

1 Unit Description

AMTH 140 Discrete Mathematics introduces you to a wide range of terminology and tools that have particular use in computer science. Topics covered in this unit include Sets, Mathematical Induction, Big O Notation, Logic, Predicate Calculus, Graphs, Linear Recurrence Relations, Sorting Methods, Relations and Partial Ordering.

Apart from the Lecture Notes there are Tutorial exercises and Practice exercises. The Tutorials cover, in the main, material that is not in the Lecture Notes. Various algorithms for sorting are discussed, for example. The Practice exercises reinforce the material in the Lecture Notes. All aspects are examinable.

Here are two recommended reference books if you feel the need for extra reading and insights. The books are

Ralph Grimaldi, *Discrete Mathematics and Combinatorial Mathematics*, 5th edition, Pearson Addison-Wesley, 2004.

Susanna Epp, *Discrete Mathematics with Applications*, 3rd edition, Thomson Brooks/Cole, 2004.

These reference books are optional since this unit is entirely covered by the Lectures Notes and the the Tutorial and Practice Classes.

The assessment consists of

- Six assignments (about every fortnight) worth a total of 25%
- Final examination worth 75%.

To pass this unit you must

- a) submit reasonable attempts on at least three assignments
- and**
- b) achieve at least 40% in the examination.

A student must perform satisfactory in all components of the unit to pass the unit.

The assignments will be marked with regard to accuracy, correct methods and neatness. Some assignments will marked by casual staff members. These marked assignments will be monitored, at random, by me to ensure that the correct standards are maintained. If you are unhappy with the marking, please contact me immediately and I will re-mark the assignment.

All assignments will have equal weighting. On average, you should expect a turn-around time of seven working days for marked assignments plus time for Australia Post to deliver, if you are an external student.

The 40% minimum mark in the examination is to ensure that students have worked honestly and diligently to understand the material presented. A failure to achieve this cut off will result in a fail grade.

A guide to the form, substance and extent of unit coverage of the final examination can be obtained by looking at the past examinations papers, to be found on this web site.

In the final examination you may bring in a maximum of three A4 sized pieces of paper of *handwritten* notes. Both sides of the paper may be used. No other written material will be allowed.

Now a warning about copying or other forms of plagiarism. This university has a strong policy against plagiarism and penalties can be severe. So make sure that your submitted work is your own. But do not take this as a rule against cooperating with others in your study - this approach to learning is encouraged.

Best wishes in your studies

Shusen Yan