MATH 412 - Advice about Tests

Students in this course sometimes ask for advice on studying for the tests. Here are some simple suggestions.

First, be sure to understand and remember the terminology and notation we have used. Second, be familiar with the statements of important theorems covered in class (the web site has is a summary of material covered in the course). Some test problems involve applying these theorems. The theorems have also been applied in homework problems; usually the applications on homework are a bit more subtle. It is also beneficial to review the techniques of proof we have used; students will not be asked to repeat proofs from class, but similar techniques may be used.

After reviewing the terminology and results from class, the best thing is to practice solving problems. Good sample problems to practice are those listed on the homework as "warmup" or "other interesting" problems. The warmup problems give good practice in easy applications of the concepts and are comparable to the easier problems that may be on the tests. The "others of interest" are a bit harder but provide good practice and are instructive. Most of these are comparable to homework problems or to the harder problems that may be on the tests. Indeed, some of the warmup or interesting problems listed at the top of the homework assignments may appear on the tests.

Because there is a time limit, the test problems are easier on the average than the homework problems. Also, they emphasize understanding of the concepts we have discussed, use of the important results we have proved, and writing of careful explanations. In comparison to the homework, less creativity is expected in finding proofs.

The test consist of two Parts. Part I problems are somewhat easier or shorter and worth 10 points each. Part II problems are worth 15 points each. Six problems are provided on each Part; students are to solve four. The purpose of allowing such choice is so that all students can find some problems to solve and then demonstrate that they can write clear explanations. In total, 100 points are available.

It is expected that not all students will be able to do all the problems in the allotted time. Partial credit is available, so full credit requires getting everything right in the problem. The level of difficulty and level of student performance are taken into account by setting appropriate grade thresholds. Historically speaking, to obtain a A- grade on the test it suffices to obtain about 60 percent of the available points. For a B-, usually 45 percent is enough.