

DEPARTMENT OF ACADEMIC UPGRADING

COURSE OUTLINE –Winter 2023

MA0113 (A3, B3): Mathematics Grade 10-3 Equivalent–5 (0-0-7.5) HS 112.5 Hours for 15 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:	Doris LaChance	PHONE:	(780)539-2810 or 2234
OFFICE:	A205 or C202	E-MAIL:	dlachance@nwpolytech.ca
OFFICE HOURS:	TBD or by appointment		

CALENDAR DESCRIPTION:

This is a modularized course which covers unit pricing and currency exchange; earning an income; measurement including surface area and volume; conversion between SI and imperial units and Celsius and Fahrenheit temperature scales; angles and parallel lines; scale drawing of polygon figures; and trigonometry of right triangles.

PREREQUISITE(S)/COREQUISITE:

MA0091 or MA0093 or equivalent math placement test score

REQUIRED TEXT/RESOURCE MATERIALS:

Borgen, Katharine. MathWorks 10 Workbook. Vancouver: Pacific Educational Press, 2010.
Non-graphing scientific calculator (TI-30XIIS recommended)

DELIVERY MODE(S):

MA0113 is a modularized math course.

COURSE OBJECTIVES:

Introducing students to:

- the concept of conversion between Canadian currency and foreign currencies using proportional reasoning
- the terminology of income such as wages including overtime, salary, contracts, commissions, piecework etc.
- SI units and imperial units and their conversion
- real life problems, using SI and imperial units, that involve surface area and volume of complex figures
- the concept of mass and weight, and temperature conversions
- determining whether two lines are parallel using certain angles
- the characteristics that make triangles similar
- the concept of angle of elevation and angle of depression and primary trigonometric ratios

LEARNING OUTCOMES:

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

- Calculate percent and solve problems that involve unit pricing using proportional reasoning
- Convert between Canadian currency and foreign currencies
- Calculate deductions, given the rate of deductions, and find net pay
- Convert measurement between SI units and imperial units
- Solve problems, using SI and imperial units, that involve the surface area and volume of general and complex 3-D object
- Perform conversions such as between mass and volume, and temperature scales
- Solve problems involving angles and pairs of angles, and parallel, non-parallel, perpendicular and transversal lines
- Identify images that are not similar to the original diagrams
- Solve problems that require the manipulation and application of formulas related to the Pythagorean Theorem and primary trigonometric ratios

TRANSFERABILITY:

This course is listed in the Alberta Transfer Guide. It is accepted at colleges and universities in Alberta as equivalent to Math 10C. Please consult the Alberta Transfer Guide for more information. You may check to ensure the transferability of this course at the Alberta Transfer Guide main page <http://www.transferalberta.ca>.

** Grade of D or D+ may not be acceptable for transfer to other post-secondary institutions. **Students are cautioned that it is their responsibility to contact the receiving institutions to ensure transferability.**

EVALUATIONS:

3 section tests (best 3 out of 4)	30 %
Midterm	25 %
Final Exam	45 %

**Note: Even though 50% is a passing mark, a mark of at least 65% 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.

Ma0113 Tentative Test Schedule

Test #	% towards final grade	Topics	Recommended Test Date	Date written	Mark
1	10%	Chap. 1: Unit Pricing and Currency Exchange & Chap. 2: Earning An Income	January 20		
2	10%	Chap. 3: Length, Area, and Volume & Chap. 4: Mass, Temperature, and Volume	February 8		
Midterm Exam	25%	All of the Above	February 13		
3	10%	Chap. 5: Angles and Parallel Lines & Chap. 6: Similarity of Figures	March 14		
4	10%	Chap. 7: Trigonometry of Right Triangles	April 10		
Final Exam	45%	All of the Above	TBA (April 14-24) 3 hour exam		

***All tests must be completed by April 10th.

***Midterm must be completed by February 27th.