

Math 112 General Education Mathematics Fall 2023

Instructor: Terra Stamps Prairie State College

Prerequisite: At least a C in Math 091 (Mathematical Literacy) or Math 093 (Pre-College Algebra) or qualifying score on the Math placement test.

In Person Office Hours: Mon 1-2:30pm, Tues & Thurs 11:30am-12:30pm, and by appointment

Virtual Office Hours: Wed 12:30pm-2pm and by appointment [via google meet](#)

Office: Room 2301

Office Phone: 708.709.3608

Email: tstamps@prairiestate.edu

Website: www.terrastamps.com

Credit: 3 hours

Course Type: Hyflex

Course Meetings: Mon/Wed 10:30-11:45am in Room 4270

Text: Math in Our World–Custom with ALEKS 360 access, 5thed by Sobecki (optional)

Calculator: A TI-83 or TI-84 graphing calculator (or related app) is required for this course.

Course Description: This course is designed for the liberal arts student who is not a mathematics, science, or business major. The course focuses on mathematical reasoning and the solving of real-life problems. The following topics are studied in depth: set theory and logic, the mathematics of finance, probability, and statistics. The use of calculators or computers is a component of the course.

Aleks: This course will utilize Aleks 360 for online homework, quizzes, and tests. Our Aleks Class Code is **3GCGY-9Y63Q**. You are required to purchase an access code to utilize this software. The access code can be purchased from the PSC bookstore or directly from [McGraw Hill publishing company](#). Aleks 360 contains an e-book, so you do not have to purchase the book separately unless you want the reference. If you cannot purchase the code at this moment, you can email me for a free 2-week temporary code.

D2L: Videos, lecture notes, and assignments for each week are posted in your D2L content area. I will post weekly announcements in D2L as well.

Grading Scale: 90%-100% A 80%-89% B 70%-79% C 60%-69% D 0%-59% F
(*Grades will be rounded to the nearest integer percent.*)

Grading (All grades will be posted in your D2L gradebook):

- 4 tests worth 50 points each for a total of 200 points (53% of your grade)
- 12 quizzes worth 5 points each (I will drop your lowest 2 quiz grades.) for a total of 50 points (13% of your grade)
- 29 sections of homework worth 2 points each (I will drop 4 homework grades.) for a total of 50 points (13% of your grade)
- 1 comprehensive final exam worth 80 points (21% of your grade)

➤ Total number of points possible is 380 points

Accommodations: Your success is important to us. Prairie State College seeks to maintain academic standards while providing equal access and support services to students who are able to benefit from college-level work, have the commitment to succeed, and have a documented disability. Students with disabilities, who need accommodations, can learn more by contacting Shelley Tekeste,

Access & Disability Coordinator at (708) 709-3755 or email disabilityservices@prairiestate.edu. Lastly, if you require special accommodations for the observance of a religious holiday, please notify me during the first week of the semester.

Tests: There will be 4 tests each worth 50 points. Tests will be available in Aleks from Monday 12am until Wednesday 11:59pm on the week when they are assigned. You will only have 1 attempt on each test and it will be timed. You will want to be fully prepared with a pencil, paper, and calculator before you start the test. Since the tests are available for 3 days, I do **not** give make-up tests or extensions.

Quizzes: There will be 12 quizzes worth 5 points each. You will have 2 attempts to get the best possible score on each quiz. Quizzes are always due on the Saturday of the week they are assigned by 11:59pm. I will drop your lowest two quiz grades at the end of the semester; thus, quizzes will ultimately count the same as a test (50 points).

Homework: Homework points are all or nothing (no partial credit) and will only be awarded for each section that is completed with a score of 75% or higher. There is a total of 29 homework sections, and you are expected to complete at least 25 of these. Each homework section is worth 2 points for a total of 50 points. **The first half of the homework is due by Saturday October 14th at 11:59pm. The second half of the homework is due by Saturday December 9th at 11:59pm. DO NOT wait until the last minute to do all the homework.** It will be in the best interest of your education (and your grade) to keep up with the homework as we go through the semester.

