

Mr. Hazlewood

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## Applied Math 40S – Course Outline

**Credit Value:** 1 Credit**Course Code:** 3903**Prerequisites:** None**Textbook:** Canavan-McGrath, C. et al. 2012. Foundations of Mathematics 12. Nelson Education Ltd, Toronto, ON.

### Mathematical wisdoms...

"Mathematics is a game played according to certain simple rules with meaningless marks on paper."

- David Hilbert

"In mathematics, you don't understand things. You just get used to them."

- Johann von Neumann

"There are two ways to do great mathematics. The first is to be smarter than everybody else. The second way is to be stupider than everybody else -- but persistent."

- Raoul Bott

### Course Description

Applied Math 40S is a course designed to prepare students for future university studies that are not focused on theoretical calculus. The course will focus on developing critical thinking skills in students through problem solving and data collection to analyze real-life situations. This course introduces students to the concepts of graphical analysis of relationships, and will begin with those that students are already somewhat familiar with. The final unit in the course will look at new types of relationships, and the functions that control their graphical behavior.

We will also spend a large portion of this course looking at some fundamental concepts in the world of finance, including investments, loans, taxes, and mortgages. The goal here is to have students learn the basics of fiscal responsibility, and begin to understand and recognize ways they can achieve financial balance currently as well as in the future.

Technology is an integral component in the course, and students will be required to solve problems and model mathematical concepts with graphing calculators, spreadsheets, and other computer-based software. A TI-83 calculator is required for this course, and can be borrowed from the office for the year with a deposit of \$75.

### Course Timeline

Sept. 8 – 14	12A.R.1 – Polynomial Functions
Sept. 16 – 25	12A.R.3 – Periodic Functions
Sept. 28 – Nov. 6	12A.FM.1, 2, & 3 Finances & Taxes
Oct. 28 – Nov. 9	Career Life Project
Nov. 10 – 23	12A.L.2 – Set Theory & Logic
Nov. 25 – Dec. 11	12A.P.1-6 – Probability
Dec. 14 – 18	12A.D.1 – Design Problems
	**Design & Modelling Project completed over the break.
Jan. 4 – 24	12A.R.2 – Exponents & Logs

**Assessment & Evaluation** – The curriculum is available at <https://www.edu.gov.mb.ca/k12/cur/index.html>

Course Work (80%) – Each outcome (or cluster of outcomes) will have a number of formative assessments to help students determine their level of understanding, as well as a final assessment that is weighted according to the amount of time allotted to that section of the course. There are also two major projects that will be completed in this course that will be assessed according to a class constructed rubric.

Final Exam (20%) – This is a Provincial exam in this course this year which is scheduled for January 23<sup>rd</sup>. The goal is to use the last couple of classes to review for the exam, provided the major topics in the course have been covered.

Academic Dishonesty – any act of cheating, plagiarizing, or copying of work by a student will result in stiff penalties. The first offense will be a choice of zero on the assignment or a redo at my convenience, as well as a letter sent home to your parents. The second offense will be an automatic zero, with a referral to administration for any further discipline.

Late Assignments – There are no assignments in this course. Both major projects are due on or before the date set. Other than medical emergencies and prior arrangements, failure to do so will result in a grade of 0.

Missed Assessments & Rewrites – Any missed assessment will be given a grade of 0 unless valid reasons are given (*eg. hospitalization*). A student who misses an assessment will be required to complete it during the lunch hour (or spare) **on the day they return to school**.

Assessments can be rewritten upon the request of the student, but will only be granted after that student has earned the opportunity. This requires attendance at lunch (or spare) for extra help and practice, as well as multiple formative assessments in order to demonstrate sufficient understanding.