MATH 353, Sec. 1 AXIOMATIC GEOMETRY SPRING 2015

MWF 9:00-9:50 a.m. DU 300

H. Blau WH 356 Phone: 753-6772 email: blau@math.niu.edu

OFFICE HOURS: TBA

COURSE PREREQUISITE: MATH 240 - Linear Algebra and Applications

TEXT: FOUNDATIONS OF PLANE GEOMETRY, SECOND EDITION, by H. Blau. Available at Village Commons Book Store, 901 Lucinda Avenue, 758-0613, and at the NIU Student Center Book Store, 753-1081. Books by Martin and Greenberg are on reserve in the library for optional reading assignments. Chapters 1-16 of the text will be covered.

MATERIALS: 3” or 4” diameter styrofoam ball, map pins or push pins, thread or rubber bands.

GRADING SYSTEM:

<table>
<thead>
<tr>
<th>Component</th>
<th>Points</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework</td>
<td>120</td>
<td>17.7%</td>
</tr>
<tr>
<td>Quizzes</td>
<td>60</td>
<td>8.8%</td>
</tr>
<tr>
<td>Three 1 hour exams</td>
<td>300</td>
<td>44.1%</td>
</tr>
<tr>
<td>Final exam</td>
<td>200</td>
<td>29.4%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>680</td>
<td></td>
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Homework is to be written up independently (and neatly) (You may be asked to give a presentation of some of your homework solutions to the instructor, without notes.) A quiz will be given at the end of each class. Each quiz will have one or two easy questions on the material discussed that day. Some quizzes will ask the student to supply a question. (Some of these questions will be discussed at the next class.) On some quizzes, you may be asked to work in small groups. It should not be difficult to score 2/2 on each quiz. WARNING: If three (3) quizzes are missed without excused absences, 20 points (out of 680) will be deducted from the student’s total grade. If four (4) quizzes are missed, the student’s semester grade will be lowered a full letter grade. If five (5) quizzes are missed, the student will receive an automatic F in the course.

COURSE OBJECTIVES AND SYLLABUS: On other page.

ACADEMIC CONDUCT: Academic honesty and mutual respect (student with student and instructor with student) are expected in this course. Mutual respect means being on time for class and not leaving early, being prepared to give full attention to class work, not reading newspapers or other material in class, not using cell phones or pagers during class time, and not looking at another student’s work during exams. Academic misconduct, as defined by the Student Judicial Code, will not be treated lightly.
**DRC STATEMENT:** Northern Illinois University is committed to providing an accessible educational environment in collaboration with the Disability Resource Center (DRC). Any student requiring an academic accommodation due to a disability should let his or her faculty member know as soon as possible. Students who need academic accommodations based on the impact of a disability will be encouraged to contact the DRC if they have not done so already. The DRC is located on the 4th floor of the Health Services Building, and can be reached at 815-753-1303 or drc@niu.edu.

**MATH 353, Sec. 1  SPRING 2015  Optional Reading**

M.J. Greenberg, *Euclidean and Non-Euclidean Geometries*

G.E. Martin, *The Foundations of Geometry and the Non-Euclidean Plane*

**Examples:**  
Greenberg, Ch. 7 (pp. 180-194)  
Martin, Ch. 5 (pp. 50-61)

**History:**  
Greenberg, pp. 1-3, 5-21, 57-8, 119-129, 140-148  
Martin, Chs. 10, 11, 21-24

**Philosophy:**  
Greenberg, Ch. 8 (pp. 237-252)

**Logic:**  
Greenberg, Ch. 2; Martin, pp. 2-3

**Real Numbers:**  
Martin, Ch. 3

**Axioms:**  
Greenberg, Chs. 3, 4; Martin, Chs. 6, 12, 14-17

**$H$ satisfies SAS:**  
Greenberg, Ch. 7; Martin, Ch. 23 pp. 282-4

**Parallel Postulates:**  
Greenberg, Ch. 4 (esp. pp. 103-9);  
Martin, Ch. 23 (esp. pp. 276-8)

**History of Parallel Postulate:**  
Greenberg, Ch. 5

**History of Non-Euclidean Geometry:**  
Greenberg, Ch. 6