

Program Information

CAD Technician

2024/2025

Program Overview	The CAD Technician program combines hands-on and practical work to equip students with the knowledge and skills necessary to translate ideas, sketches, and specifications into accurate working drawings (2D, 3D, and VR) using manual and computer-assisted drafting techniques. Students learn to use industry-standard software—AutoCAD, Inventor, and Revit—to render blueprint drawings for architects, engineers, and manufacturers.
Area of Study	Design & Manufacturing Technologies
Credential	Certificate
Program Length	1 Year Full time (10 months)
Delivery	In-Classroom
Work-Integrated Learning	No
Open to International Students	Yes
CIP Code	15.1302

Career Outcomes

- CAD Technician
- Draftsperson
- Design Assistant
- Mechanical Detailer
- Architectural Technologist

All Courses

Course Name	Description	Hours
Drafting Fundamentals (CAD-130)	Gain foundational knowledge of drafting tools and techniques. Learn graphic representation, sketching, lettering, orthographic projection, and dimensioning. Students explore architectural and engineering drafting through hand drawing and AutoCAD basics.	107 hours
Mathematics (CAD-110)	Develop essential math skills for entry-level drafting. Topics include applied mathematics, geometry, scaling, ratios, algebra, trigonometry, and interpolation to support technical drafting tasks.	52 hours
Communications (CAD-120)	Build skills in office communication, etiquette, and presentations. Create training videos, speeches, mock meetings, and interviews, preparing for a professional career in drafting, engineering, or architectural environments.	52 hours

Advanced Drafting (CAD-140)	Expand your drafting skills using AutoCAD to create 2D architectural and engineering drawings. Learn file management, dimensioning, software standards, and templates to produce professional designs in imperial and metric systems.	107 hours
Revit Fundamentals (CAD-150)	Master Revit software to create 3D architectural and structural models. Learn to add components, modify levels, apply materials, and generate walkthroughs and drawings for comprehensive 3D visualizations.	107 hours
Residential Drafting (CAD- 160)	Explore the design of residential structures, including Manitoba Building Code, Winnipeg bylaws, wood construction, and building design. Students draft residential projects while gaining architectural construction knowledge.	107 hours
Commercial Drafting (CAD-170)	Learn commercial drafting techniques, including parking requirements, steel, reinforced concrete, and masonry construction drawings. Develop an understanding of symbols and processes in commercial construction.	107 hours
Drafting for Manufacturing (CAD-180)	Focus on manufacturing drafting with advanced orthographic techniques, including auxiliary and section drawings. Explore manufacturing methods, basic fasteners, and advanced dimensioning and tolerance practices.	107 hours
Inventor Fundamentals (CAD-190)	Apply design principles to create parts, assemblies, and subassemblies in Autodesk Inventor. Emphasis is on	107 hours

	modeling techniques, engineering standards, and problem-solving for manufacturing designs.	
Civil Drafting (CAD-200)	Learn the fundamentals of civil drafting, including cartography, land descriptions, contour plotting, earthworks, site plans, subdivision layouts, surveying, and road construction drawings. Prepare for roles in civil engineering and planning.	110 hours