Course Prefix/Number/Title: MATH 104 Finite Mathematics

Number of Credits: 3

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

Prerequisites: ASC 93 with a grade of C or higher, or appropriate Math Placement Test Score.

Course Objectives: Learners in MATH 104 will be able to:

1. Work with and apply elementary probability.
2. Work with and apply the mathematics of finances.
3. Solve systems of linear equations.
4. Solve systems of linear inequalities.
5. Work with and apply linear programming.
6. Work with and apply descriptive statistics.
7. Work with and apply demonstration of an understanding of matrices.

Instructor: Harmony Richman, M.Ed.

Office: McFarland 427C on the Valley City State University campus

Office Hours: See instructor's calendar to set up an appointment.

Phone: 701-200-3897 (cell)

Email: Harmony.Richman@vcsu.edu

Lecture/Lab Schedule: Online

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

Technology tools required: Internet access which is regular and dependable. Internet browser (Firefox or Google Chrome preference), Office 365, Adobe Acrobat Reading, Adobe Flash Player, ability to record audio and/or video, additional free web-based software.

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.
1. You are expected to put, at a minimum, approximately 6 – 8 hours of preparation and study time per week into this course.
2. Actively participate regularly in class discussions through consistent, punctual, prepared and interested attendance.

3. 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.
4. 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.
5. Read assigned textbook chapters.
6. Do ungraded, independent practice exercises.
7. Submit assigned textbook problems as pdf or jpeg files.
8. Complete graded quizzes/tests after each chapter(s).

Tentative Course Outline: See Table 1 Course Schedule below.

General Education Competency/Learning Outcome(s) OR CTE Competency/Department Learning Outcome(s):
Competency/Goal 3: Demonstrates the ability to solve a variety of mathematical problems
      Learning Outcome 1: Utilizes mathematical skills to solve problems
      Learning Outcome 2: Employs critical thinking skills to solve problems
Relationship to Campus Focus:
Students will explore real-world applications of mathematics in nature, economics, statistics, behavioral, social and life sciences.

Classroom Policies:
1. Our class "week" runs Saturday starting at 12:00AM through Friday at 10:00 PM.
2. Due dates for all assignments will be given throughout the duration of this course. Sufficient notice of due dates for assignments will be given, there is no reason why the assignments cannot be completed on time.
3. It is unfair to selectively grant extensions to some students and not others. Therefore, late assignments are not accepted. Addendums to this rule may include medical and/or prior approval from the instructor. A zero will be given for any assignment not turned in by the deadline.
4. Your final grade is determined by dividing the total points earned by the total points possible. Points will be awarded for thoughtful posts of discussion boards, selected practice activities, reflections, and written reports. There will be no quizzes or tests within the course as there are formal and informal assessments within your assignments that fully allows me to analyze your understanding of our topics weekly.
5. Grades will be calculated using the following criteria:

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

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:

According to the DCB Student Handbook, students are responsible for submitting their own work. Students who cooperate on oral or written examinations or work without authorization share the responsibility for violation of academic principles, and the students are subject to disciplinary action even when one of the students is not enrolled in the course where the violation occurred. The Code detailed in the Academic Honesty/Dishonesty section of the Student Handbook will serve as the guideline for cases where cheating, plagiarism or other academic improprieties have occurred.

Disabilities or Special Needs:

Students with disabilities or special needs (academic or otherwise) are encouraged to contact the instructor and Disability Support Services.

Title IX:

Dakota College at Bottineau (DCB) faculty are committed to helping create a safe learning environment for all students and for the College as a whole. Please be aware that all DCB employees (other than those designated as confidential resources such as advocates, counselors, clergy and healthcare providers) are required to report information about such discrimination and harassment to the College Title IX Coordinator. This means that if a student tells a faculty member about a situation of sexual harassment or sexual violence, or other related misconduct, the faculty member must share that information with the College's Title IX Coordinator. Students wishing to speak to a confidential employee who does not have this reporting responsibility can find a list of resources on the DCB Title IX webpage.

Table 1 Course Schedule
The Topics are subject to change based on learners, weather, and other components that are unable to be identified before the semester begins.

Week/Module/Topics	Topics, Readings, Assignments, Due Dates, Deadlines
1	Welcome 2.1 Solution of Linear Systems by the Echelon Method 2.2 Solution of Linear Systems by the Gauss-Jordan Method 2.3 Addition and Subtraction of Matrices 2.4 Multiplication of Matrices
2	2.5 Matrix Inverses 2.6 Input-Output Models 3.1 Graphing and Linear Inequalities 3.2 Solving Linear Programming Problems Graphically
3	3.3 Applications of Linear Programming Chapter 2 and 3 Quiz 5.1 Simple and Compound Interest

	5.2 Future Value of an Annuity
4	5.3 Present Value of an Annuity; Amortization Chapter 5 Quiz 7.1 Sets 7.2 Applications of Venn Diagrams
5	7.3 Introduction to Probability 7.4 Basic Concepts of Probability 7.5 Conditional Probability; Independent Events Chapter 7 Quiz
6	8.1 The Multiplication Principle; Permutations 8.2 Combinations 8.3 Probability Applications of Counting Principles 8.4 Binomial Probability
7	8.5 Probability Distributions; Expected Value Chapter 8 Quiz 9.1 Frequency Distributions; Measures of Central Tendency 9.2 Measures of Variation
8	9.3 The Normal Distribution 9.4 Normal Approximation to the Binomial Distribution Chapter 9 Quiz