M114—Mathematics for Elementary Teachers II
Spring 2019 Syllabus

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Required textbook: Sybilla Beckmann, Mathematics for Elementary Teachers with Activities, 5th edition. (You do need to have the 5th edition.)
Course web page: http://ext.math.umass.edu/114
The web page will be used to post assignments, make announcements, and provide resources (readings, links, etc.) You should check it frequently. This course won’t be using Moodle.
Office hours: To be announced (in class and on the course web page).
In addition to my scheduled office hours, you can always make an appointment in class or by e-mail. And you can stop by my office at any time; if I’m there and not busy, I’ll be happy to talk to you then and if I am too busy to talk, we can set up another time. I strongly encourage you to take advantage of office hours. If you aren’t sure about a concept or a problem, come talk to me about it; it’s often easier to figure things out in a 1-1 conversation than in class.

Course description: This is the second course in the two-course sequence on the mathematical knowledge needed by elementary school teachers. To be ready to teach math, one must understand the concepts, skills, and applications of that topic deeply. Most often, students’ own experiences with the math have been limited to learning discrete skills. We will therefore be focusing on the why (concepts) behind each of these skills and the way they can be used to solve meaningful problems. One of the key changes in K-12 math instruction with the Common Core is the incorporation of the “Practice Standards” throughout the curriculum. We will be addressing these standards throughout the course. In Math 114 we will focus on chapters 6-13 in the text which cover division, ratio and proportion, algebra, geometry, and measurement. The math content in this course along with Math 113 will help you prepare for the MTEL licensure tests but that is not the primary goal of the course.

Course structure and policies: Attendance is required; participation in class discussions and group work is expected and will count as part of the grade. There will be frequent reading assignments as well as written homework...
to submit (more or less weekly); I expect that you will have done the reading before the class at which it will be discussed and will submit written or online homework on time. Homework to be collected in class will be due at the start of class. Doing the homework is an important factor in success in the course (and on the MTEL licensure exam!), so it’s important that you make a serious effort on each problem, and, if you get stuck, formulate a question about where you’re stuck. The grading of homework will reflect this approach.

There will be two in-class exams during the semester, each counting 20% of the grade, and a cumulative final exam counting 30% of the course grade. Homework and any quizzes will be 25% of the grade, and participation will be 5%. If you will be unable to complete an assignment on time or will miss a quiz or exam, it’s your responsibility to notify me as soon as possible (before the due date or exam, if at all possible). Note that sending me an email does not automatically excuse late work, a missed exam, etc. And, since email is not a completely reliable medium, if you send me an email and don’t get an acknowledgment in a day or so, you should try reaching me by some other method.

If you’re stuck on a homework problem, I encourage you to seek help from me, your classmates, or other students. Talking with someone else will often help you see a new approach to a problem which you hadn’t seen before. But if you work on a problem with someone else, you should make sure you can explain the solution by yourself (remember that during tests you will have to rely on your own understanding!) and you must list the names of all the people with whom you discussed a specific problem. (If you consulted other sources, such as books or the web, you need to list those sources, as well.) And you must write up your homework solutions independently.

You can use a calculator during class and on the homework. Most problems do not need a calculator and the more you work without one the better your numeracy will be. The exams are designed for you to not need a calculator.