ORIGINAL COURSE IMPLEMENTATION DATE: September 2020

REVISED COURSE IMPLEMENTATION DATE:

COURSE TO BE REVIEWED (six years after UEC approval)**:** January 2026

Course outline form version: 05/18/2018

OFFICIAL UNDERGRADUATE COURSE OUTLINE FORM

Note: The University reserves the right to amend course outlines as needed without notice.

Course Code and Number: ELTR 140	**Number of Credits:** 3 Course credit policy (105)

Course Full Title: Introduction to Engineering Graphics

Course Short Title:

(Transcripts only display 30 characters. Departments may recommend a short title if one is needed. If left blank, one will be assigned.)

Faculty: Faculty of Applied and Technical Studies	**Department (or program if no department):** Electronics

Calendar Description:

Learn AutoCAD drafting principles. Exposure to CAD in industry, technical representation methods. Auto CAD file management, drawing, and editing objects. Introduction to drafting tools used to build accurate visual representations. Students will create industry AutoCAD files with precision and confidence.

Note: Students with credit for ELTR 200 cannot take this course for further credit.

Prerequisites (or NONE):	None.
Corequisites (if applicable, or NONE):	None.
Pre/corequisites (if applicable, or NONE):	ELTR 100.

Antirequisite Courses *(Cannot be taken for additional credit.)*

Former course code/number: **ELTR 200**

Cross-listed with:

Dual-listed with:

Equivalent course(s):

(If offered in the previous five years, antirequisite course(s) will be included in the calendar description as a note that students with credit for the antirequisite course(s) cannot take this course for further credit.)

Typical Structure of Instructional Hours

Lecture/seminar hours	15
Tutorials/workshops	
Supervised laboratory hours	30
Experiential (field experience, practicum, internship, etc.)	
Supervised online activities	
Other contact hours:	
Total hours	**45**

Labs to be scheduled independent of lecture hours: ☐ No ☒ Yes

Special Topics *(Double-click on boxes to select.)*

This course is offered with different topics:

☒ No ☐ Yes *(If yes, topic will be recorded when offered.)*

Independent Study

If offered as an Independent Study course, this course may be repeated for further credit: *(If yes, topic will be recorded.)*

☒ No ☐ Yes, repeat(s) ☐ Yes, no limit

Transfer Credit

Transfer credit already exists: *(See **bctransferguide.ca**.)*

☒ No ☐ Yes

Submit outline for (re)articulation:

☒ No ☐ Yes *(If yes, fill in transfer credit form.)*

Grading System

☒ Letter Grades ☐ Credit/No Credit

Maximum enrolment (for information only): 36

Expected Frequency of Course Offerings:

Fall only *(Every semester, Fall only, annually, etc.)*

Department / Program Head or Director:	**Date approved:**	November 2019
Faculty Council approval	**Date approved:**	November 14, 2019
Dean/Associate VP: John English	**Date approved:**	November 14, 2019
Campus-Wide Consultation (CWC)	**Date of posting:**	January 17, 2020
Undergraduate Education Committee (UEC) approval	**Date of meeting:**	January 31, 2020

Learning Outcomes

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

- Produce drawings, sketches, graphs and charts using manual drafting methods.
- Prepare schematics layouts, circuits and modify drawings and diagrams using widely used CAD software.
- Interpret specifications, blueprints, designs, assembly drawings, sketches, and graphics.
- Demonstrate competency in drafting principles in plane geometry, technical sketching, orthographic projection theory and practice, auxiliary views, and competency in sectioning, dimensioning, and tolerance.
- Implement dimensioning and annotating an object for production.
- Demonstrate the ability to properly complete a working engineering drawing following acceptable ANSI standards, presented with clarity, completeness, and accuracy, and ready to release for production.

Prior Learning Assessment and Recognition (PLAR)

☒ Yes ☐ No, PLAR cannot be awarded for this course because

Typical Instructional Methods *(Guest lecturers, presentations, online instruction, field trips, etc.; may vary at department's discretion.)*

Lecture and lab work.

NOTE: The following sections may vary by instructor. Please see course syllabus available from the instructor.

Typical Text(s) and Resource Materials *(If more space is required, download Supplemental Texts and Resource Materials form.)*

	Author (surname, initials)	Title (article, book, journal, etc.)	Current ed.	Publisher	Year
1.	Omura, G.	Mastering AutoCAD 2013 and AutoCAD LT2013	☒	Sybex	2012
2.			☐		
3.			☐		
4.			☐		
5.			☐		

Required Additional Supplies and Materials *(Software, hardware, tools, specialized clothing, etc.)*

Typical Evaluation Methods and Weighting

Final exam:	50%	Assignments:	25%	Field experience:		Portfolio:	%
Midterm exam:	%	Project:		Practicum:	%	Other:	%
Quizzes/tests:	%	Lab work:	25%	Shop work:	%	Total:	100%

Details (if necessary):

Typical Course Content and Topics

- AutoCAD basics
  - Exploring the interface
  - Setting up and using the drafting tools
  - Organizing objects with blocks and groups
- Mastering intermediate skills
  - Editing and reusing data to work efficiently
  - Mastering viewing tools, hatches, and external references
  - Understanding plot styles
  - Adding text to drawings, using fields and tables, using dimensions
- Mastering selected advanced skills
  - Using attributes
  - Copying existing drawings from other sources
  - Advanced editing and organizing
  - Getting and exchanging data from drawings
- Basic 3D modeling and imaging
  - Creating 3D drawings
  - Rendering 3D drawings
- Customization and integration 955
  - Customizing toolbars, menus, line-types, and hatch patterns
  - Managing and sharing drawings