

**MATH 125-B01 – DISCRETE MATHEMATICS I**  
**Summer 2014**

- PREREQUISITE:** Specified score on the Mathematics Placement
- INSTRUCTOR:** Richard O’Beirne, Department of Mathematical Sciences  
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Office: Exploration Hall, Room 4452
- MEETINGS:** Tuesdays and Thursdays from 4:30 p.m. to 7:10 p.m. from June 3, 2013 through July 22, 2013 in EXPL L111
- OFFICE HOURS:** 3:30 p.m. – 4:30 p.m. on Tuesdays and Thursdays, and by appointment as necessary.
- TEXTBOOK:** Discrete Mathematics with Graph Theory (Third Edition) by Goodaire and Parmenter
- MATERIAL:** The course will cover most of the material contained in the following chapters:  
Chapter 0 and 1– Proofs and Logic  
Chapter 2 – Sets and Relations  
Chapter 3 – Functions  
Chapter 4 – The Integers  
Chapter 5 – Induction and Recursion  
Chapter 6 – Principals of Counting  
Chapter 7 – Permutations and Combinations  
Chapter 9 – Graphs  
Chapter 10 – Paths and Circuits  
Chapter 11 – Applications of Paths and Circuits  
Chapter 12 - Trees
- GRADING:** There will be 3 one-hour tests and a final exam. The lowest grade of the three will be dropped. The two tests that count will determine 60% of the grade. The final exam (on Tuesday, July 22 at 4:30 p.m.) will determine 40% of the grade. The interim test dates will be:  
Test 1 – June 17    Test 2 – July 1    Test 3 – July 15  
There will be no makeup tests. If a test is missed it will count as the dropped test. Grades will be assigned as follows: A: 90-100, B: 80-89, C: 70-79, D: 60-69, F: below 60. +/- may be used at the edges of each bracket.

In this course I will emphasize the application of discrete mathematics to information technology. The course breaks down roughly to the following subjects: Fundamentals (set theory and logic), some Number Theory, some Combinatorics, and some Graph Theory. In each area I will highlight how the mathematics has worked its way into the IT field.

The key to success in any mathematics course is in understanding the examples in the book and becoming familiar with the exercises at the end of every chapter. For every section we cover, you should study all of the exercises marked [BB]. This stands for the fact that the answer is in the “back of the book”. You will need to fill in the details of the solution yourself. You should consolidate all of the worked exercises in a notebook to be used to study for tests and for the final examination. We will discuss many of these exercises in the class.

The Honor Code is taken very seriously and will be enforced. You may not assist or obtain assistance from anyone during tests.