Grade 12 Applied Mathematics

Course Outline 2016 – 2017

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Be sure to get on **Edsby** for your marks,

course resources, and student-teacher communication.

# Description

Applied Mathematics is intended for students considering post-secondary studies that do not require a study of theoretical calculus. There is an emphasis on the learning of numerical and geometrical problem-solving techniques as they relate to the world around us.

This course is set up so that you – independently and collaboratively – work towards an understanding of mathematical concepts through **exploration of real life situations**. In Applied Mathematics, you should always be able to ask the question: **“How does this relate to real life?”**

**Communication** of your learning is an important component of this course. In High School, math becomes less and less about a simple number answer. We move more towards understanding a concept and being able to show the process of how you got there.

It is my hope that you will gain confidence in your mathematical abilities as we take on the challenges of this course together. What you are willing to put into this course will determine your success.

Units of Study \*order may change

## 1. Financial Math – Investing Money

2. Financial Math – Borrowing Money

3. Set Theory and Logic

4. Counting Methods

Note: In Grade 12 Applied Math you will do a research project.

5. Probability

6. Polynomial Functions

7. Exponential and Logarithmic Functions

8. Sinusoidal Functions

9. Design and Measurement

Materials – Things you need to bring to each class!



Textbook, binder, graph paper, **graphing calculator**, pencil, pen, ruler, loose-leaf or notebook.

**Each student is responsible for bringing his or her own calculator to class! Calculators will not be provided due to loss/forgetfulness on the part of the student.** The TI-83 or TI-84 is critical to learning in this course. A lot of the course depends heavily on programs and applications on these calculators.

**No Phone Policy:** You don’t need your phone for math class. There are things we do in math class that you can’t do on your phone’s calculator. You will not be allowed to use your phone for tests or quizzes anyway. You should be practicing with the calculator that you will use for tests.

Organization & Assignments

Staying organized in a math course is extremely important. I recommend using one of these 2 methods of keeping your binder in order:

1. Chronological -Everything you get goes into your binder in the order that you got it.

 2. Categories -Divide your binder into 3 sections:

* Class notes and handouts
* Assignments/Homework
* Tests and Quizzes (FULLY CORRECTED for exam review)

During most of our math classes I will assign some practice questions. The foundation of your math learning is **practice**. You cannot just **know** math, you have to **do** it. You will always have some time to work on this in class. If it is not finished in class, it becomes homework. Even though these practice questions will not be marked, I will check to see if you are completing them. Keeping up with these practice questions is the most effective way of improving your success in this course.

You will have assignments (other than regular class work & homework) throughout the course that I will ask you to hand in for evaluation.

# Important Dates to Note

Sep. 23 – Math Course Change Deadline

Nov. 24 – Progress Reports Emailed Out

Jan. 16 – Assignment Assistance Day

Jan. 31 – Open House

Feb. 28 – Math Contest

Mar. 14 – Pi Day!

Apr. 6 – Progress Reports Emailed Out

April 25 – Celebration of Learning

# Tests

We will have tests about once a month. These are not necessarily unit tests, but progress tests based on the material we have covered since the last test. Some cumulative questions will be asked to make sure you don’t forget material throughout the year. I will warn you about cumulative content on tests.

You will always be given at least 2 weeks notice of a test date. If for some reason you miss a test day, your parents need to let me know why you were not at school. If I don’t hear from your parents then a small penalty will be applied on the test (5%). Either way you will write the test on your first day back at school. I’m a pretty reasonable person, so if you talk to me about whatever is going on, I will work with you to figure out something that is fair.

Most of my test questions are **short answer and long answer**. I usually include a few multiple choice.

I encourage you to ALWAYS attempt every question on a test. I look through your tests very carefully and **usually give part marks** if you show some understanding.

You are expected to collect, fully correct, and keep all tests on hand for the exam at the end of the year.

Quizzes

We will have small quizzes very frequently, usually on material that was done the previous class. I will not be marking your homework, but completing your homework is the best way to be ready for these quizzes. If you miss a class, it is your responsibility to find out what was covered so that you are ready for these quizzes.

## Evaluation

**Overall Mark Breakdown Course Work Breakdown**

Course Work 70% Knowledge & Understanding 50%

Final Exam 30% Application 30%

 Communication 15%

Thinking & Inquiry 5%

Note: The final exam in this course is a **provincial exam**.

For the final exam, you are allowed to bring in a double-sided, 8½ x 11, study sheet. On this study sheet you may write anything you like, including equations, examples, notes, etc. To help you get used to this, you may prepare a study sheet for all tests this year.

## Expectations

1. **Be on time and be prepared**. Bring all of the necessary materials to class with you.
2. **Be diligent**. You are expected to complete all of the assignments given to you. The more dedicated you are to your work in this class, the better you will do. Students who fall behind in their assignments will be required to spend time here at school on “assignment assistance day.”
3. **Be independent**. Take ownership of your learning. If you are having trouble with any of the material, please talk to me. I am available for extra help. Also remember that your classmates are an excellent resource.
4. **Be responsible**. If you have to miss a class, you are required to find out what lesson notes/handouts you need. If you are absent the day of a test, you will write the test the first day you return.
5. **Be respectful.** Work cooperatively with classmates and treat one another in a Christ-like manner. We are a community of learners that depend on each other for success.
6. **Be rewarded**! I expect that you will “throw” yourself into this class – explore, ask questions, be an active learner. Please know that I will do my very best to make you feel at ease as you learn and experience the challenges of this course. Discover how your gifts help you to get the most from this course!

Miscellaneous

Please do not ask to go to the **washroom** during lecture/discussion or test times if you can help it.

**Food** is NOT to be eaten in class, except on rare occasions.

**Drinks** are permitted providing “non-spillage” and proper disposal of the container.

**Portable music players** are ok to use only during independent work times. Adjust your volume so that the people sitting around you don’t have to listen to your music too.

### Academic Integrity

Guidelines for academic integrity are outlined in your agenda book. Please read this information carefully. In particular, take note of the following acts of academic dishonesty:

* Copying another student’s work for any required assignment.
* Providing another student with an assignment for the purpose of plagiarism.
* Sharing information when assignments are to be done individually.