Finite Math
Fall Semester

MATH 104 Finite Math (3 semester credits)

Course Description: An extension of basic algebra to areas that have applications in the economic, behavior, social, and life science. Topics include systems of linear equations and inequalities, matrices, linear programming, mathematics of finance, elementary probability and descriptive statistics.

Prerequisite(s): ASC 093 or ACT Math Score of 21 or Placement Test

Instructor: Harmony Richman

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Office Location: McFarland 427C

Delivery Method: Online

Office Hours: Stop by my office or virtual hours available through Blackboard Collaborate, Google Hangouts or Facetime.

Textbook: Finite Mathematics 11th Edition; Lial, Greenwell and Ritchey. ISBN-10: 0133864472   ISBN-13 9780133864472

Instructor Responsibilities: Instructors have a commitment to the students they teach, much like a student has responsibilities. Students in this course should expect the instructor to:

- Provide accurate information to students on the concepts being taught.
- Create lessons that encourage experimental and constructivist learning principles.
- Provide constructive feedback on all products and drafts within a week of their submission, hopefully sooner.
- Help guide students through the course material and their endeavors to provide an effective learning experience.
- Whenever possible, I will respond to emails within 1-2 business days (M-F) and 48 hours during the weekend.

Course Requirements: Students who are in the college classroom either face-to-face or online have made the conscious choice to be a part of the course. In this course, you are

viewed as a participant in the learning; hence there are expectations that come with the choice you made to take this course.

- You are expected to put, at a minimum, approximately 6 – 8 hours of preparation and study time per week into this course.
- Actively participate regularly in class discussions through consistent, punctual, prepared and interested attendance.
- Submit graded assignments by dates posted on the course calendar. On each assignment, you must show ALL YOUR WORK for full credit. If you do not show work, but simply state your answer, you will receive NO credit for the assignment. It is unfair to selectively grant extensions to some students and not others. Therefore, late assignments are not accepted. Addendums to this rule include medical and/or prior approval from the instructor. A zero will be given for any assignment not turned in by the deadline.
- During the course of the semester, if you are experiencing any problems (family difficulties, sick relatives, etc.) that are affecting your academic performance, you must inform me of such problems ASAP if you want me to take them into consideration. The sooner I know about a problem, the more understanding I will be. If you come to me during the last week of the semester, before grades are about to be assigned to discuss difficulties which have affected you throughout the term, you will find that I am not nearly as understanding and that I can do very little to help you with your grade.
- Read assigned textbook chapters.
- Do ungraded, independent practice exercises.
- Submit assigned textbook problems as pdf or jpeg files.
- Complete graded quizzes/tests after each chapter(s).

Course Objectives/Student Outcomes: The students will be able to:

- Work with elementary probability.
- Work with mathematics of finance.
- Solve systems of linear equations.
- Solve systems of linear inequalities.
- Work with linear programming.
- Work with statistics.
- Demonstrate an understanding of matrices.

Competencies/Learning Outcomes/Performance Indicators: The course addresses the campus theme by exploring real world applications of mathematics in economics, behavioral, social and life science.

Competency/Goal 2: Demonstrates technological literacy

- **Learning Outcome 3:** Use appropriate application software
    - Performance Indicator 1: Selects the appropriate application software.

Competency/Goal 3: Demonstrates the ability to solve a variety of mathematical problems.

- **Learning Outcome 1:** Utilizes mathematical skills to solve problems.
    - Performance Indicator 1: Solves problems using an appropriate method.
    - Performance Indicator 2: Produces graphs

Grading Criteria: Your final grade is determined by dividing the total points earned by the total points possible. Points will be awarded for math activities, selected textbook exercises, online math assignments, reflections, and quizzes.

Assignments open on Saturday at 12:00 AM and will close by Friday at 10:00 PM.

Grades will be calculated using the following criteria:

A	90% - 100%	B	80% - 89%
C	70% - 79%	D	60% - 69%
F	≤ 59%		

Schedule (subject to change):

Week	Topic
Week 1	Welcome! 2.1 Solution of Linear Systems by the Echelon Method 2.2 Solution of Linear Systems by the Gauss-Jordan Method
Week 2	2.3 Addition and Subtraction of Matrices 2.4 Multiplication of Matrices
Week 3	2.5 Matrix Inverses 2.6 Input-Output Models
Week 4	3.1 Graphing Linear Inequalities 3.2 Solving Linear Programming Problems Graphically
Week 5	3.3 Applications of Linear Programming Chapter 2 and 3 Quiz
Week 6	5.1 Simple and Compound Interest 5.2 Future Value of an Annuity
Week 7	5.3 Present Value of an Annuity; Amortization Chapter 5 Quiz
Week 8	7.1 Sets

	7.2 Applications of Venn Diagrams
Week 9	7.3 Introduction to Probability 7.4 Basic Concepts of Probability
Week 10	7.5 Conditional Probability; Independent Events Chapter 7 Quiz
Week 11	8.1 The Multiplication Principle; Permutations 8.2 Combinations
Week 12	8.3 Probability Applications of Counting Principles 8.4 Binomial Probability
Week 13	8.5 Probability Distributions; Expected Value Chapter 8 Quiz
Week 14	9.1 Frequency Distributions; Measures of Central Tendency 9.2 Measures of Variation
Week 15	9.3 The Normal Distribution 9.4 Normal Approximation to the Binomial Distribution
Week 16	Final Project Chapter 9 Quiz

Student Email Policy: Dakota College at Bottineau is increasingly dependent upon email as an official form of communication. A student's campus-assigned email address will be the only one recognized by the campus for official mailings. The liability for missing or not acting upon important information conveyed via campus email rests with the student.

Academic Integrity: The academic community is operated on the basis of honesty, integrity and fair play. It is the expectation that all students, as members of the college community, adhere to the highest levels of academic integrity. This means that:

- Students are responsible for submitting their own work. Student work must not be plagiarized.
- Students must not work together on graded assignments without authorization from the instructor or get help from people, technological resources, textbooks, notes, etc. on examinations.

Violations of academic principles such as cheating, plagiarism or other academic improprieties will be handled using the guidelines outlined in the student handbook on pages 18, 19, and 37.

Disabilities and Special Needs: If you have a disability for which you need accommodation, contact the Learning Center to request disability support services: phone 701-228-5477 or toll-free 1-888-918-5623.