

**SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY  
SAULT STE MARIE, ON**



**COURSE OUTLINE**

**Course Title: College Preparatory Mathematics**

**Code No.: Mth 92-5**

**Semester: Two**

**Program: Access**

**Author: Math Department**

**Date: August 1998**

**Previous Outline Dated: June 1997**

**Approved: Hyo^J^^L h/Ans Aug 98**  
Dean Date

**Total Credits: 5**

**Prerequisite(s): Mth 097-5**

**Substitutes: Mth 099, Mth 113, Mth 120, Mth 111, Mth 153**

**Length of Course: 5 hrs./week Total Credit Hours: 80**

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**I. COURSE DESCRIPTION:**

The objectives of this course are to develop the student's skill in manipulating algebraic terms with enough dexterity to be able to solve linear, fractional and quadratic equations and to be able to solve for a specified variable in literal equations.

**II. TOPICS TO BE COVERED:**

<b>Topics</b>	<b>Approximate Time Frame (hrs.)</b>
1. The Language of Algebra	9
2. Signed Numbers	9
3. Equations	9
4. Polynomials	9
5. Factoring	9
6. Algebraic Fractions	9
7. Graphing Linear Equations	9
8. Systems of Linear Equations	9
9. Radicals	9

**III. LEARNING ACTIVITIES**

		<b>Pages</b>	<b>Suggested Odd Numbered Problems</b>
<b>1.0</b>	<b>The Language of Algebra - Chapter 1</b>		
1.1	From Arithmetic to Algebra	7	1-29
1.2	Exponents, order of operations	17-18	1-13, 25-45
1.3	Properties of addition and multiplication	25	1-19
<b>1.4</b>	Adding and subtracting Algebraic expressions	33-34	11-45
	Self-test for Chapter 1	41-42	1-20 All
<b>2.0</b>	<b>Signed Numbers - Chapter 2</b>		
2.1	Signed numbers	49	1-6 all
2.2	Adding signed numbers	61	1-29
2.3	Subtracting signed numbers	69-71	1-31, 75-85
<b>2.4</b>	Multiplying signed numbers	81	1-31
2.5	Dividing signed numbers	89-90	1-23, 31-41
<b>2-6</b>	Evaluating algebraic expressions	99	1,3,5,21-31
	Self-test for Chapter 2	107-108	1-15 all 18-30 all

**III. LEARNING ACTIVITIES (cont'd):**

		<b>Pages</b>	<b>Suggested Odd Numbered Problems</b>
<b>3.0</b>	<b>Equations - Chapter 3</b>		
3.1	Solving equations by adding and subtracting	122-123	31-63
3.2	Solving equations by multiplying or dividing	135-136	1-25, 35, 37, 39
3.3	Solving equations by combining rules	149-150	1-7, 21-29, 37-43
3.4	Solving literal equations	159-160	1-7, 15, 17,21
3.5	More on linear equations	171	1-23
	Self-test for Chapter 3	197-198	1-15 all
<b>4.0</b>	<b>Polynomials - Chapter 4</b>		
4.1	Multiplying and dividing algebraic expressions	207-209	1-25, 37-53
4.2	Extending the properties of exponents	217	9-23
4.3	Zero and negative exponents	225-226	11-41
4.5	Adding and subtracting polynomials	243	1-15, 25-41
4.6	Multiplying polynomials	253-254	1-39
<b>4.7</b>	<b>Special products</b>	263-264	1-33
4.8	Dividing polynomials	273	1-21
	Self-test for Chapter 4	283-284	1-28 all
<b>5.0</b>	<b>Factoring - Chapter 5</b>		
5.1	Common factoring	291-292	21-51
5.2	Difference of two squares	297-298	11-41
5.4	Trinomials of the form $ax^2+bx+c$	317-318	43-77
5.5	Solving quadratic equations by: a) factoring b) quadratic formula	329-330 691	1-41 1-17
5.6	Literal equations	337	3,5,19
	Self-test for Chapter 5	349-350	1-26
<b>6.0</b>	<b>Algebraic fractions - Chapter 6</b>		
6.2	Writing algebraic fractions in simple form	365-366	1-39
6.3	Multiplying and dividing algebraic fractions	373-374	1-15, 19,23,25-33
6.4	Adding and subtracting like fractions	381-382	1-15, 17-23
6.5	Adding and subtracting unlike fractions	393-394	1-17,21,31,49,51
6.6	Complex fractions	403	1-13
6.7	Equations involving fractions	419-420	1,3,5, 15, 17, 19,23, 27,31
6.8	Ratio and proportion	429	1,3,5, 17, 19
	Self-test for Chapter 6	445-446	1-25

