

I. COURSE DESCRIPTION:

This is the second level mathematics course for the pre-health program. Building on the concepts explored in the first course, the focus is on quadratic, exponential, and logarithmic functions. Also explored are a variety of data analysis techniques.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

Upon successful completion of this course, the student will demonstrate the ability to:

Unit 1

1. Factor algebraic expressions containing common monomial factors.
2. Factor 4-term polynomials by grouping.
3. Factor trinomials.
4. Factor binomials that are a difference of squares.

Unit 2

1. Recognize quadratic equations and their graphs.
2. Write quadratic equations in standard form.
3. Define and solve for the vertex, maximum, minimum, axis of symmetry, roots, and x and y intercepts in relation to quadratic equations.
4. Sketch parabolas based on the shape, vertex, axis of symmetry, and intercepts.
5. Solve quadratic equations by factoring, completing the square, using the quadratic formula, and graphing.
6. Solve applied problems with quadratic relationships.

Unit 3

1. Recognize exponential and logarithmic equations, applications, and graphs.
2. Describe the properties of exponential and logarithmic functions.
3. Sketch graphs of exponential functions using their properties.
4. Convert expressions between exponential and logarithmic form.
5. Evaluate simple non-base 10 logarithmic equations by changing to exponential form.
6. Solve exponential and logarithmic equations.
7. Solve applied problems with exponential growth, exponential decay, and logarithmic relationships.

Unit 4

1. Display data using circle graphs, bar graphs, and histograms.
2. Define and calculate measures of central tendency.
3. Describe and calculate measures of spread.
4. Describe and graph the characteristics of normal distribution.
5. Define and calculate z-scores.
6. Utilize z-score tables.
7. Solve applied problems in relation to normal distribution, z-scores, and percentiles.
8. Discuss mathematical indices.
9. Define and calculate probability.

III. TOPICS:	Text Reference
1. acting	8.1 – 8.4
2. Quadratic Equations	11.1 – 11.5
3. Exponential and Logarithmic Functions	12.1 – 12.5
4. Introduction to Data Analysis	17.1 – 17.5

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

1. Washington, A. J., Triola, M.F., & Reda, E. E. (2008). *Introduction to Technical Mathematics with Math XL Student Access Kit*, 5th ed. Toronto: Pearson Addison Wesley.
2. Calculator: (Recommended) SHARP Scientific Calculator EL-531W. *The use of some kinds of calculators, cell phones, and other electronic devices may be restricted during tests.*

V. EVALUATION PROCESS/GRADING SYSTEM:

Evaluation Methods:

Unit Tests (4 units at 18% each)	72%
Term Work	
• In class assignments (4 units at 3% each)	
• Math XL tests (4 units at 4% each)	28%

The following semester grades will be assigned to students:

<u>Grade</u>	<u>Definition</u>	<u>Grade Point Equivalent</u>
A+	90 – 100%	4.00
A	80 – 89%	3.00
B	70 - 79%	2.00
C	60 - 69%	1.00
D	50 – 59%	0.00
F (Fail)	49% and below	
CR (Credit)	Credit for diploma requirements has been awarded.	
S	Satisfactory achievement in field /clinical placement or non-graded subject area.	
U	Unsatisfactory achievement in field/clinical placement or non-graded subject area.	
X	A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course.	
NR	Grade not reported to Registrar's office.	
W	Student has withdrawn from the course without academic penalty.	

VI. SPECIAL NOTES:

Course Outline Amendments:

The professor reserves the right to change the information contained in this course outline depending on the needs of the learner and the availability of resources.

Retention of Course Outlines:

It is the responsibility of the student to retain all course outlines for possible future use in acquiring advanced standing at other postsecondary institutions.

Prior Learning Assessment:

Students who wish to apply for advance credit transfer (advanced standing) should obtain an Application for Advance Credit from the program coordinator (or the course coordinator regarding a general education transfer request) or academic assistant. Students will be required to provide an unofficial transcript and course outline related to the course in question. Please refer to the Student Academic Calendar of Events for the deadline date by which application must be made for advance standing.

Credit for prior learning will also be given upon successful completion of a challenge exam or portfolio.

Substitute course information is available in the Registrar's office.

Disability Services:

If you are a student with a disability (e.g. physical limitations, visual impairments, hearing impairments, or learning disabilities), you are encouraged to discuss required accommodations with your professor and/or the Disability Services office. Visit Room E1101 or call Extension 2703 so that support services can be arranged for you.

Communication:

The College considers **WebCT/LMS** as the primary channel of communication for each course. Regularly checking this software platform is critical as it will keep you directly connected with faculty and current course information. Success in this course may be directly related to your willingness to take advantage of the **Learning Management System** communication tool.

Plagiarism:

Students should refer to the definition of “academic dishonesty” in *Student Code of Conduct*. A professor/instructor may assign a sanction as defined below, or make recommendations to the Academic Chair for disposition of the matter. The professor/instructor may (i) issue a verbal reprimand, (ii) make an assignment of a lower grade with explanation, (iii) require additional academic assignments and issue a lower grade upon completion to the maximum grade “C”, (iv) make an automatic assignment of a failing grade, (v) recommend to the Chair dismissal from the course with the assignment of a failing grade. In order to protect students from inadvertent plagiarism, to protect the copyright of the material referenced, and to credit the author of the material, it is the policy of the department to employ a documentation format for referencing source material.

Student Portal:

The Sault College portal allows you to view all your student information in one place. **mysaultcollege** gives you personalized access to online resources seven days a week from your home or school computer. Single log-in access allows you to see your personal and financial information, timetable, grades, records of achievement, unofficial transcript, and outstanding obligations. Announcements, news, the academic calendar of events, class cancellations, your learning management system (LMS), and much more are also accessible through the student portal. Go to <https://my.saultcollege.ca>.

Electronic Devices in the Classroom:

Students who wish to use electronic devices in the classroom will seek permission of the faculty member before proceeding to record instruction. With the exception of issues related to accommodations of disability, the decision to approve or refuse the request is the responsibility of the faculty member. Recorded classroom instruction will be used only for personal use and will not be used for any other purpose. Recorded classroom instruction will be destroyed at the end of the course. To ensure this, the student is required to return all copies of recorded material to the faculty member by the last day of class in the semester. Where the use of an electronic device has been approved, the student agrees that materials recorded are for his/her use only, are not for distribution, and are the sole property of the College.

Attendance:

Sault College is committed to student success. There is a direct correlation between academic performance and class attendance; therefore, for the benefit of all its constituents, all students are encouraged to attend all of their scheduled learning and evaluation sessions. This implies arriving on time and remaining for the duration of the scheduled session.