MATH 4010
Mathematics for Elementary Teachers I
Fall 2017 Mon/Wed 4:35-6:35pm, LCB 121
Lab: Wed 6:45-7:35pm

Instructor: Amanda Cangelosi  cangelos@math.utah.edu  (note the missing i)
Office Hours: JWB 217, Tuesdays 3:00-4:00 pm, Wednesdays 1:00-3:00 pm, or by appointment.
Course Web Site: Canvas (link from www.utah.edu, using your student ID and CIS password)

Course Content: This course is the first in a two-semester sequence of required mathematics courses for elementary school teachers. The sequence is designed to help K-6 preservice teachers develop a conceptual framework for mathematics, especially for those aspects normally experienced in primary and elementary school. Students examine the vertical alignment of mathematics standards throughout the Utah core curriculum, consider both mathematical and pedagogical issues in teaching, and spend a six hour practicum in a local school relating their course work to the classroom situation. This course requires time spent in the elementary school classroom. Students must complete the practicum in order to pass the course. There is also a required lab component to this course, described below. Math 4010 covers addition, subtraction, multiplication, and division of real numbers, focusing on multiple representations and conceptual algorithms. The course also focuses on ratio and proportion, as well as basic number theory concepts.

Textbook: Mathematics for Elementary Teachers with Activities (5th edition), by Sybilla Beckman. ISBN-13: 978-0134392790. We will discuss material from chapters 1-8 of this text, and homework exercises will be assigned from it.

How You Will Be Graded:

- Written homework: 10%
- Oral Homework: 5%
- Quizzes: 15%
- Labs: 15%
- Portfolio: 5%
- Practicum: 10%
- Midterm Exam: 15%
- Final Exam: 25%

Oral Homework: Two problems per day (roughly) will be assigned to two class members who will present their solutions to the class at the beginning of the next class period. Over the course of the semester, each student will have presented three total problems. These problems will be graded on the correctness of their content and on their clarity. These should be thought of as an opportunity to teach!

Written Homework: Every other week, starting with the second week of class, a written homework assignment will be due. Each assignment will address material covered since the previous homework assignment. Homework should be written up carefully, explaining each solution as if to an outsider (not to an instructor). Five points will be awarded for an assignment that is neat and complete; five additional points will be awarded based on the correctness of one or two of the solutions. These are currently planned to be collected every other Wednesday, but this is subject to slight change.

Quizzes: Roughly every other week, starting the second week of class, there will be a quiz on the previous two weeks’ material. The lowest quiz score will be dropped. Quizzes are currently planned to occur every other Wednesday, but this is subject to slight change.
Labs: There is a required lab component of this course. Students should be registered for the lab section, which is held on **Wednesdays, 6:45-7:35 pm** in LCB 121. This will provide an opportunity to engage in tasks similar to those your students will be expected to engage in, from the perspective of both teacher and elementary student. In addition, labs may offer time to raise homework questions.

Midterm Exam: There will be a single midterm exam, cumulative up to that point. The midterm will likely occur in October. It is tentatively scheduled for **Wednesday, October 4** but subject to slight change. The exact date will be given approximately two weeks before the date is officially set.

Portfolio: All course materials should be kept neatly in a portfolio, due on the day of the final exam. The portfolio should contain all homework assignments, quizzes, and the practicum report. Furthermore, all class notes, in-class activities, and labs should be gathered together in some organized and navigable fashion. The portfolio will be graded based on neatness and completeness. The portfolio is due at the time of our final exam, **Monday, December 11, 6:00 pm**.

Practicum: Each student will spend six hours in an elementary school classroom, three hours observing and three hours working with one or two children in the classroom. See the Practicum Packet on Canvas for crucial details and instructions (soon to be posted). We’ll discuss more during class. Most likely, your first practicum report (part 1, regarding your three hours of observation) will be due after fall break, October 18, and your second practicum report (part 2, regarding your three hours of student interaction) will be due on the second-to-last day of class, December 4.

Final Exam: Our final exam is scheduled for **Monday, December 11, 6:00-8:00 pm**, in LCB 121. It will be comprehensive. You will be able to use a calculator, but not your phone/laptop nor class notes.

Policies and Expectations: No late assignments nor late labs will be accepted, unless a student has a serious extenuating circumstance. Similarly, quizzes cannot be made-up. Please keep your phone put away unless explicitly allowed by the instructor. Participate actively. Hand-held calculators may be used on most quizzes, the midterm, and the final exam. While you may occasionally be allowed to use your phone’s calculator or Desmos.com during class, note that phones are not allowed on quizzes/exams. A tentative schedule including due dates and specific learning outcomes will be provided on Canvas.

Grade Breakdown by Percent:  
A (100-93); A- (92-90); B+ (89-87); B (86-83); B- (82-80); C+ (79-77); C (76-73); C- (72-70); D+ (69-67); D (66-63); D- (62-60); E (59-0).

ADA Statement: The Americans with Disabilities Act requires that reasonable accommodations be provided for students with physical, cognitive, systemic, learning, and psychiatric disabilities. A qualifying student needs to have such a disability approved by the Center for Disability Services (162 Olpin Union Building, 581-5020 V/TDD) in order to have the accommodations provided. The instructors need to be informed about such a disability and approved accommodations at the beginning of the semester. The Center for Disability Services will work with students and teh instructor to make arrangements for accommodations. All information in this course can be made available in alternative format with prior notification to the CDS.