

The University of Northern British Columbia  
College of Science and Management  
Mathematics Program

MATHEMATICS 220 — LINEAR ALGEBRA  
Course Outline

FALL  
Winter 2008

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**Prerequisite:** Math 100 or Math 105. (With a minimum grade of C-.)

**Text:** *Linear Algebra with Applications*, by W. Keith Nicholson, Fifth Edition, PWS Publ. Company, 2006. (There is also an optional student's solutions manual written by the author.)

**Course Description:** Linear Algebra Systems of linear equations, matrix algebra, determinants, vector geometry, vector spaces, eigenvalues and diagonalization.

**Course Chapters:** The course covers basically chapters 1 through 6 of the text (omitting certain sections from some of them).

**Grading Scheme:** Your final grade  $G$  will be calculated according to the formula  $G = .2A + .4T + .4F$ , where  $A$  is the average of your assignment grades,  $T$  the average of your two tests, and  $F$  your final exam grade.

**Test Dates:** Wednesdays **October 8, 2008** and **November 5, 2008**.

There will be a Final Exam in ~~April~~ <sup>December</sup> to be scheduled by the Registrar's Office.

**Assignments:** When handing in your assignments, please observe the following:

- (1) Write your solutions on one side of each page only, clearly and neatly.
- (2) Provide a front cover containing your name, course name & number, assignment number, and the date.
- (3) Staple your assignment (do not use paper clips). — Thank you in advance for this.

**Calculators, cell phones, and other such electronic gadgets are not permitted during tests and final exam.** And nothing that beeps and squeeks during lectures.

**Suggested Problems (from text).** It is important that all students do all the problems listed below so as to gain necessary expertise in the course. They or similar problems could appear in tests and final exam.

- §1.1: 1 2' 4 5 6 7' 8' 9' 10' 11' 12 17
- §1.2: 1' 2' 3' 4' 5bh 7b 8' 9d 11' 13 14' 16'
- §1.3: 1' 2' 3' 4' 5 6a 7
- §2.1: 1' 2' 3' 4' 5' 6' 7' 8' 9' 10 11' 13' 14' 15' 20
- §2.2: 1' 2' 3' 4' 5' 6'a 7' 8b 9 11 12 13'a 14' 16'  
18' 22' 26 30 36' 37
- §2.3: 1 2bdfj 3' 4' 5' 8' 9' 10 12 13 15' 16' 18  
19' 22' 26' 31' 32'
- §2.4: 1' 2' 5' 6' 8' 11 12' 16
- §3.1: 1' 3 4 5' 6' 7' 9' 10' 12 13 14' 17 22
- §3.2: 1' 2' 3' 4' 6' 7' 8' 9' 10' 11 13 14 16 17 28 34'
- §3.3: 1' 4 5 6 7 8' 9 10 11' 13 15

Notation: a problem marked with a prime, e.g. 3', means that you do all the parts of that problem marked with a diamond ♦ (for which answers are given in the text or in the solutions manual). Also, 3'c means to also do part c even if it isn't tagged with a diamond.