MATH 230

Introduction to Finite Mathematics

2013W Term 1, Fall

- **Textbooks:**
- **1.** *Mathematics for Elementary Teachers 4th edition* by Sybilla Beckmann
- **2.** *Finite Mathematics* by Costenoble & Waner

- **Instructor:** Akos Magyar, Phone:822-3045, Email: magyar@math.ubc.ca
- **Office hours**: Math 229E, M-W-F 12-1pm
- **Lectures:** Mathematics 203, M-W-F 10-11am

COURSE DESCRIPTION

In the first part of the course we will review very elementary mathematics using Textbook 1. Then we will learn about basic concepts and methods of finite mathematics, such as counting principles and calculating probabilities using Textbook 2. The last two weeks will be devoted to short power point presentations called projects. These can be done alone or in groups of 2-3, the aim is to introduce/explain a mathematical concept or argument. I will provide a list of possible topics, supplementary texts and examples later.

COURSE OBJECTIVES

- To develop a deep understanding of mathematical concepts taught in elementary and middle schools.
- To learn about basic concepts of finite mathematics, such as counting and probability. To apply them to analyze situations and solve problems.

GRADING

Homework: Homework will be assigned each Friday and will be due one week later at the *beginning* of the class. To receive full credit you have to write your solution *effectively*, which in mathematics means, directly, simply and logically. You are encouraged to discuss the problems with other students however the work you submit must be your own. Late homework will not be accepted unless there is a serious reason.

Midterms: There will be one *in-class* Midterm scheduled on *Wednesday, October 23rd.*

Final: At the end of the semester there will be a comprehensive Final Exam.

Course Grades: The course grade will be based on four components

Homework	20%
Project	10%
Midterm	20%
Final	50%

Homework Assignments

Problem Assignments listed below are due each week ***at the beginning*** of the Friday class. Some (but may not all) of the problems handed-in will be marked and handed back. You have to *show all the work* in order to get full credit. No late Homeworks are accepted unless for serious documented reason.

Week 1: Textbook 1. The Base-10 system: addition/subtraction/multiplication algorithms.

Reading: 1.1-1.2, 3.2-3.3, 4.6
Homework Assignment 1 **Due**: Sept. 20th

Week 2: Basic Arithmetic: division and fractions

Reading: 2.1-2.3, 3.4, 5.1, 6.2-6.3
Homework Problems: **Due:** Sept. 27th

Week 3: Ratio and proportional relationships

Reading: 6.4, 7.1-7.5
Homework Problems: **Due:** Oct. 4th

Week 4: Number theory

Reading: 8.1-8.6
Homework Problems: **Due:** Oct. 11th

Week 5: Textbook 2. Sets and Counting

Reading: 6.1-6.3
Homework Problems: **Due:** Oct. 18th

Week 6: Counting and Probability

Reading: 6.4, 7.1-7.2
Homework Problems: **Due:** Oct. 18th

Week 7: Review, Midterm: Wed., Oct. 23rd

Week 8: Probability

Reading: 7.3, 7.4, 7.5
Homework Problems: **Due:** Nov. 1st

Week 9: Mathematics of Finance

Reading: 2.1, 2.2
Homework Problems: **Due:** Nov. 8th

Week 10: Finance, Projects

Reading: 2.3
Homework Problems: **Due:** Nov 15th

Week 11: Projects

Reading:
Homework Problems: **Due:** Nov 22nd

Week 12: Projects**,** Review