MATH 10110-01: Principles of Finite Mathematics  
Spring 2007  
MTWF 12:50-1:40 pm  
Debartolo 206 (MWF) & Hayes-Healy 231 (T)  

Course Web Page: www.nd.edu/~shoehn/math10110

Instructor Information:  
Stacy Hoehn (pronounced like “Hane”)  
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Office: 283 Hurley Hall  
Office Hours: M 5:00-6:00 pm, W 3:00-4:00 pm, and by appointment


Course Description: To many college students, “math” is synonymous with “calculus”. In this class, however, we will talk about many areas of modern mathematics that are quite different from calculus. In particular, all of the problems that we will consider will be finite, meaning that we will not be dealing with infinite processes or limits. Our goal in exploring these topics will be to learn how to use math in many different areas of our everyday lives and to help us improve our reasoning skills. In particular, we will see that we can make better decisions about taking chances and develop better strategies when we think of these things mathematically.

Topics: To accomplish the goals of this class, we will study the following material this semester:

- Chapter 5: Sets and Counting (Sections 5.1-5.7).
- Chapter 6: Probability (6.1-6.6)
- Chapter 7: Probability and Statistics (7.1-7.6)
- Chapter 9: Game Theory (Ideas from 9.1-9.3, plus Supplemental Handouts)
- Chapter 12: Logic (12.1-12.5)
- Graph Theory (Supplemental Handouts)

Since there are only a small number of people in this class, we may spend extra time on some topics to make sure that we are all together.

Office Visits: I encourage you to come to my office to talk to me about the course material, either during scheduled office hours or by appointment. One of the advantages of this course (versus Math 10120) is that the class size is small, which means I have more time for each
of you individually. I’m here to help, so make sure you take advantage of that opportunity throughout the semester!

**Tuesdays:** Tuesdays are normal class days and are mandatory. Having this extra day of class each week will allow us to use a more hands-on and interactive approach for this class than in some other math classes.

**Grades:** There will be a total of 600 points for this course, distributed as follows:

<table>
<thead>
<tr>
<th>Part</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participation &amp; Activities</td>
<td>50</td>
</tr>
<tr>
<td>Homework</td>
<td>100</td>
</tr>
<tr>
<td>Project</td>
<td>100</td>
</tr>
<tr>
<td>Mid-semester Exam 1</td>
<td>100</td>
</tr>
<tr>
<td>Mid-semester Exam 2</td>
<td>100</td>
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<tr>
<td>Final Exam</td>
<td>150</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>600</strong></td>
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</tbody>
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**Collaboration:** We will work together on many things, including in-class activities and projects. In fact, you are even encouraged to work together on homework assignments. Whenever we collaborate, our goal will be to promote the understanding of everyone on our team. For this reason, you must each write up your own solutions to homework assignments, even if a group of you discussed the problems together, and you must understand all work that you hand in. (In other words, just copying someone else’s work is not an acceptable form of collaboration!) You will not be allowed to collaborate on exams.

**Homework:** Homework will be assigned each day in class and will be due at the beginning of the next class session. Homework assignments will also be posted on the course web page immediately after class, so even if you miss class, you are still responsible for completing all homework problems on time. It is essential to work on the homework as it is assigned in order to keep up with what is happening in class, so LATE HOMEWORK WILL NOT BE ACCEPTED unless arrangements are made with me ahead of time. You will be able to drop your three lowest homework scores at the end of the semester.

**Project:** The course material has many applications to business, society, and everyday life. You will be asked to apply what you’ve learned in class to one of your own areas of interest as a project. More information will be given on these projects later in the semester.

**Exams:** There will be two in-class mid-semester exams and a comprehensive final exam for this course. The tentative dates for the mid-semester exams are **February 21** and **April 13** during class. The time and location of the final exam will be announced when available. If you have an official reason that you cannot attend a scheduled exam, let me know as soon as possible so we can arrange a make-up exam. If you are sick on the day of an exam, you MUST have a note signed by a doctor or a school official that has direct knowledge of your illness in order to be allowed to make-up the exam. The University Honor Code will be in effect for all exams.