Discrete Math I  
Winter Quarter, 2011-2

**Instructor:** Dr. Matthew E. Coppenbarger, Ph.D. (Associate Professor)  
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**Website:** http://people.rit.edu/~mecsma  
**Office:** GOS-3234  
**Office Hours:** T (11-11:50am), W (2-3pm), R (11-11:50am), F (11am-noon and 3-4pm).  
*Note:* These office hours are subject to change due to committee meetings and assignments that have yet to be finalized.

**Prerequisites:** 1016-272 (Calculus B) or 1016-282 (Project-Based Calculus II) or permission of the instructor.

**Class:** 2-3:50pm, TR (BRN-1110). There will be a 10 minute break each class (except exam days).


**Remarks:**
- Suggestions and questions in class are encouraged. I expect each student to be attentive and participating in the class discussions.
- *Attendance will be taken every day.* Being sick is an excused absence. Send an email to me if you are going to miss a class.
- I **DO NOT** use mycourses. All information about the course can be found at the website above. Look under the “Current Courses” link.
- Rarely, I will send important notifications, updates, and/or corrections about class to you through SIS. So make sure you regularly check your RIT email.
- Please turn off all wireless devices during class!
- Any student in need of special accommodations should see me in the first week.
- Early alerts will be sent at the end of the third and sixth week of classes.

**Homework:**
These assignments are an integral part of the course and must be carefully done as they are the best preparation for the quizzes and exams.

Grading is based on the following seven items:

1. **Appearance.** Your assignment should be written on regular sized white paper (either blank, lined, or graph – engineering paper is fine, too). If your assignment is removed from spiral bound notebook, then the excess paper should be removed or trimmed. Attach the cover sheet on each homework assignment. Use a real staple to attach multiple pages (no origami staples).
2. **Legibility.** The grader must be able to read what you have written. So write neatly!
3. **Organization.** In part, this means keep it sequential – the grader should not have to search for problems out of order nor follow arrows all over the page to grade a problem. Additionally, you should clearly label the beginning of each section, staple the pages in order, and be consistent if you put the problems in columns. And, when appropriate, clearly indicate that your answer, and nothing else in the problem, is what is to be considered when grading.
4. **Presentation of solution.** In writing an answer to a problem, your target audience is a fellow student. Problems should be presented in a way that someone that has a fair understanding of the topic will be able to follow the steps taken to solve the problem. Do not assume that the grader is a fellow genius and can follow all of your cryptic expressions.
5. **Work.** Provide all steps necessary to solve the problem. This includes showing an appropriate amount of work that demonstrates your knowledge and understanding of the material.
6. **Correctness of the answer.**
7. **Completion.** Your grader will not always have the time to grade every problem. In those cases, a portion of the score on the homework assignments may be based on your genuine attempt to solve all of the remaining ungraded exercises in the assignment.

Other remarks with regard to the homework:
- You should anticipate each assignment taking a few hours or more to complete. It is important to start early in case you struggle with the material.
- If you don’t know how to do a problem, go over the relevant material in the lecture notes and in the textbook. Give yourself some time for a spark of inspiration. If you are still stuck, I can give some hints and pointers, but you should not expect me to fully solve the problem for you.
- Feel free to work in groups to solve the homework problems. But each student is required to turn in his/her own assignment and write the solutions in his/her own words (otherwise, it’s plagiarism).
- Assignments will be due on Friday each week. New homework assignments will be posted no later than 11pm on the previous Friday.
• Late assignments will be worth only about a third of the normal points available. It is better to turn in an incomplete assignment than it is to wait until you have everything done.

**Quizzes** should take 15 to 25 minutes to complete. The length of each quiz is usually one page (front and back) and is worth approximately 20 points. *A missed quiz cannot be made up.*

**Worksheets** must be completed in class. Each can be worth anywhere from 5 to 15 points and should take 30 minutes or less to complete. *A missed worksheet cannot be made up.*

**Midterm Exams:** There will be two midterms and given on Thursday of Weeks 4 and 8. Each is worth approximately 100 points. You will have the entire 2-hour class to complete them (but many students will finish early). *A missed exam cannot be made up* except due to a genuine emergency.

**Final Exam:** The final is a two hour cumulative exam given in the 11th week. It will be worth from 150 to 200 points. Note that it is SMS policy not to give a final exam *before* its scheduled time.

**Grading:**

• Problems that are graded are assigned a percentage by the grader (percentages are based on a straight scale – 90% and up is an A, 80% and up is a B, …, 60% and up is a D, and 0% is for nothing written down or no mathematical content). The number of points each problem is worth is based on two items: importance and difficulty.

• All of the assignments, quizzes, and exams will total about 600 points. Your grade for the course is determined using the same grading scale for individual problems: 90% and up is an A, 80% and up is a B, …, 60% and up is a D.

• I will keep you apprised of your grade periodically throughout the quarter.

• I reserve the right to lower the grading scale to your benefit.

**Schedule:** We will cover five main topics: (1) Logic and Proofs (Chapter 1), (2) Sets and Functions (Chapter 2), (3) Introductory Number Theory (Chapter 4), (4) Mathematical Induction (Chapter 5), and (5) Counting (Chapter 6 and some of Chapter 8). There may be a few short additional topics added if we have time. For the specific sections that we will cover, see the schedule that can be found on the website listed near the top of this page. The following table is for the first three weeks of the course and is **tentative**. The entire schedule is available online and will be updated weekly.

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<th>Week</th>
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<th>Friday</th>
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<td>Dec 1</td>
<td>Dec 2</td>
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