

## Course Outline

<b>Course Title:</b>	Trade Calculations II		
<b>Course Number:</b>	MATH131	<b>Approval Date:</b>	2025/6/17
<b>Course Hours:</b>	45 hours	<b>Academic Year:</b>	2025
<b>Academic School:</b>	School of General Arts & Sciences		
<b>Program Co-ordinator or Equivalent:</b>	Tracy Finlay - tracy.finlay@flemingcollege.ca		
<b>Dean (or Chair):</b>	Emily Root - Emily.Root@flemingcollege.ca		

## Course Description

This course will enable students to apply specific trade related mathematical concepts and acquire foundation skills important in the fields of Construction, Welding and Plumbing. The material covered in this course builds on the material covered in Trades Calculations I.

**Prerequisites:** MATH 130 - Trade Calculations I

**Corequisites:** None.

## Course Delivery Type

**Face to face.**

All course hours are delivered in person at the delivery location specified on the academic timetable.

## Learning Outcomes

Upon successful completion of this course, students will be able to:

1. Perform accurate calculations to solve for surface area and volume of prisms, pyramids, cones, spheres.
2. Accurately represent and perform calculations using numbers in scientific notation.
3. Perform accurate calculations for applied problems involving force and stress.
4. Apply the Law of Sines and the Law of Cosines to solve various applied problems.
5. Apply basic geometry construction techniques using a compass.
6. Create graphs to describe a relationship and/or trends based on equations and use the graphs to make predictions or justify decisions.
7. Interpret and describe information about applications of mathematics of personal finance for budgeting.

8. Interpret and solve problems involving information about annuities and mortgages.
9. Describe and analyze data using measures of central tendency.

## Learning Resources

### Required Resources:

- Access the **Course Homepage** on D2L (Desire to Learn) and your **Fleming College email**:  
*It is expected that learners access the course page & their Fleming email regularly (multiple times per week) to remain informed about the course.*  
Use your Fleming College email address for contacting faculty as messages sent from other addresses may not be received.
- **MATH 131 Course Pack**: Available at the Bookstore or through the course page - *your professor will provide further details in class.*  
This resource contains notes that may be used for the course, some additional application questions, test reviews and resource sheets.
- **Textbook**: There is no textbook required for this course. Additional open-source (*free*) resources may be posted to the course page.
- **Compass Set and Scientific Calculator** (*recommended: Sharp EL-531X*).  
Graphing, programmable, and Wi-Fi enabled calculators are **not permitted** for use during assessments. Other electronic devices (e.g. laptops, cellphones, smart watches, etc.) are **not allowed to be accessed** during an assessment.  
Calculators and other resources **may not be shared** during a test or exam. Students are responsible for knowing how to operate their calculator (and compass set) independently on assessments.
- It is helpful, but not necessary, for you to have a **printer**. Printers are also available on-campus.
- You may need a way to save some of your work to submit it electronically. Support for this will be provided as needed. Some options for this include:
  - completing work electronically (*i.e.* using a stylus to write on an electronic PDF document) or
  - taking a scan of written work on paper with a scanner or cellphone.

Costs for learning resources can be found on the Campus Store website, using the links below, or by visiting the Campus Store location at your campus.

- Sutherland: <https://www.bkstr.com/sfleming-sutherlandstore/home>
- Frost: <https://www.bkstr.com/sfleming-froststore/home>

## Assessment Summary

Assessment Task	Percentage
In-class activities	12%
Quizzes	12%
Tests	76%

## Student Success: Policies and Procedures

Mutually, faculty and learners will support and adhere to college Academic Regulations, and Student Rights and Responsibilities. The following policies and guidelines have been developed to support the learning process.

