DEPARTMENT OF ACADEMIC UPGRADING

COURSE OUTLINE –Spring 2023

MA0091 (A4):BASIC MATHEMATICS III–5 (7.5-0-0) HS 112.5 Hours for 9 Weeks

Northwestern Polytechnic acknowledges that our campuses are located on Treaty 8 territory, the ancestral and present-day home to many diverse First Nations, Metis, and Inuit people. We are grateful to work, live and learn on the traditional territory of Duncan's First Nation, Horse Lake First Nation and Sturgeon Lake Cree Nation, who are the original caretakers of this land.

We acknowledge the history of this land and we are thankful for the opportunity to walk together in friendship, where we will encourage and promote positive change for present and future generations.

INSTRUCTOR:	James Iverson	**PHONE:**	(780)539-2850
OFFICE:	A205 or C407	**E-MAIL:**	jiverson@nwpolytech.ca
OFFICE HOURS:	By appointment		

CALENDAR DESCRIPTION:
This course is a modularized program of study which includes a review of basic computational skills, ratio and proportion, percent; an introduction to exponents, basic operations on polynomials, equations, basic algebraic word problems; fundamental of geometry, introduction to graphing and statistics.

PREREQUISITE(S)/COREQUISITE:
MA0081 or equivalent math placement test score

REQUIRED TEXT/RESOURCE MATERIALS:
Package of MA0091 modules, 2017;
Non-graphing scientific calculator (TI-30XIIS recommended)**
Geometry set**.

DELIVERY MODE(S):
MA0091 is a modularized math course.

COURSE OBJECTIVES:

Introducing students to:

- the review of basic operations with integers and fractions
- the concept of ratio, rate, and how it is used in real life situations
- the concept of percent and use the percent proportion to solve percent problems
- exponential expressions with basic operations using the rules for order of operations
- basic operations with monomials, binomials, and trinomials
- equations with parentheses and fractions and steps to solve an unknown
- the concept of inequality and its solution process
- rearranging formulas
- properties of parallel and transversal
- properties of a chord in a circle and tangent to a circle
- the concept of co-ordinate system, and the slope of a line using the co-ordinate system
- various graphs to display a set of data and draw an inference using graphs or central tendency

LEARNING OUTCOMES:

As a result of taking this course, students will gain the ability to:

- Simplify expressions with whole numbers, decimals, integers, and fractions using the rules for order of operations
- Write a ratio to compare two quantities with same units from real life situations
- Compare unit rates using number relation symbols
- Solve real life problems using proportions
- Solve general applied percent problems such as interest, sales tax, commission, etc.
- Evaluate exponential expressions containing negative and positive exponents using the rules for order of operations
- Convert between scientific notations and standard from, and multiply and divide using scientific notation
- Identify the terminology of polynomials
- Solve more than one basic operations with polynomials using the rules for order of operations
- Solve linear equations with fractions and/or parenthesis
- Solve a formula for a specified variable and then evaluate
- Solve an inequality using addition and/or multiplication principles and graph the solution on a number line
- Solve a word problem by writing an equation
- Identify pairs of corresponding angles, interior angles, and alternate interior angles, and apply properties of transversals and parallel line to find measures of angles
- Calculate the measures of angles, chords, and/or radii using the circle properties
- Plot and construct graphs in a rectangular co-ordinate system and state the slope of a line containing points with co-ordinates
- Construct a line graph, pictograph, component graph, circle graph, histogram, and polygon suing the given data
- Construct a frequency table from raw data, and display the information
- Draw an inference using the central tendency of a set of raw data

TRANSFERABILITY: N/A

EVALUATIONS:

4 section tests (best 4 out of 5)	50 %
Midterm	20 %
Final Exam	30 %

**Note: Even though 50% is a passing mark, a mark of at least 60% is recommended for success in future courses.

GRADING CRITERIA:

Alpha Grade	4-point Equivalent	Percentage Guidelines		Alpha Grade	4-point Equivalent	Percentage Guidelines
A+	4.0	90-100		C+	2.3	67-69
A	4.0	85-89		C	2.0	63-66
A-	3.7	80-84		C-	1.7	60-62
B+	3.3	77-79		D+	1.3	55-59
B	3.0	73-76		D	1.0	50-54
B-	2.7	70-72		F	0.0	00-49

COURSE SCHEDULE/TENTATIVE TIMELINE: See table on last page.

STUDENT RESPONSIBILITIES:

In addition to the Student Rights and Responsibilities as set out in the Northwestern Polytechnic website, the following guidelines will maintain an effective learning environment for everyone:

- Regular attendance is expected of all students in all mathematics courses. Your success in math is directly linked to your attendance. Attendance will be taken daily.
- Students are expected to be punctual. Arrive on time for classes and remain for the duration of scheduled classes.
- Refrain from disruptive talking or socializing during class time.
- Be respectful of others regarding food or beverages in the classroom. Clean up your eating area and dispose of garbage.
- Recycle paper, bottles, and cans in the appropriate containers.
- Children are not permitted in the classrooms.
- Students are expected to notify the instructor of any extenuating circumstances.
- Students are expected to turn off cell phones during class time or in labs. No unspecified electronic devices will be allowed in exams.

STATEMENT ON PLAGIARISM AND CHEATING:

Cheating and plagiarism will not be tolerated and there will be penalties. For a more precise definition of plagiarism and its consequences, refer to the Student Conduct section of the Northwestern Polytechnic Calendar at https://www.nwpolytech.ca/programs/calendar/ or the Northwestern Polytechnic Policy on Student Misconduct: Plagiarism and Cheating at https://www.nwpolytech.ca/about/administration/policies/index.html

**Note: all Academic and Administrative policies are available on the same page.

How to use the book:

1. Read the title of each chapter, table of contents page, and title of each section. You will observe a progressive growth of operations/concepts.

2. Read and thoroughly understand the concepts and terminology of a section.

3. Understand and do each example very carefully using the terminology.
   If difficulties arise, meet with your instructor.

4. Match each question in an exercise with the corresponding examples before the exercise. *If difficulties arise, return in your module and rework the examples.*

5. Attempt the exercise questions and check the answers before moving on to the next section. **If difficulties arise, meet with your instructor.**

6. Review the terminology of the module(s) before taking any test/exam.

Ma0091Tentative Test Schedule

Test #	% towards final grade	Topics	Recommended Test Date	Date written	Mark
1	10%	Review & Ratio and Percent	May 11		
2	10%	Rate and Proportion & Intro to exponents	May 23		
3	10%	Intro to Polynomials & Statistics	May 30		
Midterm Exam	20%	All the Above	June 1		
4	10%	Equations & Language of Algebra	June 15		
5	10%	Fund. Of Geometry & Intro to Graphing	June 28		
Final Exam	30%	All of the Above	June 30 3 hour exam		

***All tests(except final) must be completed by June 28th.**

***Midterm must be completed by June 5th.**