DAKOTA COLLEGE AT BOTTINEAU

COURSE SYLLABUS

Course Prefix/Number/Title: MATH 110 – Mathematics in Society

Number of Credits: 3

Course Description:
This course covers a broad range of mathematics that a person would encounter in their daily life. Topics include statistical interpretation, data visualization, probability, growth models, finance, politics and voting, logic and sets, and the intersection of mathematics and the arts. Throughout, appropriate use of mathematical technology will be emphasized.

Pre-requisites: ASC 94 Beginning Algebra with a grade of C or higher, or appropriate math placement test score; Co-requisite: ASC 98 Math Lab depending on pre-requisite

Course Objectives:
Upon completion of the course the learner will be able to

1. Interpret statistical data and graphs, including the implications of margin of error.
2. Articulate the difference between absolute and relative change.
3. Explain the fundamental concepts of probability.
4. Compute and interpret simple probabilities.
5. Compare and contrast different growth models.
6. Apply appropriate methods to make decisions about personal financial scenarios such as budgeting, investments, debt, and retirement planning.
7. Compute bracketed taxes.
8. Compare and contrast voting and apportionment methods.
9. Demonstrate knowledge and application of the principles of logic.
10. Solve problems using Venn diagrams and sets.

Instructor: Tracy Chisholm

Office: Nelson Science Center, Room 111

Office Hours: online through Blackboard messages or via email

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Lecture/Lab Schedule: online through Blackboard

Textbook(s):
This course uses an Open Education Resource (OER) and does not require that you purchase materials to complete the work.

Course Requirements:
Participation is expected. Learning takes place through participation and engagement in the material and the course, and thus, it is essential that you actively participate in class on a regular basis. If, by chance, an emergency requires that you miss a substantial amount of class, please let me know so we can make arrangements. I understand that life happens, so please be honest and let me know if you run into a problem.
Interaction in an online course is different than in an in-person class. I expect you to ask questions, be curious, have fun, be challenged, and interact so that your learning experience is maximized. I also hope that you will interact with your peers. Working with others to discuss the material will help you gain a better understanding of it.
As part of an online course, you will spend more time teaching yourself concepts than you may be used to doing. Thus, you may have to read and reread sections of the text book and the online notes. Read slowly, take notes, try the examples, try and retry problems using the online resources, or try odd problems in the text so you can check your answers. When you get stuck, work problems online in one of the tutorials, watch the online videos, ask another student, or call or email me after you have given it your best shot.
This course is schedule-driven, not self-paced. Thus, you must keep up and hand in assignments every week. In order to succeed you will have to work extremely hard! You will need to spend at least 1-2 hours each day reading the section and working problems (at least 6-8 hours/week or more). If you cannot commit this much time, please do not take the course because you will most likely not be successful.

Homework: Homework will be assigned using myOpenMath linked into Blackboard. These problems are the minimum amount of homework that you should complete. If you need to do more problems to understand the material, then you should do so.
Weekly homework starts on Monday at 12:00 a.m. and is due no later than 11:59 p.m. the following Sunday. You get two attempts at each problem so you can learn from your mistakes, but not just repeatedly guess until you get the correct answer. Math can be frustrating, especially when you are working on it without a face-to-face classroom for lecture, interaction, and discussion, but you cannot give up. Those who are successful in math persist through frustration, but still ask questions after giving it their best try.

Weekly Activities/Discussions: Each week there will be a short activity or writing assignment about what you have learned that week. These require you to apply the knowledge you have gained that week.

Projects: There are two projects in the course. During the weeks projects are assigned, you do not have any new lessons or homework assignments. Instead, you will use what you have already learned to complete the assigned project. Project 1 is a project that will be completed in one week and serves as the midterm for the class. Project 2 is a larger project that is broken down into four parts. This project will serve as the final for the class. These projects are a big part of your overall grade so it is wise to look at them ahead of time and commit adequate time to completing them.

A = 90-100% B = 80-89% C = 70-79% D = 60-69%

Tentative Course Outline:

Module	Dates
Unit 1: Problem Solving	Weeks 1-3
Unit 2: Voting Theory & Apportionment	Weeks 4-5
Unit 3: Growth Models	Week 6
Unit 4: Finance	Weeks 7-8
Unit 5: Sets	Week 9
Unit 6: Logic	Week 10
Unit 7: Statistics & Describing Data	Weeks 11-13
Unit 8: Probability	Weeks 14-16

General Education Competency/Learning Outcome(s) OR CTE Competency/Department Learning Outcome(s):
Competency/Goal 3: Demonstrates mathematical understanding
Learning Outcome 1: Utilizes appropriate mathematical techniques
Learning Outcome 2: Employs critical thinking skills

Relationship to Campus Focus:
Students will explore real-world applications of mathematics in nature, economics, statistics, behavioral, social and life sciences.

Classroom Policies:

- Regular participation and interatction is expected. This includes completing the assigned work, interacting with your classmates, and responding to emails from the instructor in a timely manner.
- The course "week" runs Monday starting at 12:00am through Sunday at 11:59pm. All work for the week is due at 11:59pm on Sunday.
- Learning activities and evaluation will occur in the MyOpenMath learning system and requires Internet connectivity.

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.

AI Student Policy:
Unless otherwise indicated in the course syllabus, or in individual instructions for course assignments, or in the absence of the express consent of the course instructor, students are not allowed to utilize generative AI to help produce any of their academic work. Any violation of this policy will be considered an act of academic dishonesty as outlined within the Dakota College Code of Student Life.

RESPONSIBILITIES

Students	• Responsible to follow the syllabus and assignment instructions regarding use of generative AI for all academic work. • Obtain permission of the instructor prior to the use of generative AI that is outside of the syllabus or assignment instructions. Provide appropriate rationale for how the use of generative AI will enhance the learning experience for the assignment. • In instances where generative AI is permissible, appropriately cite the generative AI program used and indicate where in the assignment it was used, in a brief submission statement.
Faculty	• Determine if the use of generative AI could enhance student learning in any assignment of project. • Clearly indicate in all course syllabi if generative AI is allowable for any academic work. • If allowable, give specific parameters for how and when generative AI may be used. • If a violation of generative AI for the individual course/syllabus is suspected, discuss the concern with the student. If violation is still suspected, inform the appropriate semester coordinator/program director.