MATH 4010-002 Mathematics for Elementary School Teachers I
SYLLABUS Fall 2015
Instructor: Dr. Sayonita Ghosh Hajra

"The course syllabus is a general plan for the course; deviations announced to the class by the instructor may be necessary. It is the responsibility of the student to seek clarification of the grading policy and/or course requirements and procedures from the instructor."

LECTURE: TH 4.35- 6.35 pm in LCB 121. **OFFICE/PHONE:** JWB Room: 124, phone: 801-581-4278 **EMAIL**: Sayonita@math.utah.edu **OFFICE HOURS:** TH 3.30-4.30 or by appointment
Course Grading
Midterm: 10%
Quizzes: 10%
Final: 30%
Class presentation: 5%
Group project: 5%
Practicum Report: 5%
Writing Assignments: 20%
Oral Presentation: 10%
Dictionary: 5%

GRADING:

The following grading scale will apply: 94 – 100 A, 90 – 93 A -, 86 – 89 B+, 83 – 85 B, 80 – 82 B -, 76 – 79 C+, 73 – 75 C, 70 – 72 C -, 60 – 69 D, and below 60 is an F.

IMPORTANT DATES
Midterm: October 8 (Thursday)
Quizzes: Every Thursday starting September 3, no quiz on October 22
Final: Tuesday December 15, 6 – 8 pm
Dictionary 1: October 8
Dictionary 2: December 15
Practicum Due: December 1
Holidays: September 7, Fall break October 11 - 18, November 26 - 27
Drop day: September 4
Withdraw day: October 23
Last class: December 10
Reading day: December 11

TEXT: Mathematics for Elementary School Teachers with Activities, 4th edition, by Sybilla Beckmann, published by Pearson Education (Available at the bookstore).

COURSE CONTENT: This is the first course in a two-course sequence for prospective elementary school teachers. This is a content course that provides teachers with a deeper understanding of the **real number system and arithmetic operations for whole numbers, fractions, and decimals**. This provides the conceptual framework that allows teachers to analyze and correct common student misunderstandings in Grades K-6.

PREPARATION FOR YOUR TEACHING:
This course is part of your preparation to become an elementary school teacher who will teach math. **Our focus in this course is to understand the mathematics content itself.** A number of the activities we will do in class can readily be modified for use in elementary school (or middle school). **The coursework will often go beyond what is appropriate for typical elementary school students.** This is to help you understand the material more deeply and to prepare you to guide your students toward "where the math goes next."

CLASS ACTIVITIES:
This class is based on inquiry-based approach, which allows students to explore the materials hands-on and discover the mathematical concepts for themselves. As a future teacher, you will have the important responsibility of helping your students understand mathematical ideas and ways to explore and solve math problems. Consistent with research-based teaching methods, I will **regularly** ask you to explain a mathematical idea, a line of reasoning, or why a solution method is valid to either a classmate or the whole class. This means you will need to listen carefully to your classmates' mathematical ideas and misconceptions. **I will ask you to listen carefully to other classmates' methods of solution, and I will ask you to restate or ask a question about another classmate's idea.** We will use class time to think through and evaluate these ideas. Even answers that ultimately prove to be incorrect can provide invaluable learning opportunities.
Your group work must consistently exhibit several or all of the following.

- Show interest in mathematical ideas
- Show interest in different ways of approaching mathematical ideas
- Listen carefully to different ways of solving a problem
- Carefully evaluate a proposed method of solution
- State whether you agree or disagree with a statement (you may feel more comfortable saying you "respectfully disagree")
- Show interest as a member of a professional learning community
- Contribute significantly in the group work

READINGS AND "DON'T HAND IN" ASSIGNMENTS
There will be **reading assignment** due every class. The reading is designed to help you frame the ideas discussed in class and be ready for the topic to be discussed in the next class period. The **"don't hand in"** assignments will consist mainly of problems whose solutions are given in the book. You should work the problems first without looking at the solutions and then read the solutions and compare them with your own. It's a good idea to discuss the "don't hand in" problems with a study group. Expect several pop quizzes on the "don't hand in" problems and the reading throughout the semester.
There will be several different types of assignments:

