

# Applied Mathematics 30

School Year - 2011-2012

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**Pre-requisites:** Applied Math 20

**Credits:** 5

**Hours:** 125

## Textbook/Resources

- Applied Mathematics 12 Source Book by Addison Wesley (required) & an Optional Workbook titled: Mathematics Student Course Book by Zenith

Students are responsible for attaining book(s) and paying the textbook rental caution fee at the CBe-learn reception desk. Reception is located in Ernest Manning High School (20 Springborough Blvd SW) and is open 9:00 am – 4:00 pm school days.

## Instructor

All CBe-learn courses will have a news item on the course homepage that will include an introduction to the teacher. Some courses may have more than one instructor. We believe this team teaching approach is advantageous to students in terms of receiving timely feedback and completing course materials. Since CBe-learn teachers are not on-site at school five days a week, and they do not have local phone extensions, all of the communication will be online within D2L using private discussions. Other communication tools including Elluminate and/or email may also be used on occasion. Each of these tools are explored in the e-learn introductory to online learning course.

## Course Overview

The Applied Mathematics 30 course is designed for students intending to pursue post-secondary studies requiring less rigorous mathematics. The applied mathematics courses emphasize applications of mathematics. The approach will be primarily numerical and geometrical. It is a course which allows the development of basic skills. Graphing calculators are mandatory in this course.

## Course Structure and Organization

This course consists of eight units.

Unit 1: Probability

Unit 2: Statistics

Unit 3: Patterns

Unit 4: Finance

Unit 5: Matrices

Unit 6: Sinusoidal Data

Unit 7: Vectors

Unit 8: Design

There are 41 lessons in total. Each lesson has a reading component and/or investigation with textbook assignments. There are 20 applets in total that are embedded into lessons.

### **Assessment/Evaluation**

- Online Quizzes/Tests:  
41 online lesson quizzes and 8 online unit tests
  - CBe-learn supervised Exams:  
three Face to Face exams and one Optional Final Exam
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### **Accommodations**

Since CBe-learn is an online school with a diverse population of students, it is not always evident which students need accommodations and/or for what course subject. We need you, the student, to bring your exam accommodation needs to our attention!

- Are you an ESL student?
- Did you arrive to Canada from another country?
- Do you have an IPP?
- Do you have a chronic medical condition(s) or learning disability?
- Do you have an acute medical condition or illness?

If you answered yes to any of the questions above, then you may qualify to receive accommodations. Please notify and explain to your teacher within the first week of accessing your online course that you may require accommodations. It is important that you start this dialogue with your teacher.

### **Roles and Responsibilities of Teachers and Students**

Teachers are responsible for:

- responding to your communication within 24 hours Monday to Friday
- sending students a weekly update in the News Item, providing information about activities, assignments, or upcoming deadlines
- updating course content as needed
- checking student marks and ensuring that the students are moving through the course
- contacting students that are not progressing

Students are responsible for

- working at a minimum pace of one lesson per day, 5 days/week, which amounts to approximately 8-10 hours per week
- completing online lessons and textbook assignments

- asking questions on the discussion board for better understanding
- checking their course home page and private discussion area every two days (minimum)
- meeting the recommended deadlines
- responding to teacher communication

### Learning Outcomes

- Solve problems based on the counting of sets, using techniques such as the fundamental counting principle, permutations and combinations.
- Describe and apply operations on matrices to solve problems, using technology as required.
- Use normal and binomial probability distributions to solve problems involving uncertainty.
- Model the probability of a compound event, and solve problems based on the combining of simpler probabilities.
- Design or use a spreadsheet to make and justify financial decisions.
- Generate and analyze cyclic, recursive and fractal patterns.
- Solve problems involving polygons and vectors, including both 3-D and 2-D applications.
- Analyze objects, shapes and processes to solve cost and design problems.

### Academic Honesty/Plagiarism Guidelines

**Academic honesty is expected of all students.** Work submitted for a grade that is not your own, is an act of academic dishonesty. Any materials taken from other sources must clearly be identified and properly referenced. Intentional deception, plagiarism, copying from another student, obtaining information about exams, and other violations of academic honesty are not acceptable.

**Plagiarism is the most common violation.** It is the practice of taking the writings or ideas of another person and presenting them as your own. Students should be aware of the forms that plagiarism can take. Any of the following, without reference or acknowledgement of the original source, can be considered as plagiarism:

- Direct duplication of another person's work, from a book, article, web site, another student's assignment etc.
- Paraphrasing of another person's work, making only minor changes to the wording but with the essential meaning, form or progression of ideas maintained
- Piecing together sections of another person's work into a new whole

#### The typical consequences for first time academic honesty offenders are:

- Contact with parent or guardian
- Contact with guidance counsellor and or/assistant principal if the student attends another CBE high school
- Failure on the assignment, paper or exam (an academic dishonesty grade is assigned ("AD" with a zero percentage)

**If a violation of academic honesty occurs a second time, the typical consequence is withdrawal from the course or a final grade of "AD", indicating the nature of the grade as academic dishonesty.**

The circumstances and evidence in each case are reviewed by the instructor, student, parents and CBe-learn administrators. Consequences in each case are at the discretion of the school staff.

## Inactive Student Guidelines

**CBe-learn students must demonstrate an active commitment to their online courses, which involves regular communication with their online teachers, and successful completion of course assessment requirements within a reasonable time frame.** If a student is unable to remain academically active in their online course during any 15 school day period, and fails to communicate with their teachers, then they risk losing access to their course. As a result, their user role in the associated course will be changed by their instructor from “Student – CBe-learn” to “Inactive – CBe-learn”. Once a student has been designated as inactive, they are no longer eligible to continue in the course; however they are invited to re-register for the next term if they feel they can succeed at a later date. Transfers will not be considered.

**The following criteria will be used to identify a student as being inactive within any 15 school day period:**

- Has not logged in or accessed the content of the course beyond the introductory material.
- Has not submitted course work for assessments within a reasonable time frame.
- Has not responded to the teachers request for contact via email, private discussions and/or phone on at least 3 occasions.
- Has not participated in a mandatory introductory online or face-2-face session.

This criteria is applied at the teacher and administrators discretion at CBe-learn.

