DAKOTA COLLEGE AT BOTTINEAU

COURSE SYLLABUS

Course Prefix/Number/Title: MATH 107 Precalculus

Number of Credits: 4

Course Description: This course covers the following topics: equations and inequalities, polynomial and rational functions, exponential and logarithmic functions, trigonometric functions, trigonometric identities, inverse functions and equations, applications of trigonometry, analytic geometry

Prerequisites: MATH 103 or appropriate math placement test

Course Objectives: The student will be able to complete the following as evidenced by classroom activities and objective tests:

1. demonstrate an understanding of relations and functions
2. work with equations and inequalities
3. work with complex numbers
4. work with rational and polynomial expressions
5. be successful in working with exponential and logarithmic functions
6. solve systems of linear equations
7. work with angular measure in degrees and radians
8. work with trigonometric and inverse trigonometric functions
9. use trigonometric identities
10. solve trigonometric equations

Instructor: Harmony Richman, M.Ed.

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

Office Hours: Virtual office hours available viaMicrosoft Teams, Zoom or Facetime (harmony.richman@vcsu.edu)

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Lecture/Lab Schedule: THF 8:35 AM - 9:20 PM OR THF 11:10 AM - 12P + 1 additional learning day on Wednesday on your own as directed by the instructor.

Textbook(s):

- College Algebra π Edition; Sitz and Zeager. Full free PDF version.
- Precalculus: An Investigation of Functions 2nd Edition; Lippman and Rasmussen. Full free PDF or Word version.

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 5 – 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 participation. Attendance is required and tracked daily.
3. Complete graded homework and quizzes/tests throughout each chapter within MyOpenMath.
4. Submit graded assignments by dates posted on the course schedule below It is unfair to selectively grant extensions to some students and not others. Therefore, late assignments are not accepted. Addendums to this rule may be taken into consideration with prior approval requesting a modified due date from the instructor before the due date of an assignment.
    a. A zero will be given for any assignment not turned in by the deadline.
    b. 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 posted to discuss difficulties which have affected you throughout the term, you will find that I am not nearly as understanding, and I can do very little to help you with your grade.
    c. If you are personally experiencing health or family difficulties that are short or long term (medication changes, health concerns, etc) which are affecting your ability to turn assignments in on time, it is highly recommended to reach out to Student Academic Services who can help with outreach services (temporary or otherwise).
    d. If you are currently serving or have served in our military, your instructor appreciates the important contributions you have made. If you are called to serve or attend training you must let your instructor know immediately such that reasonable accommodations for instruction and assignments can be agreed upon ahead of your leave.
5. We will be using both Blackboard and MyOpenMath to support your learning within our course this semester.
    a. My OpenMath supports the following:
        i. Homework Assignments
        ii. Learning Outcomes for each section
        iii. Textbook as a whole and broken down by section.
        iv. Additional content videos provided by the textbook
        v. Chapter Assessments.
    b. Blackboard supports the following as our official NDUS Learning Management System:
        i. Official gradebook (I will transfer grades from MyOpenMath to Blackboard

ii. Weekly outline content such as; blank notes, class notes, pre-recorded teacher created videos and due dates.
iii. Syllabus and Instructor contact information

6. Read assigned textbook chapters.
7. Do ungraded, independent practice exercises.
8. Submit some assigned problems with the Show Your Work Discussions as pdf or jpeg files.

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: The course addresses the campus theme by exploring real world applications of mathematics in economics, behavioral, social and life science.

Classroom Policies:

1. 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.
2. 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.
3. Your final grade is determined by dividing the total points earned by the total points possible. Points will be awarded for thoughtful, selected practice assignments, unit assessments and support activities.
4. 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.
- All work submitted in this course must be your own. When including information obtained from any external source, including Artificial Intelligence sources (includes but not limited to ChatGPT, Photomath, Mathway, etc), you are expected to quote and cite that source accurately. Failure to cite sources accordingly will constitute academic dishonesty. For any use of artificial intelligence tools, the citation must include the "conversation" between student and tool in its entirety

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:
All work submitted in this course must be your own. When including information obtained from any external source, including Artificial Intelligence sources, you are expected to quote and cite that source accurately. Failure to cite sources accordingly will constitute academic dishonesty as outlined within the Dakota College Code of Student Life.

Responsibilities of AI
Students
- Responsible for following 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 or 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.

Table 1 Course Schedule

The Topics and Readings with Assignments are subject to change based on learners, and other components that are unable to be identified before the semester begins. Refer to Blackboard for official due dates.

Week	Dates	Content Topic with Text Section
1	January 14th - January 17th	Welcome MyOpenMath Registration A.1: Intro to Conics Activity A.2: Circles A.3: Parabolas
2	January 21th - January 24th	A.4: Ellipses A.5: Hyperbolas Unit A Review
3	January 28th - January 31st	5.1 Circles 5.2 Angles 5.3 Points on Circles using Sine and Cosine Part 1
4	February 4th - February 7th	Unit Circle 5.3 Points on Circles Using Sine and Cosine Mid Unit 5 Review
5	February 11th - February 14th	5.4 The Other Trig Functions 5.5 Right Triangle Trigonometry
6	February 18th - February 21st	Unit 5 Review Unit 5 Assessment 6.1 Sinusoidal Graphs
7	February 25th- February 28th	6.2 Graphs of Other Trig Functions 6.3 Inverse Trig Functions Mid Unit 6 Review
8	March 4th - March 7th	6.4 Solving Trig Equations 6.5 Modeling with Trig Functions Unit 6 Review
	March 9th - March 14th	**Spring Break - No class**
9	March 18th - March 21st	Unit 6 Assessment 7.1 Solving Trig Equations and Identities 7.2 Addition and Subtraction Identities
10	March 25th - March 28th	Mid Unit 7 Review 7.3 Double Angle Identities 7.4 Modeling Changing Amplitude and Midline
11	April 1st - April 4th	Unit 7 Review Unit 7 Assessment

12	April 8th - April 11th	8.1 Non-Right Triangles 8.2 Polar Coordinates
13	April 15th - April 18th	Mid Unit 8 Review 8.3 Polar Form of Complex Numbers **April 18th - Good Friday - No class**
14	April 22nd - April 25th	8.4 Vectors 8.5 Dot Product 8.6 Parametric Equations
15	April 29th - May 2nd	Unit 8 Review Unit 8 Assessment Open Days for Schedule Changes or Intro to Limits
16	May 6th - May 9th	Open Days for Schedule Changes or Intro to Limits