# *MATH 171 GEOMETRY for ELEMENTARY SCHOOL TEACHERS*

## *SYLLABUS WINTER, 2009*

**INSTRUCTOR**: Ginger Warfield (a.k.a. Dr. Virginia M. Warfield)
**Office:** Padelford C-437
**Office phone:** (206) 543-7445. Warning: I seldom check messages on it.
**E-mail address:** warfield@math.washington.edu This is much the best way to reach me.
**NOTE:** My e-mail inbox is chronically overworked. To be sure you are credited for assignments that are turned in electronically, you must **start the subject line with 171**. I have given instructions below. If you have a question or request, don't start the subject line with 171 – start with something else!
**OFFICE HOURS:** Tuesdays 2:30 – 3:30 in my office; Wednesdays after class in the classroom (or the Burke café!)

**T.A**..: Mauricio Duarte
**Office**: Padelford C-8J
**E-mail address:** maduarte@math.washington.edu
**OFFICE HOURS** : Mondays 2:00-3:00 in his office; Fridays after class in the classroom

**TEXT:** Sowder, Sowder and Nickerson, **Reconceptualizing Mathematics for Elementary and Middle School Teachers: Reasoning about Shapes and Measurement**. Available at the University Bookstore. This is a preliminary edition and they have opted to bind three courses' worth of material in one, which is clunky and weighs a ton. We will be starting with Chapter 16. I strongly recommend that you tear the chapters out one at a time (their edges are serrated for the purpose) and put them in a three ring binder (holes are punched for that purpose). Note also the wide margins for taking notes – that is a great feature that I think you should make the most of.

**COMMUNICATION ESSENTIAL:** In an effort to save trees, I try to minimize the number of handouts I produce. Information will be available on the blackboard and on the course web page, which is at

http://faculty.washington.edu/warfield/Math_171/Home.html

Assignments will be on that page (if you don't find one when you expect it, please zap me an e-mail), and you should also check the page regularly for announcements.

**CLASS FORMAT**: One of the beauties of geometry is how much can –— in fact, must — be learned hands-on. In addition, it is a rich area for exercising communication skills. Putting into words an idea about a shape that seems completely clear to you, in such a way that it becomes clear to someone else is challenging and valuable. A lot of your class time will be spent working in groups to develop and express ideas. Most days you will be turning in a group effort of some sort. A tremendous amount of the benefit of this course stems from activities and discussions that go on in class, and no one can give you that benefit by simply describing the class after it is over. If you are violently sick or have a family crisis or something equally serious, tell me about it and I will work with you if need be, but otherwise try **very** hard not to miss class.

**COURSE COMPONENTS AND GRADING:**

**1)** The group products from class are an essential element. For course credit, you need to turn in at least 80% of them.

**2)** There will be homework almost every night. It needs to be turned in promptly and neatly, and to be carefully written up. The introduction to the book has a nice discussion of what this means and why it is important. We will choose some problems to grade carefully; others will be more lightly read (we'll let you know which is which). Homework that comes in more than one class period late will receive a maximum of half credit. For course credit you need an overall 80% of homework credit.

**3)** Timed midterms and finals seem to me to put on a kind of pressure that can often hide the state of the mathematical knowledge at issue. On the other hand, if there is nothing at all like an assessment, it is hard for students to have any feeling for how much they are absorbing. I am going to try out a compromise: 4 to 6 times during the quarter I plan to give a mini-test during the last 20 minutes of class. For some or all of it you will not be conferring with your group — it will be just your own work. If it goes well, you will simply get credit for it. If it reveals what appears to be a gap in your understanding, then to get credit you will have to come talk it over with Mauricio or me, and probably do some fill-in work. Then we'll all know that you've got it. You'll need credit on all of those.

**4)** On the other hand, we also need to have something that is closer in scope to the usual midterms and finals, so I plan on including two or three projects. Details will follow.