DAKOTA COLLEGE AT BOTTINEAU

COURSE SYLLABUS

Course Prefix/Number/Title: MATH 277 Math for Elementary Teachers I

Number of Credits: 3
Course Description: A mathematics content course for prospective elementary school teachers. Topics include problem solving, numeration system, real numbers, and elementary number theory. Calculators, computers, and manipulatives are used in the course.

Prerequisites: MATH 103 or instructor approval.

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

1. Understand the content of elementary school mathematics.
2. Work with problem solving and its applications.
3. Work with numeration systems and their applications.
4. Work with real numbers.
5. Work with elementary number theory.
6. Apply the use of calculators and manipulatives.

Instructor: Harmony Richman, M.Ed.

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

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

Phone: 701-200-3897 (cell - preferred)

Email: Harmony.Richman@vcsu.edu

Lecture/Lab Schedule: Online

Textbook(s):
Open Up Resources K-5 Math First Edition modifications © 2022 Open Up Resources, openupsources.org. Published under a Creative Commons Attribution NonCommercial 4.0 International license. *Open Educational Resource*

Tanton, Dr. James. "Arithmetic, Algebra, and Radical Comprehension of Math." G'Day Math *Open Educational Resource*

Recommended Text: Manes, M. (2017) Mathematics for Elementary Teachers. CC BY-SA 4.0

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, access to a printer.

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.

- This course does not have standard class meeting time; students are expected to dedicate at least 450 minutes of total time on tasks per week that may include activities such as: reading, reviewing class lessons with notes, choice boards, additional research, final project, and Khan Academy. *Course tasks and time are estimated based on time and effort needed by the typical student to successfully complete each of the learning activities in the course.* Occasionally a reading or research assignment may take longer.
- Actively participate regularly in class discussions through consistent, punctual, prepared and interested participation.
- Submit graded assignments by dates posted on the bi-weekly course schedule. 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.
- On each assignment submitted, 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.
- A zero will be given for any assignment not turned in by the deadline.
    - If you are experiencing any problems (personal health concerns, family difficulties, sick relatives, etc.) that are affecting your academic performance that are either short or long term, 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.
    - 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.
- Do ungraded, independent practice exercises, as needed.
- Read assignments as provided by the instructor.
- Use manipulatives to show how to work through North Dakota State Math Content Standards in grades K – 5.
- This course is NOT a course on how to teach mathematics, but rather a course on developing a strong foundation on how to do mathematics as students will encounter in grades K – 5. A math methods course such as EDUC 315 Mathematics in Elementary School will focus on planning, implementing and evaluating lesson plans for mathematics

Tentative Course Outline: See Table 1 Course Schedule below.

General Education Competency/Learning Outcome(s) <u>OR</u> CTE Competency/Department Learning Outcome(s):

North Dakota State Standards Mathematics: 50015.2c

Relationship to Campus Theme: This course is a core requirement of the paraeducation Program, a program that requires knowledge of human nature and learning, utilization of computer equipment and other media to create lessons and deliver instruction and understanding of the role of paraprofessionals in education.

Classroom Policies:

- Our class "week" runs Saturday starting at 12:00AM through Friday at 11:59 PM.
- 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.
- 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.
    - Your grade will be assessed on the following: Bi-Weekly Choice Boards, Khan Academy grade level proficiency, and semester project.
- Grades will be calculated using the following criteria of total points earned over total points in the course:

A	93% - 100%
B	92% - 85%
C	84% - 77%
D	76% - 70%
F	≤ 69%

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.
- Use of generative AI tools (e.g., ChatGPT, Google Gemini, etc) are encouraged during some assignments in this course. Learning to use AI appropriately and professionally is an important skill and I will provide tutorials and guidance as you develop these skills. Some things to note:
    - Results obtained from generative AI tools depend on multiple factors including the tool chosen and the quality of the prompt provided. Learning to create high-quality prompts is a skill that will take time to develop.

- You should not trust everything AI tools generate; a good practice is to assume AI-generated content is incorrect until you have verified it with another reliable source. You will be responsible for any errors in your submitted work, so it is critical that you take the time to validate that information.
- You must cite AI tools when you use them. In addition to in-text citations, you should include a paragraph explaining which tool you used and how you used it on each assignment. Failure to include proper citations or explanations is a form of academic dishonesty.
- Only use AI tools when appropriate and necessary. Learning when use of AI tools is beneficial and when it is problematic is a skill, I hope to help you develop in this course.

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

Accessibility: Blackboard Ultra will be utilized as our main Learning Management system throughout the entire course and is used throughout the North Dakota University System. Accessibility features can be found on the Blackboard Learn link. A list of Math for Elementary Teachers I course specific technology accessibility statements can be found within our Blackboard course.

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

Week	Dates	Topics and Readings	Assignments and Due Dates
1 and 2	August 26th - September 6th	● Course introduction ● Semester Project Introduction ● Grade K: Number and Operations ● Grade K: Algebraic Reasoning ● Grade K: Geometry and Measurement ● Grade K: Data, Probability, and Statistics	● Syllabus Quiz due August 30th at 11:59 PM ● Learning Menu #1 due September 6th at 11:59 PM ● Semester Project due November 29th at 11:59 PM

Week	Dates	Topics and Readings	Assignments and Due Dates
3 and 4	September 7th - September 20th	● Grade 1: Number and Operations ● Grade 1: Algebraic Reasoning	● Learning Menu #2 due September 20th at 11:59 PM ● Sign up for Khan Academy
5 and 6	September 21st - October 4th	● Grade 1: Geometry and Measurement ● Grade 1: Data, Probability and Statistics ● Grade 2: Number and Operations	● Learning Menu #3 due October 4th at 11:59 PM ● Khan Academy 3rd Grade Proficiency due October 18th at 11:59PM
7 and 8	October 5th - October 18th	● Grade 2: Number and Operations ● Grade 2: Data, Probability and Statistics ● Grade 2: Geometry and Measurement	● Learning Menu #4 due October 18th at 11:59 PM
9 and 10	October 19th - November 1st	● Grade 3: Number and Operations ● Grade 3: Algebraic Reasoning	● Learning Menu #5 due November 1st at 11:59 PM ● Khan Academy 4th Grade Proficiency due November 15th at 11:59 PM
11 and 12	November 2nd - November 15th	● Grade 3: Geometry and Measurement ● Grade 3: Data, Probability and Statistics ● Grade 4: Number and Operations	● Learning Menu #6 due November 15th at 11:59 PM
13 and 14	November 16th - November 29th	● Grade 4: Geometry and Measurement ● Grade 4: Operations and Algebraic Thinking ● Grade 4: Data, Probability, and Statistics ● Grade 5: Numbers and Operations	● Learning Menu #7 due November 29th at 11:59 PM ● Khan Academy 5th Grade Proficiency due December 13th at 11:59 PM ● Semester Project due November 29th 11:59 PM
15 and 16	November 30th - December 13th	● Grade 5: Number and Operations ● Grade 5: Algebraic Reasoning ● Grade 5: Geometry and Measurement	● Learning Menu #8 due December 13th at 11:59 PM ● Peer Review classmate Semester

Week	Dates	Topics and Readings	Assignments and Due Dates
		● Grade 5: Data, Probability and Statistics	Project due December 13th at 11:59 PM