

**MATH 133**  
**Vectors, Matrices and Geometry**  
**May 2008**

**INSTRUCTOR:**

Emilie RICHER, richeremilie@gmail.com

**WEBSITE:**

The course outline as well as announcements will be posted at  
**WWW.OBEYMATH.ORG**

**CLASS SCHEDULE:**

Mon/Tues/Wed/Thur 8:35 - 10:55am

**OFFICE HOURS/EXTRA HELP:**

Office hours, Fridays 9:00-11am (Burnside 1243)

More hours will be announced around the midterm and final dates.

The **Math Help Desk** (Burnside 911) is open weekdays from 10am - 2pm.

**TEXTBOOK:**

**Elementary Linear Algebra** (Second Edition), by Keith Nicholson, McGraw-Hill  
Ryerson, ISBN-10: 0-07-07 1980-2

**GRADING SCHEME:**

Your final grade will be calculated as the best of:

(1) Webwork 15% + Midterm 25% + Final 60%

(2) Webwork 15% + Final 85%

The midterm is scheduled for Thursday MAY 22nd and cannot be written at any other time.

**WEBWORK:**

Your assignments are posted online at:

**<http://msr05.math.mcgill.ca/webwork/m133508/>**

**IMPORTANT DATES:**

WEBWORK 1: Due Sunday May 11th

WEBWORK 2: Due Sunday May 18th

MIDTERM: Thursday May 22nd

WEBWORK 3: Due Saturday May 31st

FINAL EXAM: EITHER June 2nd or June 3rd (TBA)

## COURSE TOPICS/SCHEDULE

(Note: The order of topics listed below is subject to change, however the Webwork due dates are fixed)

### **Week 1: (Thurs. May 1st - Thurs. May 8th)**

Sections 1.1-1.6 : Matrices, Linear Equations, Gaussian Elimination, Elementary Row operations, Rank, Classification of Solutions into 3 Cases, Homogeneous Systems, Matrix Multiplication, Matrix Inverses, Elementary Matrices

**Sunday May 11th: Webwork Assignment 1 due**

### **Week 2: (Mon. May 12th - Thurs. May 16th)**

Sections 3.1, 4.1- 4.4: Geometric vectors, Subspaces and Spanning, Linear Independence, Dimension, Column Space, Row Space, Null Space, Rank

**Sunday May 18th: Webwork Assignment 2 due**

### **Week 3: (Mon. May 19th - Thurs. May 22nd)**

Sections: 2.1-2.3, 3.2: Dot Products and Projections, Cofactor Expansions, Determinants and Inverses, Diagonalization and Eigenvalues

**Thurs. May 22nd - MIDTERM**

### **Week 4: (Mon. May 26th- Thurs. May 29th)**

Sections 3.3-3.4, 4.9, 4.5: Lines and Planes, Linear Transformations, Orthogonality

**SATURDAY May 31st: Webwork Assignment 3 due**

**Don't wait until the last minute! Webwork assignments can take a considerable amount of time, you are encouraged to work with friends and keep written records of your work.**

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