

Instructor: Dr. Jon Hasenbank
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Textbook: *Mathematical Ideas*, Expanded 10th Ed., by Miller, et. al.; Ch: 11-13, 7-8, & 15

	Mon	Tue	Wed	Thu	Fri
7:45					(Office by Appt)
8:50	Office		Office	Office	
9:55	Mth126	Mth126	Mth126	Mth126	
11:00	Mth126	Mth126	Mth126	Mth126	
12:05	Lunch	Lunch	Lunch	Lunch	
1:10	Prep	Office	Prep	(Office by Appt)	
2:15	Mth320	(Office by Appt)	Mth320		
3:40	Office		Office		

Official course description: Continued study of the mathematical concepts and techniques that are fundamental to, and form the basis for, elementary school mathematics. Topics include: use of probability and statistics to explore real-world problems; representation and analysis of discrete mathematical problems using counting techniques, sequences, graph theory, arrays and networks; use of functions, algebra and the basic concepts underlying the calculus in real-world-applications.

Official course outline (SW = “Students will”):

1. Probability and Statistics
 - » SW understand the difference between experimental and theoretical probabilities.
 - » SW understand and compute probability for simple and compound events.
 - » SW understand the role descriptive statistics (graphical and numerical) play in their daily lives.
 - » SW understand the notion of randomness and when different types of sampling techniques are most appropriate.
 - » SW be able to formulate statistical questions, choose appropriate means of data collection, and organize data in a meaningful way.
 - » SW be able to analyze and interpret data.
2. Functions & Algebra
 - » SW be able to use patterns to determine and represent algebraic relationships.
 - » SW understand the concept of variable using concrete and informal representations.
 - » SW be able to use variables to describe mathematical situations.
 - » SW be able to create and use multiple representations of relations.
 - » SW understand the attributes of polynomial, rational, and exponential functions and apply appropriate rules when working with these functions.
 - » SW be able to model real world situations with various functions.
 - » SW be able to apply appropriate operations on expressions and find solutions of equations and inequalities.
 - » SW be able to solve systems of equations.
3. Discrete Mathematics
 - » SW be able to use appropriate formulas to represent sequences and recursive relationships.
 - » SW be able to solve problems using counting techniques.
 - » SW be able to solve networking problems using basic principles from graph theory.

Disability Disclosure: I am happy to support any student with a documented disability (e.g., physical, learning, psychiatric, vision, or hearing, etc.). *You must contact the Disability Resource Services Office* (165 Murphy Library) to facilitate this process and provide for appropriate documentation. The Disability Resource Service’s mission is to collaborate with students with disabilities to identify, reduce, or eliminate barriers to obtaining education within the most integrated settings possible.

Class Policies:

1. Attendance & behavior. You are expected to attend class every day, ask and respond to questions, and participate in discussions and group work. Excessive absences may result in a reduced “presentation & group work” score.
2. Late work will not be graded. Organization and timeliness are critically important for elementary teachers, and I expect you to meet all deadlines for assigned work. Therefore, **late work will not be graded**, with the possible exception of emergencies – see below.
3. Emergencies. If you must miss an exam or major deadline due to an unforeseen emergency, you must contact me as soon as is reasonably possible; failure to do so may result in a failed grade on the assignment.

Grading and Assessment:

Homework: Homework will be assigned every day; you should complete all problems, seeking help as needed. Keep it organized! Highlight problems that you could not complete without assistance.

Daily HW Presentations: Each day, six students will present three predetermined homework problems. Presenters will rotate daily throughout the semester. If you are unable to present on your assigned day, please see me promptly so I can give you an alternate assignment for that day.

Group Work: Occasionally you will be assigned collaborative tasks to complete as part of a small group. Expectations for group work will be clarified in class.

Quick-quizzes: We will have a one-item “quick-quiz” every Tuesday and Thursday. Missed quizzes result in a 0, and there are **no make-up quizzes**. Your two lowest quiz scores (including 0s) will be dropped.

Projects: There will be randomly assigned one of three projects this semester (counting & probability, statistics, or algebra & functions). **You will prepare a written report and present your project to the class.** Projects give you a chance to help you apply your knowledge, use technology, and/or reflect on your.

Midterm Exams: There will be **three midterm exams**. Exams must be taken at the assigned times and there are no “make-up” exams. In case of emergency, please notify me as soon as possible. I reserve the right to require satisfactory evidence of the emergency prior to granting any exceptions.

Final Exam: There will be a comprehensive final exam **at 10am on either Monday May 9 or Wednesday May 11**. Students may choose to take the exam at either time.

Approximate Points Breakdown		
Your grade will be determined according to the percentage of points earned in the course.		Three midterm exams (10% ea.) 30%
		Final exam (cumulative) 25%
		Project & presentation 15%
A: 92-100	AB: 88-92	B: 82-88
BC: 78-82	C: 70-78	D: 60-70
		Presentations & group work 15%
		<u>Quizzes</u> 15%
		Total: 100%

The distribution of points is subject to change at the discretion of your instructor.
Progress reports will be posted to D2L after each exam.