri.edu

**OFFICE:** 102 C Lippitt Hall

**OFFICE HOURS:** MF 10 - 11  
W 11 - 12

**CLASS SCHEDULE:** MWF 12:00 - 12:50

**ROOM:** Washburn 111

**COURSE DESCRIPTION:** This course is a survey of mathematical topics with examples from fields such as sociology, psychology, education, and medicine. Topics include set theory, descriptive statistics, and probability.

The goal of this course is to prepare the student for the mathematical and analytical aspects of the surrounding world and to enable the development of stronger, deeper mathematical knowledge. This course is intended for students majoring in the Liberal Arts or other fields not having a specific mathematical requirement.

This course fully satisfies the university's general education program (GE) (2016) for both Knowledge area A1: Scientific, Technology, Engineering, and Mathematical Disciplines (STEM) and Competency area B3: Mathematical, Statistical, or Computational Strategies (MSC).

**LEARNING OUTCOMES:**

After completing this course, the student should be able to:

- 1) Understand the concept of sets and elements; perform set operations such as complement, subset, intersection, and union including the visual representation of these operations with Venn Diagrams; and determine the number of elements in a set or operation upon sets.
- 2) Understand and use The Fundamental Method of Counting, particularly permutations and combinations.
- 3) Understand the definitions and rules of events and probability; determine the probability of events both using the number of elements in appropriate sets and empirically; determine simple, joint, and conditional probability using both set size and empirical probability; and determine Binomial probability using both formula and tables.
- 4) Understand the basics of Statistics, including the difference between populations and samples, and the different types of data: categorical and numerical (discrete and continuous); display data using both relative frequency tables and relative frequency histograms; determine the following measures for numerical data: mean, median, variance, and standard deviation; determine measure of relative standing (z-scores) and use to determine probability of Normally distributed data using Standard Normal probability density tables (z-tables); and determine confidence interval estimates for population proportion based on sample data.

**TEXT & MATERIALS:**

Johnson & Mowry. Mathematics: A Practical Odyssey. Cengage Learning, 8<sup>th</sup> edition, 2016. Calculator (inexpensive, does not need to be graphing)

**REQUIREMENTS:**

Although there is no official attendance policy for this course, it is strongly recommended that a student attend each class.

A student missing a quiz or exam will be granted a makeup only with the permission of the instructor. Such permission will be granted only in the case of a valid excuse.

**GENERAL:**

Accommodations: Any student having a documented disability, after contacting Disability Services for Students, should come to me as early as possible so that reasonable accommodations may be made.

Tutoring/Help: Tutoring is available through the Academic Enhancement Center ([www.uri.edu/aec/](http://www.uri.edu/aec/)). In addition, there is help available at CCE in Providence. You may also find assistance using Khan Academy ([www.khanacademy.org](http://www.khanacademy.org)).

Behavior: Be aware that the University has a Civility Policy. Please read it. In general, it is expected that students treat each other and their instructor in a civil, respectful manner. It is expected that the instructor will treat the students similarly.

All students are to be aware of requirements concerning academic honesty as set forth in the URI Student Manual. In particular, during class, there is to be no use of cell phones (voice, text, or browsing) or portable computers for communication or browsing.

**GRADING:**

The following will comprise a student’s grade:

Three in-term exams (100 each)	300
Final exam	200
Quizzes	100
Total	600

**GRADE SCALE:**

<b>A</b>	<b>93 -100</b>	<b>A-</b>	<b>90 - 92</b>		
<b>B+</b>	<b>87 – 89</b>	<b>B</b>	<b>83 – 86</b>	<b>B-</b>	<b>80 - 82</b>
<b>C+</b>	<b>77 – 79</b>	<b>C</b>	<b>73 – 76</b>	<b>C-</b>	<b>70 – 72</b>
<b>D+</b>	<b>67 – 69</b>	<b>D</b>	<b>60-66</b>	<b>F</b>	<b>below 60</b>

## SCHEDULE

<u>WEEK ENDING</u>	<u>SECTION</u>	<u>TOPICS</u>
6 September	2.1	Sets and Set Operations
13 September	2.1	
	2.2	Applications of Venn Diagrams
20 September	2.3	Introduction to Combinatorics
	2.4	Permutations and Combinations
	Tuesday	End Late Add
27 September	3.1	Introduction to Probability
	3.2	Basic Terms of Probability
	Thursday	Last day to drop (no “W”)
4 October	3.3	Basic Rules of Probability
	<b>Friday</b>	<b>EXAM 1</b>
11 October	3.3	
	3.6	Conditional Probability
18 October	3.6	
	3.7	Independence
	Monday	No Class
	<b>Tuesday</b>	<b>Monday Class Meets</b>
	Thursday	Last day to drop (“W”)
25 October	3.7	
	Handout	Binomial Distribution
	Tuesday	Mid-term Grades

<u>WEEK ENDING</u>	<u>SECTION</u>	<u>TOPICS</u>
1 November		Binomial Distribution
	4.1	Populations, Samples, and Data
	<b>Friday</b>	<b>EXAM 2</b>
8 November	4.1	
	4.2	Measures of Central Tendency
	4.3	Measures of Dispersion
15 November	4.3	
	4.4	The Normal Distribution
	Monday	No Class
22 November	4.4	
	Handout	Confidence Intervals for Population Proportion
29 November	Wednesday	No Class
	Friday	No Class
6 December	Handout	Confidence Intervals for Population Proportion
	Wednesday	<b>EXAM 3</b>
	Handout	Polls and Margin of Error
	4.5	
9 December	Monday	Last Day of Class
<b>FINAL EXAM</b>	<b>MONDAY 16 DECEMBER</b>	<b>11:30 AM – 2:30 PM</b>