

# Math 5002: Geometry for Elementary Grades Teachers

Dr. Emilie Wiesner, Spring 2007

## About the Course

The world around us is full of geometry! Geometry is also an important part of mathematics in the elementary grades. In Math 5002 you will explore many ideas fundamental to geometry and how geometry can be used to describe situations and solve problems we encounter every day.

The textbook for the course is *Mathematics for Elementary School Teachers* (by Sybilla Beckmann, Pearson Education, Inc. 2005) and the accompanying activities manual. Topics will come from Chapters 8-11 of the text.

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## My Contact Information

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Office Hours: Mondays 4-4:45PM, Wednesdays 1-2PM, Thursdays 9-10AM, and by appointment

Email Contact: Please feel free to email me. I will respond to emails **within one business day**.

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## Expectations and Assignments

*Participation:* This class is centered on student activities. You will work on these activities individually and in a small group, and you will discuss your questions and solutions in a small group and with the whole class. The nature of the class makes it essential that you actively participate in the class.

*Daily Homework:* I will assign “daily homework” problems regularly. The daily homework will be collected periodically throughout the semester. You should also be prepared to discuss the daily homework at the beginning of the next class period. This means you should come to class ready to present a solution or a partial solution, or have questions ready about the problem assigned.

*Reading:* Readings from the text will be assigned on a regular basis. At the end of each section of the text, there are *Practice Problems*, a set of problems with brief solutions. Along with reading the text, you should work through the practice problems and read their solutions.

*Graded Homework:* Each week I will assign 1-2 homework problems to be turned in. Graded homework must be submitted by 3pm the day it is due. If you are not in class, it is your responsibility to get homework assignment to me. **No late homework will be accepted.**

*Tests and the Final Exam:* There will be 3 tests and a final exam given in this class.

The dates of the tests will be announced in class, 1-2 weeks ahead of time. If you are unable to come to a test, please contact me as soon as possible. The final exam will be cumulative.

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### Academic Honesty

I encourage you to discuss the daily homework and graded homework with your classmates and with me. However, you should write your homework on your own and in your own words. You should not allow anyone to copy your work. All work for this course must meet the standards contained in "A Culture of Honesty." You are responsible for informing yourself about those standards. More information about academic honesty can be found at <http://www.uga.edu/ovpi/honesty/acadhon.htm>.

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### Grades

Your final score for the course will be out of 200 points, broken down as follows:

- 12 points: Participation
- 14 points: Daily Homework
- 28 points: Graded Homework
- 90 points: Tests
- 55 points: Final Exam
- 1 point: Completion of Course Evaluation.

Evaluations are completely anonymous, and I will not see them until after I have submitted your final grades. I will receive a list of students who have completed the evaluation at the end of the semester so that I can factor this into your grade.

**Attendance:** Because much of the learning in this course occurs in class, your regular attendance is essential. You are allowed 3 absences without penalty. **Your absence is recorded independent of your reason for missing class, so use these absences wisely!** For each additional absence after the first 3 absences, 2 points will be deducted from your cumulative score for the class. For each additional absence after the first 6 absences, 5 points will be deducted from your cumulative score.

Your final score will determine your grade for the class as follows:

Grade	Final Score	Grade	Final Score
A	≥ 190	C+	≥ 154
A-	≥ 182	C	≥ 147
B+	≥ 175	C-	≥ 140
B	≥ 168	D	≥ 120
B-	≥ 161	F	< 120

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This syllabus is a general plan for the course. However, deviations may be necessary and will be announced to the class.

## Participation Rubric

Preparation	1	Arrives to class on time. Brings activity manual to class.
	1/2	On multiple occasions, arrives to class late or does not have activity manual.
	0	Frequently arrives to class late or does not have activity manual.
Small Group Work	3/2	Listens respectfully to other students. Regularly participates in the conversation by offering solutions or asking questions.
	1	Listens respectfully to other students. Frequently participates in the conversation by offering solutions or asking questions.
	1/2	Listens respectfully to other students.
	0	Does not participate in small group discussion.
Class Discussion	3/2	Listens respectfully to other students. Regularly participates in the conversation by offering ideas or asking questions.
	1	Listens respectfully to other students. Occasionally participates in the conversation by offering ideas or asking questions.
	1/2	Listens respectfully to other students.
	0	Does not participate in the class discussion.

You do not have to have the "right answer" to make a valuable contribution to the discussion in this class. By offering your ideas for solving or explaining a problem, you may provide a good starting point for further explanation or a perspective that others have not thought of, or you may highlight an obstacle that many others face. By asking a question you may bring up an issue that many students are having trouble with or challenge other students by forcing them to better explain their ideas. All students are expected to be courteous and respectful to others during any class discussion.

You will be evaluated on your participation 3 times throughout the semester, each time out of 4 points.

## Daily Homework Rubric

✓ satisfactory	Solution is neatly written and shows a clear effort to complete the problem. This could be either an attempted solution, questions about the problem, or a description of what was hard about the problem.
✓ - needs improvement	Solution is difficult to read or shows little effort to complete the problem.

The goal of daily homework is to keep you thinking about the material we work on in class and to give me a chance to “check in” with you about how you are understanding the material.

In addition to discussing the daily homework in class, you will turn in these assignments every few weeks. (I will announce the dates to turn in your daily homework in class.) You may hand-write these assignments, and you should turn them in as a set.

Each assignment will be out of 1 point; you get 1 point for a ✓, ½ point for a ✓ -, and 0 points if you do not turn in the problem. Your final daily homework grade will be an average of your daily homework scores.

## Graded Homework Rubric

5 Excellent	<ul style="list-style-type: none"><li>• Work is mathematically correct or has only minor, inconsequential errors.</li><li>• Work addresses the question(s) asked and provides a detailed and focused explanation to support solution. Key ideas are emphasized and only relevant information is included.</li><li>• Explanations are well-reasoned and convincing, with no logical gaps.</li></ul>
4 Good	<ul style="list-style-type: none"><li>• Work is largely mathematically correct.</li><li>• Work addresses the question asked and provides a detailed explanation to support solution.</li><li>• Arguments are well-reasoned, with only minor logical gaps.</li></ul>
3 Basic	<ul style="list-style-type: none"><li>• Work has mathematical merit but may contain significant errors.</li><li>• Work addresses the question(s) and gives some explanation.</li><li>• Explanation may contain significant logical gaps or is difficult to follow.</li></ul>
2 Needs Improvement	<ul style="list-style-type: none"><li>• Work contains significant mathematical errors.</li><li>• Explanation is minimal or illogical.</li></ul>
0	<ul style="list-style-type: none"><li>• No work turned in or no effort shown.</li></ul>

Graded homework involving explanation should be typed. However, you are welcome to hand-draw any pictures and to write in any mathematical symbols you use.

Graded homework is due by 3pm the day it is due. If you are not in class to turn it in, it is your responsibility to get it to me. No late homework will be accepted. Your lowest homework grade will be dropped, and your graded homework grade will be an average of your remaining graded homework scores.