Math 302A and Math 302B are designed to help prepare future elementary school teachers to teach
mathematics. The topics covered parallel, at a more sophisticated level, the mathematics curriculum in grades
K - 8. Some of these topics are:

Math 302A: problem solving, numeration; whole number arithmetic, meanings of operations;
   fractions, decimals, percents; divisors and multiples.
Math 302B: Algebraic reasoning, indirect measurement, circles and angles, transformational
   geometry, perimeter, area, surface area, volume; organization of data, probability.

The two courses model many of the recent recommendations for reform in mathematics education presented
by the National Council of Teachers of Mathematics and other professional organizations. Thus, these courses
emphasize problem-solving, use of technology (calculators and computers) and manipulative materials,
cooperative learning, oral and written communication of mathematical ideas and solutions, and the
connections between mathematics and its uses in everyday life.

Textbooks

Activity Based Learning
Both 302A and 302B are activity based courses. This means that you will be given frequent opportunities to
experience, on a concrete level, the ideas addressed in class and in the book. During an activity, you can feel a
concrete manipulative material, move it, and actually use it to solve a problem or model a concept. You will
learn how the senses of touch and sight can be used to understand mathematics and solve problems. It is very
important that you do use the materials as directed by the instructor and get in the spirit of the activity. The
main objective is not to arrive at a solution, but to reflect on the process that led you to that solution. These
activities also will familiarize you with some of the materials (Cuisenaire rods, fraction bars, geoboards,
tangrams, etc.) that are currently in use in elementary schools as aids to learning and teaching mathematics.

The class will be organized to provide a friendly, intimate, non-competitive atmosphere in which you can feel
free to explore, discuss, and learn mathematics in a small group situation. We try to insist that you do work in
groups, not separately. We want you to experience working together in a small group situation --so hopefully
you will later feel comfortable using this technique in your own classes.

The role of the instructor will be quite different from what you might have encountered in other math courses.
In 302A/B the instructor acts primarily as a facilitator for your own exploration and learning. Frequently, a
given question will have more than one possible answer; a problem may have no right method of solution.
One answer or method might be better than another. We prefer that you discover this for yourself rather than
just have us tell you. We believe that your own learning will be more powerful and long-lasting if it comes
from you.

Homework
Homework is very important in this course. The assignments are involved, and we encourage you to begin
working on them as soon as they are assigned. Get together with some of your classmates and work on the
problems. However, you should each turn in your own personal write-up. We are interested in process, in
how you explain your work. We do not want just answers on a page. In general, for most problems, you will
have to show and explain your work. Who is your audience when you are writing the homework? Well, in
reality it will be the instructor (or a grader). But for the purposes of what we are looking for, think of it as if
you were writing for one of your peers, that is, an adult learner of mathematics. Hence, when we say that we
want you to explain your work, we mean for that audience, not for elementary school children. In general, except for some computational problems, you will need to explain your work. Your explanations may include diagrams, charts, an English paragraph, or any other format that conveys what you did and how you did it.

Help Sessions
Besides your instructor’s office hours, you are encouraged to make use of the Math 302 Help Sessions. Most of these will be held in the Math East Lobby. There will be several help sessions every week, to be announced at the beginning of the semester. These hours are excellent occasions to get together with classmates to work on your homework and “talk math.” During these Help Sessions, a Math 302 instructor will be available for questions and guidance.

Attendance
Class participation is very important, so attendance is a must. Attendance is taken daily. Excessive absences (over 3 for a MWF section or over 2 for a TR section) can cause your grade to be lowered or cause you to be dropped from the class.

Withdrawal from course
A student may withdraw from the course without a grade (class will not appear on transcript) through Tuesday, February 9, 2010. A student may withdraw from the course with a grade of "W" (if passing) through Tuesday, March 9, 2010.

Grading
What follows is the grading scheme for all sections of Math 302A/B. It includes the different factors that will play a role in your grade.

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-Class Exams</td>
<td>50%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>25%</td>
</tr>
<tr>
<td>Homework</td>
<td>10%</td>
</tr>
<tr>
<td>Quizzes / Projects / Explorations / Other (Class Notes, participation, etc.)</td>
<td>15%</td>
</tr>
</tbody>
</table>

Scale for Final Grade
A: 90 % - 100%
B: 80% - 89%
C: 70% - 79%
D: 60% - 69%
E: 59% and below

Students with Disabilities
If you anticipate the need for reasonable accommodations to meet the requirements of this course, you must register with the Disability Resource Center and request that the DRC send your instructor official notification of your accommodation needs as soon as possible. Please plan to meet with your instructor to discuss accommodations and how the course requirements and activities may affect your ability to fully participate.

Coordinators
Chris Mikel is the coordinator for Math 302A (Math East 146B; E-mail: mikel@math.arizona.edu). Suzanne Weinberg is the coordinator of Math 302B (Math 305; E-mail: sweinberg@math.arizona.edu). Concerns about the course (grades, dropping the course, etc.) should be directed to your instructor first and then to the coordinator, if necessary.