Instructor: Robin Schipritt
Office Location: Lippitt 101G
Email: rschipritt@uri.edu
Meeting Times: online
Credits: 3
Prerequisites: None

COURSE DESCRIPTION:

MTH107 is a special topics course that satisfies the general education requirement for math at the University of Rhode Island. This course is designed for students who do NOT have precalculus or calculus requirements in their program of study. MTH107 covers the following concepts of modern mathematics: **Logic**, **Sets and Counting**, **Probability**, and **Statistics**. Satisfies the general education requirements for A1 Stem and B3 Math/Comp/Stats.

TECHNOLOGY REQUIREMENTS

Reliable Internet connection: problems with connectivity **are not an excuse** for missing/late assignments.

Ability to scan documents: All assignments should be uploaded as **single PDF files** (this means that I should only have to click on **one** link to read your file)**.**

More information on technology, including helpful links, is posted on the course Sakai site.

SUGGESTED TEXTBOOK and MATERIALS:

Mathematics: A Practical Odyssey (University of Rhode Island custom edition), by Johnson & Mowry.

A 4 or 6 function calculator may be used to check your work – but **all steps must be written out**.
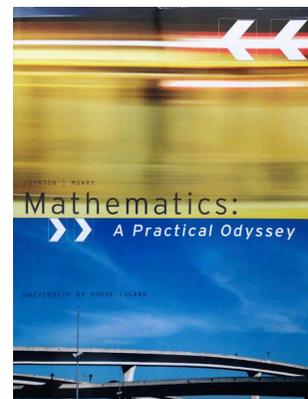
CLASSROOM PROTOCOL:

For this online course, Sakai is our "classroom." In the online learning environment, "attendance" is measured by your presence in the site as well as your contributions to the site. The importance of regular log-ins and active participation cannot be overstated. I will gauge your participation by your **regular, on-time forum postings and responses, and timely assignment submissions**. If you've never taken an online course, Sakai will take some getting used to, and it will be easy to forget about the course from time to time. I recommend that you get in the habit of daily attendance online to maximize your successful completion of the course.

PROGRAM OUTCOMES AND COURSE OBJECTIVES:

MSC Rubric Element:	STEM Rubric Elements:
A.1. Finds The Necessary Information	1. Identifies facts, Vocabulary, definitions, terms, concepts, people
A.2. Make a Plan For How To Solve The Problem	
B.1. Performs the Calculation Or Analysis	2. Recognizes concepts or tools relevant for application to a task
B.2. Checks the Answer For Accuracy	
C.1. Explains The Steps Taken	5. Analyzes: Applies concepts to address the task
C.2. Articulates The Solution	6. Analyzes: Deconstructs and contextualizes 7.
C.3. Presents The Problem And Solution In An Organized, Clear, and Concise Manner	Analyzes: Evaluates and justifies

MTH 107 satisfies the MSC and STEM rubrics (full coverage) for general education.
At the end of the course the student should be able to:

1. Distinguish an argument from other forms of verbal expression recognizing their premises and conclusions.
   RUBRIC ELEMEMTS: Stem 1, Stem 6, Stem 7, A1, C1, C2, C3

2. Recognize valid and invalid, sound and unsound, syllogistic argument forms.
   RUBRIC ELEMEMTS: Stem 1, Stem 6, Stem 7, A1, C1, C2, C3

3. Detect contradictions and lack of consistency among the premises of an argument.
   RUBRIC ELEMEMTS: Stem 5, Stem 6, Stem7, C1, C2, C3

4. Represent propositions symbolically using variables and logic connectives.
   RUBRIC ELEMEMTS: Stem 1, Stem 2, A2, C2, C3

5. Give precise logical meanings of the logical connectives: NOT, AND, OR, ONLY IF, IF AND ONLY IF.
   RUBRIC ELEMEMTS: Stem 2, Stem 6, A2, C1, C2, C3

6. Parse a statement to detect the linguistic equivalent of parentheses.
   RUBRIC ELEMEMTS: Stem 5, A2

7. Build a Truth Table to evaluate a statement.
   RUBRIC ELEMEMTS: Stem 2, Stem 6, A2, B1, B2, C1, C2, C3

8. Use the concept of "set" and "member" to represent relationships between objects and ideas.
   RUBRIC ELEMEMTS: Stem 1, Stem 2, A1

9. Reproduce key definitions used in set theory: negation, intersection, union, subset, superset, equivalence, and their notations.
   RUBRIC ELEMEMTS: Stem 1, Stem 2, Stem 5, Stem 6, Stem 7, A1, A2, B1, B2, C1, C2, C3

10. Determine the number of items in a set by counting in new and different ways using factorials, combinations, and permutations.
   RUBRIC ELEMEMTS: Stem 1, Stem 2, Stem 5, Stem 6, Stem 7, B1, B2, C1, C2, C3

11. Use a Venn diagram to visually represent sets and facilitate counting.
   RUBRIC ELEMEMTS: Stem 1, Stem 2, Stem 5, Stem 6, Stem 7, A2, B1, B2, C1, C2, C3

12. Calculate any probability given the cardinality of the appropriate sets involved.
   RUBRIC ELEMEMTS: Stem 1, Stem 2, Stem 5, Stem 6, Stem 7, B1, B2, C1, C2, C3

13. Calculate simple, conditional, and joint probabilities by counting the members in the appropriate sets.
   RUBRIC ELEMEMTS: Stem 1, Stem 2, Stem 5, Stem 6, Stem 7, A2, B1, B2, C1, C2, C3

14. Apply rules of probability to real world situations like medical tests and casino games.
   RUBRIC ELEMEMTS: Stem 5, Stem 6, B1, B2, C1, C2, C3