Please click on the link for information about:

- [Academic Integrity \(2-201A\)](https://department.flemingcollege.ca/hr/attachment/7750/download)  
(<https://department.flemingcollege.ca/hr/attachment/7750/download>)
- [Accessibility for Persons with Disabilities \(3-341\)](https://department.flemingcollege.ca/hr/attachment/5619/download)  
(<https://department.flemingcollege.ca/hr/attachment/5619/download>)
- [Grading and Academic Standing \(2-201C\)](https://department.flemingcollege.ca/hr/attachment/7752/download)  
(<https://department.flemingcollege.ca/hr/attachment/7752/download>)
- [Guidelines for Professional Practice: Students and Faculty](https://flemingcollege.ca/PDF/guidelines-for-professional-practice-students-faculty.pdf)  
(<https://flemingcollege.ca/PDF/guidelines-for-professional-practice-students-faculty.pdf>)
- [Student Rights and Responsibilities \(5-506\)](https://department.flemingcollege.ca/hr/attachment/269/download)  
(<https://department.flemingcollege.ca/hr/attachment/269/download>)

If you will need academic accommodations (for example if you have a learning disability, mental health condition such as anxiety or depression or if you had an IEP in high school), please contact the [Accessible Education Services \(AES\)](https://department.flemingcollege.ca/aes/) department (<https://department.flemingcollege.ca/aes/>) to meet with a counsellor.

**Alternate accessible formats of learning resources and materials will be provided, on request.**

## Program Standards

The **Ministry of Colleges and Universities** oversees the development and the review of standards for programs of instruction. The **Ministry of Labour Training and Skills Development** oversees the development and the review of standards for programs of instruction for Apprenticeship training in the province of Ontario. Each college is required to ensure that its programs and program delivery are consistent with these standards, and must assist students to achieve these essential outcomes.

This course contributes to Program Standards as defined by the [Ministry of Colleges and Universities](#) (MCU). Program standards apply to all similar programs of instruction offered by colleges across the province. Each program standard for a postsecondary program includes the following elements:

- **Vocational standards** (the vocationally specific learning outcomes which apply to the program of instruction in question);

- **Essential employability skills** (the essential employability skills learning outcomes which apply to all programs of instruction); and
- **General education requirement** (the requirement for general education in postsecondary programs of instruction that contribute to the development of citizens who are conscious of the diversity, complexity and richness of the human experience; and, the society in which they live and work).

Collectively, these elements outline the essential skills and knowledge that a student must reliably demonstrate in order to graduate from the program. For further information on the standards for your program, follow the MCU link ([www.tcu.gov.on.ca/pepg/audiences/colleges/progstan/](http://www.tcu.gov.on.ca/pepg/audiences/colleges/progstan/)).

## Detail Plan

<b>Term:</b>	2025 Fall
<b>Program Co-ordinator or Equivalent:</b>	Tracy Finlay - tracy.finlay@flemingcollege.ca
<b>Dean (or Chair):</b>	Emily Root - Emily.Root@flemingcollege.ca
<b>Academic Planning and Operations Department:</b>	Felicia Pavey - Felicia.Pavey@flemingcollege.ca

## Learning Plan

Wks/Hrs Units	Topics, Resources, Learning, Activities	Learning Outcomes	Assessment
Surface Area, Volume, Force and Stress Module (about 15 hours)	Surface Area and Volume Scientific Notation Force and Stress	1-3	Topic Quizzes Topic Activities <b>Topics Module TEST</b>
Constructing Figures & Graphs Module (about 15 hours)	Sine and Cosine Laws Construction Techniques Graphing Equations	4-6	Topic Quizzes Topic Activities <b>Topics Module TEST</b>
Business & Statistics Module (about 15 hours)	Simple & Compound Interest Annuities, Loans & Mortgages Statistics & Data Management	7-9	Topic Quizzes Topic Activities <b>Topics Module TEST</b>

## Assessment Requirements

Assessment Task	Date/Weeks	Course Learning Outcome	Percentage
<b>Topic Quizzes:</b> Individual electronic assessments completed outside of class, to provide students with problem-solving practice on course topics.	See D2L for more information.	All	12%
<b>Topic Activities:</b> Usually group-based in-class activities about course topics for students to communicate their mathematical reasoning and process.	See D2L for more information.	All	12%
<b>Topic Module Tests:</b> Three (3) in-class assessments on sets of Module topics (usually 3). Individual, closed-book, timed evaluation.	See D2L for more information.	All	76%

More details about assessments, specific due dates and formats will be provided by your professor.