- **Reading**: There will be daily reading assignments. The reading is designed to help you clear up the ideas discussed in class and be ready for the topic to be discussed in the next class. Consider using the effective method of retrieval practice in which you read a passage (without writing notes) and then write down what you remember, then reread the passage (again without writing notes), and then write down what you remember once again.
- **Practice Exercises**: Each section in the textbook has a collection of practice exercises whose solutions are in the book. You should work these exercises first without looking at the solutions and then read the solutions and compare them with your own. It's a good idea to discuss exercises with a study group. Quiz and test problems will often be similar to the practice exercises. You do not hand in these exercises.
- **Writing Assignments**: There will be daily "writing assignments". There will be two types of writing assignments. One assignment type will be posted online on Canvas and required online submission. Your work should be typed or neatly written. Illegible writings will be returned without any score. The second assignment type will be given to you in class weekly and requires in class submission. Your work should be neatly written.

Materials Needed for the Class:

Please bring your textbook to class so that we can work on the activities. You might like to have colored pencils since we will often make math drawings as we solve problems.

ACADEMIC ACCOMMODATION: The Americans with Disabilities Act requires that reasonable accommodations be made for students with physical, sensory, cognitive, systemic, learning, and psychiatric disabilities. Please contact me at the beginning of the semester to discuss any such accommodations for the course.

REQUIREMENTS: The following are the requirements:

- **ATTENDANCE: ATTENDANCE:** PROMPT, COMPLETE ATTENDANCE is expected at all classes. The class starts at 4.35pm and ends at 6.35 pm. Please make sure you don't rush for the bus/ train which leaves at 6.35 pm. Please make arrangements beforehand so that you can attend the class completely. Your presence and participation in the class activities and discussions are important for your own learning and the learning of others. Missing a significant announcement in class (such as changing the date of a quiz, exam, or other graded activity) or failing to turn in a written assignment because of an unexcused absence may have adverse consequences. **To get benefit from the class, full attendance (two undocumented absences will be allowed) will be required. Benefit include redoing.**
- You should arrive on time, be prepared, be a collaborative participant and **not leave early** (This includes running out to feed a meter Or running to catch a bus Or texting on your phone!) **Be professional!**
- **RESPONSIBILITY: Students are responsible for informing themselves about the course description, assignments, and syllabus. They are strongly encouraged to refer regularly to the course web page at Canvas as well as download and print out all relevant information.**

- **DICTIONARY:** You will keep a dictionary of mathematical terms and symbols from each chapter. Use index cards to write one word/ terminology on one side and write the meaning on the other side. This might be a helpful tool during your exam and later in teaching. First dictionary submission is on October 8. The second one is due on December 15.
- **PRACTICUM REPORT:** Each student will spend six hours in an elementary school classroom, three periods observing and three periods presenting lessons to small groups of children. Appropriate topic will be given to you by your instructor. A typewritten evaluation of this experience is to be submitted. See the attached files.
- **GROUP PROJECT:** In the group project, your group will be asked to write 50 word problems for addition and subtraction. A model file will be provided. This will be a valuable activity for your own teaching as you can readily use this with your own class.
- **CLASS PRESENTATION:** Each student in the class will be asked to present their class work or other writing assignment in the class in preparation for future teaching. Students are welcomed to work as a group and present either as a group or individually. Make sure everyone in the group gets a chance to present in class.
- **ORAL PRESENTATION:**

  Forms of Oral Presentations: 1) Pre-structured oral presentation: Each student in the class will be required to present once in the semester about a concept learned in the classroom (5% towards the total grade). Students can either use white board or slides for their presentation. Students will be asked to present a concept and do some worksheets with their classmates.

  2) Impromptu oral presentation: a) The same student has to answer instant questions related to the presentation from the audience (including the teacher) for 5 minutes after the pre-structured oral presentation (3% towards the total grade).

  b) Each student has to summarize the day's lesson twice throughout the semester. Other students could help to fill-in gap the student may have missed out (2% towards the total grade).

MAKE-UP POLICY: Test may be made up in the event of athletics (arrangements in advance only) or documented illness. It is the responsibility of the student to contact me as soon as possible and definitely before the next attended class meeting to make appropriate arrangements for making up any missed test. In order to make-up the final exam, documentation must be provided. **There are no make-ups for quizzes, or in class assignments**.

ACADEMIC HONESTY POLICY: All academic work must meet the standards contained in regulations.utah.edu/academics/6-400.php. *Students are responsible for informing themselves about those standards before performing any academic work.* This policy defends the academic integrity of all student work, and will be uniformly applied to all students in the class.