FLEMING

Course Outline

Course Title:	Autocad Fundamentals		
Course Number:	COMP642	**Approval Date:**	2024/12/19
Course Hours:	45 hours	**Academic Year:**	2024
Academic School:	School of Trades & Technology		

Faculty:	Graeme Meddows-Taylor - Graeme.Meddows-Taylor@flemingcollege.ca
Program Co-ordinator or Equivalent:	Susan Brown - Susan.Brown2@flemingcollege.ca
Dean (or Chair):	Allison MacGregor - Allison.MacGregor@flemingcollege.ca

Course Description

Discover the benefits of computer-aided drafting using AutoCAD. Learn drawing setup, construction and modification, the use of layers, dimensioning, hatching, the creation and use of blocks, and the Design Centre with the objective of producing industry-standard drawings.

Prerequisites: MECH 417 - Intro to Sketching/Measuring

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. Draw 2 dimensional models in AutoCAD.
2. Understand the cartesian coordinate system.
3. Be able to create and utilize blocks in AutoCAD.
4. Understand basic geometric concepts for the purpose of drawing.
5. Make use of layers in AutoCAD.
6. Understand how to operate a computer's filesystem.

7. Understand the basic concepts of drafting in 3 dimensions.

Students will also learn drawing for floor plans and manufacturing.

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	45%
Quizzes	15%
Tests	40%

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)
- Accessibility for Persons with Disabilities (3-341)
  (https://department.flemingcollege.ca/hr/attachment/5619/download)
- Grading and Academic Standing (2-201C)
  (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)
- Student Rights and Responsibilities (5-506)
  (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) 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/).

Detail Plan

Term:	2025 Winter
Faculty:	Matt Desbarbieux - Matt.Desbarbieux@flemingcollege.ca Graeme Meddows-Taylor - Graeme.Meddows-Taylor@flemingcollege.ca
Program Co-ordinator or Equivalent:	Susan Brown - Susan.Brown2@flemingcollege.ca
Dean (or Chair):	Allison MacGregor - Allison.MacGregor@flemingcollege.ca

Learning Plan

Wks/Hrs Units	Topics, Resources, Learning, Activities	Learning Outcomes	Assessment
Week 1	Working with computers. Getting familiar with the AutoCAD interface.	1,6	

Wks/Hrs Units	Topics, Resources, Learning, Activities	Learning Outcomes	Assessment
Week 2	Core concepts of using AutoCAD. Drawing with precision in mind.	1,2	Assignment 1 - Bushing Plate Quiz 1: Cartesian systems
Week 3	Beginning bathroom floor plan. Commands: OFFSET, MIRROR, and POLYGON.	1,2,3	Bathroom Floor Plan
Week 4	Basic geometric concepts. Drawing with angles and rotation.	1,2,4	Assignment 2 - Pipe Punch Quiz 2: Geometry
Week 5	Continuing the bathroom floor plan.	1,2,3,4,6	Bathroom Floor Plan
Week 6	Drawing complex shapes with component shapes. Finishing bathroom floor plan.	1,2,3,4,6	Bathroom Floor Plan
Week 7	Mid-term test drawing.	1,2,4	Test 1 - Gear Box Cover
Week 9	Drawing orthographic projections.	1,2,4,5	Assignment 3 - Drive Positioner Quiz 3: Drafting review
Week 10	Isometric drawing.	1,2,5	Assignment 4 - Toolbox
Week 11	Review for second test.	1,2,3,4,5	
Week 12	Second test.	1,2,3,4,5	Test 2 - Pivot mount.
Week 13	Basics of 3D modelling. Navigating 3D model space and creating basic shapes.	2,4,7	
Week 14	Creating advanced shapes with PRESSPULL, SWEEP, and REVOLVE.	2,4,7	
Week 15	Test on 3D modelling.	2,4,7	Test 3 - Burner stand.

Assessment Requirements

Assessment Task	Date/Weeks	Course Learning Outcome	Percentage
Bushing Plate: Teaches how to use the cartesian coordinate system as well as polar coordinate inputs to produce a drawing. Commands used include LINE, CIRCLE, and RECTANG.	Due: Week 2	1,2	4.8%
Quiz 1: Cartesian systems. Tests the student's understanding of the cartesian coordinate systems used throughout AutoCAD.	Due: Week 3	2	5%
Pipe Punch: Requires new techniques for drawing objects with smooth curves and radii. Also teaches commands ARRAY and TRIM..	Due: Week 4	1,2,4	8.4%

Assessment Task	Date/Weeks	Course Learning Outcome	Percentage
Quiz 2: Geometry. Tests the students understanding of basic geometric concepts.	Due: Week 5	4	5%
Bathroom Floor Plan: This multi-part project is worked on intermittently as skills develop. Students learn to use blocks and assemble them into a floor plan.	Worked on weeks 3, 5, and 6. Due: Week 6	1,2,3,4	15%
Test 1 - Gear Box Cover: A drawing test that requires most of the techniques taught up to week 7.	Due: Week 7	1,2,3,4	15%
Drive Positioner: An orthographic projection that requires hidden lines and a section cut, complete with hatching.	Due: Week 9 or 10	1,2,4,5	8.4%
Quiz 3: Drafting review. This reinforces the lessons taught in Introduction to Sketching and Measuring Systems to ensure the students understand the concepts they are about to apply in the next drawings.	Due: Week 10	1	5%
Toolbox: Drawn in isometric. Layers may be used to guide which lines are visible.	Due: Week 10	1,2,4,5	8.4%
Test 2 - Pivot Mount: An orthographic projection that test the 2D drafting techniques learned so far. An isometric drawing may also be done for a 5% bonus.	Due: Week 13	1,2,4,5	15%
Test 3 - Burner Stand: A 3D model that requires a combination of basic and advanced shapes.	Due: Week 15	2,4,5,7	10%

Attendance in all labs is mandatory. Your success in this class will be based on lab participation and completion of assignments. Any assignment not completed by the due date will be assessed a grade of "0" unless prior arrangements are made with the instructor.

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

Coordinator-

Susan Brown

susan.brown2@flemingcollege.ca

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 or by mail to 599 Brealey Drive, Peterborough, ON K9J 7B1.