UAB Department of Mathematics
SYLLABUS
Fall 2011

MA 472-3B – Geometry I
(also MA 572-3B)

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Instructor office hour: Monday, 4:00 - 5:00 PM, CH 490A

Class meeting Time/Location: Monday/Wednesday, 5:30 – 6:45 PM, CH 445

Course Structure: This course is a “guided inquiry” course. That is, your textbook will consist of statements of definitions, axioms, problems, and theorems, and occasional brief explanations. You will receive the textbook a few pages at a time. There will be very little lecture. You will be expected to solve the problems and prove the theorems yourself individually, and in small groups. Daily small group assignment is at the instructor’s discretion and may be random, student-determined, or instructor-determined. Individual and group work will be “processed” by the class as a whole. Processing involves a whole class discussion of the problem or theorem, usually based upon one or more student presentations to the class. You will keep a complete record of your achievements, as well as notes taken in class, in your permanent class notebook. Competence in oral and written communication of mathematics is a major goal of the course.

In a guided inquiry course, when you are working, individually or in a group, you are expected NOT to consult outside sources such as other geometry textbooks, internet websites, smarter friends, or the like. You may work with other students in the class, but if you present the work, you must give credit to all who contributed to it. (For example, you would say “Ann and I worked together on this.”) This will not diminish your credit, but is required by academic honesty. Moreover, your collaborators are not required to bail you out of difficulty, but may elect to do so.

Materials: There is a textbook for this course that will be distributed to you piecemeal: David Clark, Euclidean Geometry. You will need to bring to class every day the following items.

1. A 3-ring binder containing your textbook pages up-to-date.
2. Your large format, bound (for example, spiral bound) class notebook.
3. Straightedge (ruler) and compass.
4. Sharp pencils or pens; colors are useful.
5. In the last 4 weeks of the course, a scientific calculator (for trigonometric functions) will be required.

Attendance policy: Attendance at every class meeting is required. Roll will be taken by signing in. ACTIVE participation counts 20% of your final grade. The following rules apply:

1. Students may not sign the roll for other students. To do so is academic dishonesty.
2. If you come late to the class meeting, do not ask to sign the roll; do not sign the roll if you intend to leave the class early.
3. In case of emergency, students may leave the class without the instructor’s permission. Just get the instructor’s attention and leave quietly with minimal disruption to the rest of the class.

4. If you will be absent on official university business or scheduled medical appointments, arrangements must be made in advance of the absence.

**Cell Phones.** Student cell phones must be **on vibrate or off** during all class meetings.

**Course Grades:** Students earn their grade in the course as determined in the tables below. How each grade component is determined is described in the paragraphs that follow. Recall that a grade of D cannot count toward the mathematics major.

<table>
<thead>
<tr>
<th>Grade Element</th>
<th>Points</th>
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<tbody>
<tr>
<td>Quizzes</td>
<td>120</td>
</tr>
<tr>
<td>Participation</td>
<td>60</td>
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<tr>
<td>Notebook</td>
<td>60</td>
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<tr>
<td>Final Exam</td>
<td>60</td>
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<tr>
<td>Total</td>
<td>300</td>
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<table>
<thead>
<tr>
<th>Percentage Points Earned</th>
<th>Course Grade</th>
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<tbody>
<tr>
<td>88% or more</td>
<td>A</td>
</tr>
<tr>
<td>At least 75% but below 88%</td>
<td>B</td>
</tr>
<tr>
<td>At least 62% but below 75%</td>
<td>C</td>
</tr>
<tr>
<td>At least 50% but below 62%</td>
<td>D</td>
</tr>
<tr>
<td>Below 50%</td>
<td>F</td>
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**Notebook:** Both work done in class, in small groups and individually, and any notes you take based upon whole group discussion or lecture, will be kept in your permanent class notebook. Nothing should be erased – just mark it through **thusly** (you should still be able to read what you strikethrough). Your notebook will be collected periodically and the extent to which you are keeping up with the work required will be evaluated for the Notebook portion of your grade. Expect your Notebook to be evaluated about every other week, 10 points maximum each time. You will be amazed at how your work will improve over the semester!

**Participation.** You are expected to participate actively, particularly in small group work and class processing discussions. Normally you will earn 2 points per class meeting. The instructor will warn you privately if your participation is below the range acceptable for full credit. (It is tempting NOT to do the individual homework. Do not fall for it!)

**Quizzes.** Quizzes will be given in class without prior announcement, and based primarily upon work done within the current and one or two prior class meetings. Quizzes will be of a similar nature to the types of problems, examples, constructions, and theorems encountered in class and in working through the textbook. You should expect a quiz nearly every week. Each quiz counts 10 points unless otherwise specified at the time. (There are no tests that take a full class period.)

**Final Exam.** The final exam will consist of a number of problems similar to the major problems and theorems of the course, but not repeating problems in the course. You will be able to select a small number of problems to work on from a longer list for the IN-CLASS final exam.

**Make-up policy:** There are no make-up quizzes or make-ups for absence resulting in decreased participation credit. If you miss a class for a verifiable emergency, necessary medical appointment, or on UAB official business, the instructor will work with you to find an accommodation. Since
participation, particularly in small group work and class processing discussion, is a very important part of the course, repeated unexcused absences (or late arrivals) beyond 20% of the class meetings cannot be tolerated for any reason, and will result in a grade of F for the course.

**Disability Support Services (DSS).** DSS offers tutoring and special accommodations to students who qualify. The UAB DSS office is located on the fifth floor of the Hill University Center, telephone: 934-4205, e-mail: dss@uab.edu. Students who have DSS-approved accommodations should see the instructor privately for further information.

**Withdrawal:** You are expected to be aware of official UAB withdrawal policies.

**Student Conduct Codes.** You are expected to be aware of, and rigorously adhere to, the UAB codes of conduct with regard to academic honesty and inter-personal relations.

**MA 572 Students Only.** MA 572 is scheduled with MA 472 and MA 572 students participate in all class activities described above without distinction being made between MA 472 students and MA 572 students. However, MA 572 students have an additional requirement: a 5-10 page mathematical expository paper on some aspect of advanced (beyond course topics) Euclidean or non-Euclidean geometry. Discuss your topic selection with the instructor well in advance. This is the one case where you can consult other sources. Toward the end of the semester, there will be an EXTRA class meeting at which this paper will be presented to the other graduate students in the class as an expository talk. The instructor will evaluate both the written paper and the oral exposition according to a rubric that you will receive in advance of writing the paper. The paper and presentation count an additional 60 points together toward your grade, for a total of 360 points (to which the Percentage grade table above is applied). Students in graduate courses cannot receive a grade of D in the course, so any grade below 62% is an F.