15. Recognize simple random processes (like dice rolling etc...) and calculate their expected value.
   RUBRIC ELEMEMTS: Stem 1, Stem 2, Stem 5, Stem 6, A1, B1, B2, C1, C2, C3

16. Draw a histogram to represent a set of data.
   RUBRIC ELEMEMTS: Stem 1, Stem 2, Stem 5, Stem 6, A2, C1, C2, C3

17. Calculate the mean, median, mode, standard deviation, and variance of a data set which is either grouped or ungrouped.
   RUBRIC ELEMEMTS: Stem 1, Stem 2, Stem 5, Stem 6, Stem 7, B1, B2, C1, C2, C3

18. Determine z-scores and use a normal distribution table to solve problems involving data that is normally distributed.
   RUBRIC ELEMEMTS: Stem 1, Stem 2, Stem 5, Stem 6, Stem 7, B1, B2, C1, C2, C3

ASSIGNMENTS AND GRADING POLICY:

Four 10pt discussion forums				40pts
• You will be required to participate in the discussion groups, i.e. Forums. Topics will be posted as the course progresses. There will be one Forum each week. • At the end of a discussion I will grade each student. No make-ups allowed. **This is supposed to be interactive and you will lose points for not posting in a timely matter** (see rubric below).				

Criteria	5pts	3pts	0-1pt
Content	Student responds to the posted questions with **thoughtful ideas, uses mathematical language** and **textbook concepts**, and **applies concepts to situations not covered in the textbook.**	Student responds to the posted question in a way that **does not clearly use the concepts**. Uses **some** mathematical language, but **does not apply concepts** to other situations.	Student responds to the posted question but **misses the main idea** of the discussion topic. An **incorrect fact** or **misunderstanding of the concepts** receives a maximum of 1pt for response to questions.
Participation	Posts in a timely manner. Postings **encourage and facilitate interaction** among members of the online community. Student **responds to other postings**. Must post **three or more** times and show participation by **reading at least 50% of the postings**.	Postings **rarely interact** with or respond to other members of the online community. **Not actively engaged** in the discussion. Only posting twice can earn a maximum of three points.	Students **rarely post** to the discussion boards or post **all postings in one day**. Posting of "I agree" is not consider a posting. Only posting once can earn a maximum of one point.

Four 30pt chapter quizzes	120pts
• Quizzes will be given through Sakai. There are 4 quizzes (one for each chapter). Each quiz will have 15 multiple-choice questions. • The quiz for that chapter will **be available the whole time we are covering the chapter**. You may take the quiz at any time, but you must **complete** the quiz **before** the assigned date/time. • You will have a **maximum of two hours** to complete a quiz (timer starts once you begin, logging out of the page **does not stop the timer**). You will be allowed **two tries per quiz**. The computer will accept the best score. • Quizzes attempted after the due date **will not be accepted.**	

Four 20pt chapter worksheets	80pts
• Each chapter will have a worksheet that will be given graded feedback. You should use these worksheets as preparation for the quizzes. • **Assignments with only answers and no work will not be graded**. • Assignment due dates are posted on Sakai. **No late assignments will be accepted**. • Only **single PDF files** will be accepted for assignments. Other file types will not be graded. If you upload another file type, you will be given **one** opportunity throughout the course to resubmit in the correct form. • Assignments **must be submitted** through the assignments tool in Sakai. Do not email assignments! • **Files must be named** correctly. Directions for naming are posted in each assignment.	

Statistics Project	50pts
• After completing Chapter4, each student will complete a project using the concepts of statistics learned. • A rubric will be provided with a list of sample topics. Each student should choose a unique topic. • Projects will be due on the last day of class. **No late projects will be accepted.**	

Total	290pts

GRADING SCALE:

A (100% – 93%)	A- (92% – 90%)	B+ (89% – 87%)	B (86% – 83%)	B- (82% – 80%)
C+ (79% – 77%)	C (76% – 73%)	C- (72% – 70%)	D+ (69% – 67%)	D (66% – 60%)
F (59% – 0%)	To Compute Your Grade: (your total points)/290 x 100 = your percentage			

Special Needs

Any student with a documented disability should contact your instructor early in the semester so that he or she may work out reasonable accommodations with you to support your success in this course. Students should also contact Disability Services for Students: 302 Memorial Union, 874-2098. They will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential.

Incomplete Grade

University of Rhode Island regulations concerning incomplete grades will be followed. See University Manual sections 8.53.20 and 8.53.21 for details.

Religious holidays

It is the policy of the University of Rhode Island to accord students, on an individual basis, the opportunity to observe their traditional religious holidays. Students desiring to observe a holiday of special importance must provide written notification to each instructor.

Makeup Policy

Assignments, quizzes, and discussions are available for multiple days. Deadlines are given on all assignments. Missed deadlines will require documentation and the policies noted in the University Manual sections 8.51.10 to 8.51.14 will be followed.

Academic Integrity

Cheating is defined in the University Manual section 8.27.10 as the claiming of credit for work not done independently without giving credit for aid received, or any unauthorized communication during examinations. Students are expected to be honest in all academic work. The resolution of any charge of cheating or plagiarism will follow the guideline set forth in the University Manual 8.27.10-8.27.20. Online quizzes must be done independently. Suspicious scores may require additional explanation or exam proctoring.

Intellectual Property

University Manual 8.27.22. Course content and outlines, exams, and assignments created by instructors shall be considered the instructors' intellectual property. Course materials shall not be distributed, shared in any public domain or third party website, or sold without prior written consent of the instructor.