NORTHWESTERN POLYTECHNIC

DEPARTMENT OF SCIENCE

COURSE OUTLINE – Fall 2025

MA1401 (A2,S1): Technical Mathematics I – 3 (3-1-0) 60 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:	James Iverson	**PHONE:**	780-539-2850
OFFICE:	C407	**E-MAIL:**	jiverson@nwpolytech.ca
OFFICE HOURS:	1:00-1:50 Monday, Tuesday, and Thursday or by appointment.		

CALENDAR DESCRIPTION:

This course covers foundational mathematical topics relevant to engineering technologies such as algebraic manipulation, trigonometry, geometry, exponents, logarithms, and functions as well as basic linear algebra concepts. It aims to improve problem-solving and critical thinking skills and prepare students for studies in calculus and applied engineering physics.

PREREQUISITE(S):

Math 30-1 or 65% in 30-2 or equivalent.

REQUIRED MATERIALS:

- Basic Technical Mathematics with Calculus, SI Version, Canadian Edition, 11th edition
- Scientific calculator

NORTHWESTERN POLYTECHNIC

DELIVERY MODE(S):

Lectures Mondays and Wednesdays 10:00-11:20 AM in A308
Seminars Fridays 10:00 – 10:50 AM in A308

LEARNING OUTCOMES:

By taking this course, students will:

- Develop proficiency in manipulating formulas and factoring algebraic expressions.
- Acquire knowledge of geometry and trigonometry.
- Understand the properties and applications of exponents and logarithms.
- Analyze functions and their graphs.
- Gain a basic understanding of linear algebra concepts such as vectors and matrices.
- Solve systems of linear equations using Gaussian elimination.
- Apply mathematical concepts to engineering technologies.
- Develop critical thinking skills through problem-solving exercises.
- Enhance their quantitative reasoning skills.
- Communicate mathematical concepts effectively.

TRANSFERABILITY:

Please consult the Alberta Transfer Guide for more information. You may check the transferability of this course at the Alberta Transfer Guide main page http://www.transferalberta.alberta.ca.

** For courses with alpha (letter) grading, a 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:

Assignments	30%
Midterms	40%
Final Exam	30%

GRADING CRITERIA:

Grades for this course will be assigned as a percentage. The minimum passing grade is 65%.

NORTHWESTERN POLYTECHNIC

COURSE SCHEDULE/TENTATIVE TIMELINE:

Week	Notes	Topic
Sep 1-5	Classes begin Sep 3	Chapter 1
Sep 8-12		Chapter 1
Sep 15-19		Chapter 2
Sep 22-26		Chapter 3
Sep 29-Oct 3	No Class Sep 30	Chapter 4
Oct 6-10	Midterm 1	Chapter 8
Oct 13-17	No Class Oct 13	Chapter 6
Oct 20-24		Chapter 7
Oct 27-31		Chapter 11
Nov 3-7		Chapter 13
Nov 10-14	Fall Break – No Class	
Nov 17-21	Midterm 2	Chapter 5
Nov 24-28		Chapter 9
Dec 1-5		Chapter 16
Dec 8-12	Last Class Dec 11	Review

STUDENT RESPONSIBILITIES:

The following guidelines will maintain an effective learning environment for everyone. We ask the cooperation of all students in the following areas of the classroom environment.

1. Take responsibility for your learning.
2. Attendance: Regular attendance and class participation is expected of all students and is crucial to good performance in the course.
3. Exams must be written on the days announced in class.
4. If an emergency prevents attendance on an exam day, students must contact me before the end of the exam (as soon as possible) via phone or email, students may be asked to provide documentation to justify their absence.
5. No unspecified electronic devices will be permitted during exams. This includes phones, smartwatches etc.
6. Complete daily homework. At least 1.5 hours of study per day outside of class time is required to stay caught up.

7. Behaviors that interfere with learning are not acceptable.
8. Communicate all requests regarding appointments, etc. via email.

STATEMENT ON ACADEMIC MISCONDUCT:

Academic Misconduct will not be tolerated. For a more precise definition of academic misconduct and its consequences, refer to the Student Rights and Responsibilities policy available https://www.nwpolytech.ca/about/polytechnic-leadership/policies-directory.

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