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: College Entrance - Native

Author: Math Department

Date: January 2005 Previous Outline Dated: January 2003

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

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	4
1. The Language of Algebra	8
2. Equations	8
3. Polynomials	8
4. Factoring	9
5. Algebraic Fractions	9
6. An Introduction to Graphing	8
7. Graphing	7
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

III. LEARNING ACTIVITIES (continued):

		Pages	Suggested Odd Numbered Problems
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

III. LEARNING ACTIVITIES (continued):

		Pages	Suggested Odd Numbered Problems
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

IV. REQUIRED RESOURCES / TEXTS / MATERIALS:

1. Beginning Algebra, 6th 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:

Assignments and Tests

The NCE Math 92 course is a lecture course. The Module topics and the textbook references, including assignment pages, are listed in the “Learning Activities” section of this course outline. A review will be conducted at the end of each topic in preparation for the topic test. Self-Tests at the end of each chapter will be used as a practice for the test.

V. EVALUATION PROCESS / GRADING SYSTEM (continued):

Attendance

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

The following semester grades will be assigned to students in post-secondary courses:

Grade	Definition	Grade Point Equivalent
A+	90 – 100%	4.00
A	80 – 89%	
B	70 - 79%	3.00
C	60 - 69%	2.00
D	50 – 59%	1.00
F (Fail)	49% and below	0.00

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.

Note: For such reasons as program certification or program articulation, certain courses require minimums of greater than 50% and/or have mandatory components to achieve a passing grade.

It is also important to note, that the minimum overall GPA required in order to graduate from a Sault College program remains 2.0.

VI. SPECIAL NOTES:

Special Needs:
If you are a student with special needs (e.g. physical limitations, visual impairments, hearing impairments, or learning disabilities), you are encouraged to discuss required accommodations with your professor and/or the Special Needs office. Visit Room E1101 or call Extension 703 so that support services can be arranged for you.

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 post-secondary institutions.

Plagiarism:
Students should refer to the definition of "academic dishonesty" in *Student Rights and Responsibilities*. Students who engage in "academic dishonesty" will receive an automatic failure for that submission and/or such other penalty, up to and including expulsion from the course/program, as may be decided by the professor/dean. 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.

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.

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

VII. PRIOR LEARNING ASSESSMENT:

Students who wish to apply for advanced credit in the course should consult the professor. Credit for prior learning will be given upon successful completion of a challenge exam or portfolio.

VIII. DIRECT CREDIT TRANSFERS:

Students who wish to apply for direct credit transfer (advanced standing) should obtain a direct credit transfer form from the Dean's secretary. Students will be required to provide a transcript and course outline related to the course in question.