Students are expected to attend class with the section they are registered in, and follow any instructions provided by their professor.

## Artificial Intelligence (AI) Statement

**NO USE.** Use of generative AI tools (like ChatGPT) is not permitted in this course.

It is the responsibility of students to maintain a history of records and supporting documentation to demonstrate their efforts in all academic submissions, even if submission of these is not part of the final academic deliverable.

## Exemption Contact

Information about the Transfer Credit process can be accessed through your myCampus Portal under the Registrar's Office and Resources Tabs or by contacting the Transfer Credit Coordinator ([transfercredit@flemingcollege.ca](mailto:transfercredit@flemingcollege.ca)) in the Registrar's Office.

## Prior Learning and Assessment and Recognition (PLAR)

PLAR uses tools to help learners reflect on, identify, articulate, and demonstrate past learning which has been acquired through study, work and other life experiences and which is not recognized through formal transfer of credit mechanisms. PLAR options include authentic assessment activities designed by faculty that may include challenge exams, portfolio presentations, interviews, and written assignments. Learners may also be encouraged and supported to design an individual documentation package that would meet the learning requirements of the course.

Any student who wishes to have any prior learning acquired through life and work experience assessed, so as to translate it into a college credit, may initiate the process by applying through the Registrar's office. For more information please click on the following link: <http://flemingcollege.ca/admissions/prior-learning-assessment-and-recognition>

## Course Specific Policies and Procedures

It is the responsibility of the student to retain this course outline for future reference. Course outlines may be required to support applications for advanced standing and credit transfer to other educational institutions, portfolio development, PLAR and accreditation with professional associations.

**Synchronous sessions may be recorded. As a result, your image, voice, name, personal views and opinions, and course work may be collected under legal authority of section 2 of the Ontario Colleges of Applied Arts and Technology Act, 2002. This information will be used for the purpose of supporting student learning. Any questions about this collection can be directed to the Privacy and Policy Officer at [freedomofinformation@flemingcollege.ca](mailto:freedomofinformation@flemingcollege.ca) or by mail to 599 Brealey Drive, Peterborough, ON K9J 7B1.**

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*The following are expectations of the mathematics department regarding student academic responsibilities. These expectations were compiled in consultation with mathematics faculty and appear in all mathematics course outlines.*

Individual professors may have their own expectations, policies and procedures which they will communicate to you in class.

### **Due Dates/Missed Assessments:**

Refer to the Class Absence Operating Policy 2-205.

Unapproved missed tests, quizzes, assignments or other assessments will be given a grade of ZERO. Students are required to follow course norms for submission requirements; alternate forms of submission will not be accepted.

### **Academic Integrity:**

The principle of academic honesty requires that all work submitted for evaluation and course credit be the original, unassisted work of the student. Cheating, including sharing resources or information about quizzes/tests, copying, purchasing or collaborating on work, except for group projects arranged and approved by the instructor, or otherwise submitting work that is not the student's own violates this principle and will result in initiation of the College's Academic Integrity Policy (Operating Procedure #2-201A). Full details of the policy, procedure, violation types and forms can be found at: <https://department.flemingcollege.ca/academic-integrity/>.

### **Final Grades:**

Final grades in this course are assigned based on the level of academic achievement which corresponds to the assessment components as cited in this course outline. Faculty members will not offer additional evaluation activities beyond those cited in this course outline.

Teaching staff reserve the right to modify the course sequence to better meet the needs of the student group and to facilitate student learning.

Your success in this course will be directly related to your study and practice of course material.

**Help with Course Materials:**

Students may arrange for a math tutor and/or attend a drop-in help sessions through Tutoring and Academic Skills. Your professor can also help you with the course material, and will inform you about how best to contact them for extra help or assistance.