**IV. LEARNING ACTIVITIES (cont'd):**

		Pages	Suggested Odd Numbered Problems
<b>7.0</b>	<b>Graphing Linear Equations - Chapter 7</b>		
7.3	Graphing linear equations	485-486	1-11
7.4	The slope of a line	507-508	1-9, 19,21,33,35
	Self-test for Chapter 7	549-550	13-17, 19-22
<b>8.0</b>	<b>Systems of Linear Equations - Chapter 8</b>		
<b>8.1</b>	Solving systems of equations by graphing	561-562	1,3,5
<b>8.2</b>	Solving systems of equations by addition	583	1-5, 17-23
	Self-test for Chapter 8	607-608	1-11
<b>9.0</b>	<b>Radicals - Chapter 9</b>		
<b>9.1</b>	Roots and radicals	623-624	1-23, 37-43
<b>9.2</b>	Simplifying radical expressions	633-634	1-27
<b>9.3</b>	Adding and subtracting radicals	639-640	1-23
<b>9.4</b>	Multiplying and dividing radicals	647	1-21
	Self-test for Chapter 9	661	1-17

**V. REQUIRED RESOURCES / TEXTS / MATERIALS:**

1. Beginning Algebra. Fourth Edition. Form A. Streeter and Alexander
2. Calculator: SHARP Scientific Calculator EL-531G. *The use of some kinds of calculators may be restricted during tests.*

**V. EVALUATION PROCESS / GRADING SYSTEM:****Pretest**

There is a pretest for each module of MTH 92. You can choose to do the pretest for a particular module when you reach it during the course. If you score 80% or better on a pretest, you will be exempted from the module. You can complete modules that you have been exempted from; however, no test marks will be recorded for those modules. You will receive credit (CR) only.

Should pretesting indicate that you need to complete two or less modules, you will be granted a credit for the course after you have completed some supplemental work and further assessment. The professor of the course for which credit is being granted will arrange for your supplemental work and assessment.

**V. EVALUATION PROCESS / GRADING SYSTEM (cont'd):****Attendance**

It is your responsibility to attend all classes during the semester. Research indicates there is a high correlation between attendance and student success.

**Assignments and Tests**

The MTH 92 course is delivered in a student-paced mode. You work through the module at your own pace. You decide when you are ready to be evaluated on each module.

The Module topics and the text book references, including assignment pages, are listed in the "Learning Activities" section of this course outline.

You may find the method outlined below helpful as you begin to work on your course:

**A. Complete the Module**

1. Read through each teaching section.
2. Take notes on all main points and give examples.
3. Practise the skill using questions in the exercises provided. Complete all work showing the steps required to solve.
4. Determine whether you are ready to proceed by checking your answers in the answer keys.
5. Discuss any questions with your professor before going ahead to the next skill.
6. Complete enough questions to ensure understanding of the skill.
7. Proceed to the next skill and repeat the above instructions.

**B. Complete the Review**

1. Review your notes and examples as well as any appropriate "Summary of Chapters" from the text.
2. Answer all questions on appropriate Self-Tests without checking back to instructional modules.
3. Check your answers in the answer keys.
4. Review any problems from the Self-Tests with your professor to ensure understanding.

**V. EVALUATION PROCESS / GRADING SYSTEM (cont'd):**

**C. Write the Test**

1. Let your professor know you are ready to write the test so that the testing form can be completed.
2. Arrange to write your test at the Testing Centre.
3. Write the test at the arranged time. Bring all necessary supplies.
4. Obtain results from your professor.
5. Review your test noting any areas that require further work.
6. Proceed to next module once minimum pass grade has been reached.

You will need a 60%\* or better to pass a module. If you score below 60%\*, you will be allowed to write a second test after further study. If you score below 60%\* on the second test, you will meet with the professor to discuss the matter. The marks of all tests required to pass a module will be averaged to determine the module grade.

All module grades will be averaged to determine the final grade. If your average is below 60%\* you will still pass the course provided you have passed all the modules. The College grading system\* will be used to assign letter grades.

NOTE: \* The LBS minimum grade and grading system may differ due to Ministry regulations.

**METHOD OF ASSESSMENT (GRADING METHOD)**

A+	Consistently outstanding	(90%-100%)
A	Outstanding achievement	(80% - 89%)
B	Consistently above average achievement	(70% - 79%)
C	Satisfactory or acceptable achievement in all areas subject to assessment	(60% - 69%)
X or R	A temporary grade, limited to situations with extenuating circumstances, giving a student additional time to complete course requirements <b>(See Below)</b>	
R	Repeat - The student has not achieved the objectives of the course, and the course must be repeated	(0% - 59%)
CR	Credit exemption	

**V. EVALUATION PROCESS / GRADING SYSTEM (cont'd):**

An "X" grade will be issued to a student who has not completed all the required course modules in a semester, provided the student has attended 80% of the classes, has shown regular progress and will be able to complete the course within a limited amount of time.

If an "X" grade is not cleared by the specified date, it will become an "R" grade.

**VI. SPECIAL NOTES:**Special Needs

Students with special needs (e.g. physical limitations, visual impairments, hearing impairments, and learning disabilities) are encouraged to discuss required accommodations with the professor and/or contact the Special Needs Office.

Advanced Standing

Students who have completed an equivalent post-secondary course must bring relevant documents to the Coordinator, Mathematics Department:

- a copy of course outline
- a copy of the transcript verifying successful completion of the equivalent course

Note: A copy of the transcript must be on file in the Registrar's Office.

**VII. PRIOR LEARNING ASSESSMENT**

Students who have related employment-centered experience should see the Prior Learning Assessment (PLA) Coordinator.