Academic Honesty: In a Math class, it is extremely important that the work you present to your instructor is genuinely something that you have produced. Relying heavily on other people and/or technology can create a false sense of achievement that ultimately leads to failure on quizzes and tests when those resources are no longer available. Part of my role as instructor is to communicate to you in what situations the use of technology, such as calculator, website, or app, is acceptable, and when it is not. In general, the use of any technology that allows students to simply type in a problem and have the entire problem solved for them is prohibited.

Any student suspected of academic misconduct will meet with me, another math faculty member, and/or the Dean of Math & Sciences. The student will be asked to explain their work and rework a similar problem. If the student is unable to complete both tasks, a grade of 0 will be awarded on the assignment and a violation form will be completed and placed in the student's file. After 3 academic misconduct violations the student will face disciplinary actions that may include expulsion.

Miscellaneous: The last day to drop with a grade of W is Friday November 10, 2023. If you need help, please contact me, or see one of the **free tutors** available through our Student Success Center (SSC).

College-wide General Education Learning Outcomes: Prairie State College's general education outcomes encapsulate the core knowledge and skills that we believe equip students to develop personally, as critical thinkers, and as global citizens. The specific general education learning outcome for this course is:

Problem Solving: Students will locate and identify information, determine what problem exists, develop solutions, evaluate results, and extend results to new situations.

Course Objectives: In addition to satisfying the general education objectives, the successful Math 112 student should be able to:

1. Use the notation of set theory, perform operations on sets, and use Venn diagrams to solve problems.
2. Construct truth tables and analyze logical arguments.
3. Solve problems involving simple and compound interest, including finding the amounts and payments of loans and annuities.
4. Find probabilities and expected values using counting techniques and the laws of probability.
5. Organize data, compute descriptive statistics, solve problems involving the normal distribution, and find the regression line for a data set.

Math 112 Sections and Topics to Be Covered:

- 2.1 Introduction to Set Theory
- 2.2 Subsets and Set Operations
- 2.3 Venn Diagrams
- 2.4 Using Sets to Solve Problems
- 1.1 Inductive and Deductive Reasoning
- 3.1 Statements and Quantifiers
- 3.2 Truth Tables
- 3.3 Types of Statements
- 3.4 Logical Arguments
- 7.3 Simple Interest
- 7.4 Compound Interest and Annuities
- 7.5 Installment Buying
- 7.6 Student Loans and Home Buying
- 10.1 Basic Concepts of Probability
- 10.2 Fundamental Counting Principle & Permutations
- 10.3 Combinations
- 10.4 Trees and Sample Spaces
- 10.5 Probabilities using Permutations and Combinations
- 10.6 Odds
- 10.7 Addition Rule for Probability
- 10.8 Multiplication Rule for Probability
- 11.1 Gathering and Organizing Data
- 11.2 Picturing Data
- 11.3 Measures of Average
- 11.4 Measures of Variation
- 11.5 Measures of Position
- 11.6 Normal Distribution
- 11.7 Applications of Normal Distributions
- 11.8 Linear Correlation and Regression

MATH 112 TENTATIVE COURSE OUTLINE

This is ***tentative*** so please do not be upset if it changes throughout the semester.

*Due to holidays, 2 sections are assigned to the students to learn from videos posted in D2L.

Week 1	8/21-8/23	2.1, 2.2
Week 2	8/28-8/30	2.3, 2.4, 1.1
Week 3	9/4-9/6	Labor Day (no class Mon) *3.1(online), 3.2
Week 4	9/11-9/13	3.3, 3.4
Week 5	9/18-9/20	3.4, Test 1 review
Week 6	9/25-9/27	7.3, 7.4
Week 7	10/2-10/4	7.5, 7.6
Week 8	10/9-10/11	Test 2 review, 10.1
Week 9	10/16-10/18	10.2, 10.3
Week 10	10/23-10/25	10.4, 10.5, 10.6
Week 11	10/30-11/1	10.7, 10.8
Week 12	11/6-11/8	Test 3 review, 11.1 The last day to drop is 11/10/23.
Week 13	11/13-11/15	11.2, 11.3, 11.4
Week 14	11/20-11/22	11.5, *11.6(online) Thanksgiving (no class Wed)
Week 15	11/27-11/29	11.7, 11.8
Week 16	12/4-12/6	Test 4 review, Final Exam review

Your final exam will be available in Aleks from Sunday 12/10 at 12am until Wednesday 12/13 at 11:59pm. No extensions will be given.