THE SAULT COLLEGE OF APPLIED ARTS AND 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 2001 Previous Outline Dated: August 2000

Approved: _____ _____
Dean Date

Total Credits: 5 Prerequisite(s): Mth 091-5
Substitutes: Mth 099, Mth 113, Mth 120, Mth 111, Mth 153
Length of Course: 5 hrs./week Total Credit Hours: 80

College Preparatory Mathematics MTH 92-5
COURSE NAME **CODE NO.**

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:

Topics	Approximate Time Frame (hrs.)
0. An Arithmetic Review	8
1. The Language of Algebra	9
2. Equations	9
3. Polynomials	9
4. Factoring	9
5. Algebraic Fractions	9
6. An Introduction to Graphing	9
7. Graphing	9
8. Systems of Linear Equations	9

III. LEARNING ACTIVITIES

		Pages	Suggested Odd Numbered Problems
0.0	**An Arithmetic Review**		
0.1	Prime Factorization	3 - 12	p 13, #1 - 71
0.2	Fractions	17 - 22	p 22, #1 - 113
0.3	Exponents and the order of Operations	29 - 32	p 33, #1 - 53
0.4	Positive and Negative Integers	35 - 40	p 41, #1 - 77
	Self-test for Chapter 0	49 - 50	All
1.0	**The Language of Algebra**		
1.1	From Arithmetic to Algebra	53 - 58	p 59, #1 - 71
1.2	Properties of Signed Numbers	63 - 66	p 67, #1 - 77
1.3	Adding and Subtracting Signed Numbers	71 - 80	p 81, #1 - 103
1.4	Multiplying and Dividing Signed Numbers	89 - 96	p 97, #1 - 109
1.5	Evaluating Algebraic Expressions	103 - 108	p 109, #1 - 63
1.6	Adding and Subtracting Terms	115 - 118	p 119, #1 - 55
1.7	Multiplying and Dividing Terms	123 - 126	p 127, #1 - 65
	Self-test for Chapter 1	137 - 45	All

IV. LEARNING ACTIVITIES (continued):

2.0	**Equations**		
2.1	Solving Equations by the Addition Property	141 - 150	p 151, #1 - 71
2.2	Solving Equations by the Multiplication Property	155 - 162	p 163, #1 - 47
2.3	Solving equations by Combining Rules	165 - 170	p 171 #1 - 59
2.4	Formulas and Problem Solving	175- 184	p 185, #1 - 79
2.5	Applications on Linear Equations	193 - 200	p 201, #1 - 61
2-6	Solving Percent Applications	207 - 212	p 213, #1 - 71
	Self-test for Chapter 2	241 - 242	#1 to 15 and 20 to 25
3.0	**Polynomials**		
3.1	Exponents and Polynomials	247 - 254	p 255, #1 - 89
3.2	Negative Exponents and Scientific Notation	261 - 266	p 267, #1 - 87
3.3	Adding and Subtracting Polynomials	271 - 276	p 277, #1 - 63
3.4	Multiplying Polynomials	281 - 286	p 287, #1 - 83
3.5	Special Products	293 - 296	p 297, #1 - 55
3.6	Dividing Polynomials	301 - 306	p 307, #1 - 47
	Self-test for Chapter 3	317 - 318	All
4.0	**Factoring**		
4.1	An Introduction to Factoring	323 - 326	p 327, #1 - 65
4.2	Factoring Trinomials of the form $x^2 + bx + c$	331 - 336	p 337, #1 - 65
4.3	Factoring Trinomials of the form $ax^2 + bx + c$	341 - 346	p 347, #1 - 69
4.4	Difference of Squares and Perfect Square Trinomials	351 - 354	p 355, #1 - 65
4.5	Factoring by Grouping	359 - 360	p 361, #1 - 21
4.6	Using the ac Method to Factor	363 - 370	p 371, #1 - 113
4.7	Solving Quadratic Equations by Factoring	377 - 380	p 381, #1 - 49
	Self-test for Chapter 4	389 - 390	All
5.0	**Algebraic Fractions**		
5.1	Simplifying Algebraic Fractions	395 - 400	p 401, #1 - 47
5.2	Adding and Subtracting Like Fractions	405 - 408	p 409, #1 - 43
5.3	Adding and Subtracting Unlike Fractions	411 - 418	p 419, #1 - 69
5.4	Multiplying and Dividing Algebraic Fractions	423 - 428	p 429, #1 - 73
5.5	Equations Involving Fractions	435 - 442	p 443, #1 - 81
5.6	Application of Algebraic Fractions	447 - 454	p 455, #1 - 37
	Self-test for Chapter 5	465 - 466	All

6.0	**An Introduction to Graphing**		
6.1	Solutions of Equations in Two Variables	471 - 476	p 477, #1 - 49
6.2	The Rectangular Coordinate System	481 - 486	p 487, #1 - 31
6.3	Graphing Linear Equations	495 - 506	p 507, #1 - 51
6.4	The Slope of a Line	519 - 526	p 527, #1 - 47
6.5	Direct Variation	533 - 536	p 537, #1 - 23
	Self-test for Chapter 6	549 - 550	All
7.0	**Graphing**		
7.1	The Slope Intercept Form	555 - 558	p 559, #1 - 45
7.2	Parallel and Perpendicular Lines	567 - 572	p 573, #1 - 27
7.3	The Point-Slope Form	577 - 580	p 581, #1 - 47
7.5	An Introduction to Functions	599 - 604	p 605, #1 - 47
	Self-test for Chapter 7	615 - 616	1 to 13 and 17 to 20
8.0	**Systems of Linear Equations**		
8.1	Systems of Linear Equations: Solving by Graphing	621 - 626	p 627, #1 - 23
8.2	Systems of Linear Equations: Solving by Adding	635 - 648	p 649, #1 - 75
8.3	Systems of Linear Equations: Solving by Substitution	657 - 664	p 665, #1 - 49
	Self-test for Chapter 8	687 - 688	1 to 25

III. REQUIRED RESOURCES / TEXTS / MATERIALS:

1. Beginning Algebra, 5th Edition, Streeter, Hutchison, Bergman, Hoelzle

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.

V. EVALUATION PROCESS / GRADING SYSTEM (continued):

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.

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 **(See Below)**	
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.