Mathematics 164
Matrix Algebra for Computing
Sections 1 and 2
Quarter 2, 2003

Instructor: Dr. George Ballinger
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Schedule:

8:30 am – 9:20 am
Math 176-01
(Mech)
CC121
Math 176-01
(Mech)
CC121
Math 176-01
(Mech)
CC121
Math 176-01
(Mech)
CC121
9:30 am – 10:20 am
Math 176-01
(Mech)
CC121
Math 176-01
(Mech)
CC121
Math 176-01
(Mech)
CC121
Math 176-01
(Mech)
CC121
10:30 am – 11:20 am Office Hour Office Hour Office Hour Office Hour
11:30 am – 12:20 pm Lunch Lunch Lunch Lunch
12:30 pm – 1:20 pm
Math 164-01
(Comp)
CC104
Math 164-01
(Comp)
TEC177
Math 164-01
(Comp)
CC104
Math 164-01
(Comp)
CBA101
1:30 pm – 2:20 pm
Math 164-02
(Comp)
CC104
Office Hour Office Hour Office Hour
2:30 pm – 3:20 pm
Math 164-02
(Comp)
CC121
Math 164-02
(Comp)
CC121
Math 164-02
(Comp)
CC121

Important Dates: January 20 Tuition fees due date
February 14 Reading Break (no classes)
February 24 Withdrawal date deadline
March 21 Last day of classes
March 24-28 Final Exam Period (specific date, time, and location TBA in February)

Calendar Description: Topics: vectors, linear equations, matrices, linear programming, the simplex method, linear transformations, graphics, directed graphs and trees. [3 Credits]
(*Source:* Camosun College 2002-2003 Calendar)
Prerequisites: Math 12 or Math 173 or Math 179 or by assessment.
Textbook: P.J. Trushel, *Topics in Linear Algebra*, Camosun College, revised August 2001.
Detailed solutions to many of the exercises in the textbook can be found on my website.
An optional Solutions Manual containing these same solutions is also available at the bookstore.
Course Content: Section 1 Real Numbers
Section 2 Linear Equations
Section 3 Linear Systems
Supplement Cramer's Rule for 2nd Order Systems
Section 4 Vectors
Section 5 Inner Products
Section 6 Applications of Inner Products
Section 7 Matrices and Matrix Algebra
Section 8 Solving Systems Using Augmented Matrices
Section 9 Matrices and Matrix Multiplication
Section 10 Inverse of a Matrix
Section 11 Solving Systems by Inverse Matrices
Supplement Cramer's Rule for 3rd Order Systems
Supplement Adjoint Matrix Calculation of Matrix Inverses
Section 12 Linear Transformations
Section 13 Fuzzy Sets and Fuzzy Logic [OMIT]
Section 14 Fuzzy Systems [OMIT]
Section 15 Computer Graphics
Section 16 Graphs and Digraphs
Section 17 r-Step Connections
Section 18 Linear Programming
Section 19 Simplex Method
Section 20 Dual Problem
Assignments: You are expected to work on exercises in the textbook as part of your studying for the course. However, you will not be required to hand in any problems for marking.
Study Time: It is recommended that approximately 4-8 hours per week (or more for students with a weak background) be spent studying for this course outside of class time.
Calculator Policy: Only ordinary scientific calculators (i.e. non-graphing and non-programmable) are permitted on term tests and the final exam.
Math Room: Technologies Centre (TEC) 142 (phone: 370-4492): This drop-in centre is freely available for your use to work on math homework and to seek help from the tutor on staff (see hours posted on door).
Grade Calculation: The final grade will be calculated according to the following breakdown:
4 Term Tests: 50%
1 Comprehensive Final Exam: 50%
Note: If your final exam grade is higher than your term average and your term work is judged satisfactory, then your final exam grade will count as 100% of your final grade.
Grade Scale: Final letter grades are assigned as follows (subject to the conditions above):
A+ 95-100 B+ 80-84 C+ 65-69 F 0-49
A 90-94 B 75-79 C 60-64
A– 85-89 B– 70-74 D 50-59