MANITOBA INSTITUTE OF TRADES & TECHNOLOGY

CAD Technician

Program Guidebook

January 2025

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About MITT

MITT is a post-secondary institute offering industry-driven, student-focused education in the areas of applied business, design and manufacturing technologies, health care, human services, information and communication technology, and skilled trades. We provide affordable, timely, skills-based education for learners seeking career entry and those looking to acquire relevant, in-demand competencies at any point in life.

Mission

To be an education provider of choice in Manitoba, a catalyst of success for students and industry, and a nimble innovator, driving Manitoba's economic future.

Vision

To support Manitoba's economic, social, and technological progress through industry driven and student focused education that advances learners of all backgrounds and identities.

Values

Student Focused: Encouraging the personal and professional growth of individuals and their pathways to employment in a student-centred environment.

Academic Excellence and Innovation: Striving for excellence and high standards in technical education, and encouraging innovation, creativity, and entrepreneurship.

Respect and Inclusion: Embracing diversity by providing our students, staff, and partners with an inclusive, safe, and respectful environment.

Employee–Centred: Valuing, respecting, and investing in our faculty and employees.

Effective Management: Ensuring fiscal responsibility, accountability, and corporate social responsibility.

Partnerships: Building partnerships with families, communities, industry, business, government, and other educational institutions.

Industry Driven: Reaching out and responding to industry and the needs of the labour market with flexibility.

Land Acknowledgement

MITT is situated on Treaty 1 land and the traditional territories of the Anishinaabe, Cree, Anisininew, Dakota, and Dene peoples and the homeland of the Red River Métis. We honour the sacredness of these lands and waters and dedicate ourselves to reconciliation and partnership today and in the future.

Introduction

Purpose of this Guidebook

This guidebook was designed to help you navigate your studies in the CAD Technician Program and support your academic success. It includes program-specific information such as graduation requirements, progression requirements, and course-eligibility requirements.

Welcome Message from the Dean

On behalf of faculty and staff, I am excited to extend a warm welcome as you start your journey here at MITT. As the Dean, ICT, Technology and Trades, it is my privilege to welcome you into our learning community.

As you attend our campuses, you will become part of a diverse and vibrant community of individuals that are passionate about learning, personal development, and making a positive impact in Manitoba. We strive to create an environment that fosters academic excellence, personal growth, and the exploration of innovative ideas.

I hope your time at MITT is one of immense growth, memorable experiences, and the beginning of lifelong connections. Thank you for choosing the Manitoba Institute of Trades and Technology and I wish you all a successful and fulfilling academic year.

Sincerely,

Frank Gallo
Dean, ICT, Technology and Trades

Program Team

The CAD Technician program team consists of:

Kevin Hlady	Instructor	kevin.hlady@mitt.ca
Del Pelagio	Instructor	del.pelagio@mitt.ca
Gurleen Kaur	Instructional Assistant	gurleen.kaur@mitt.ca
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Jared Miskimmin	Program Manager	jared.miskimmin@mitt.ca
Scott Halpenny	Academic Coordinator	scott.halpenny@mitt.ca

Program Overview

CAD Technician is a 10-month certificate program. It consists of 10 courses.

Program Delivery

This program is delivered on campus.

Courses

There are 10 courses in the CAD Technician program. Refer to Table 1: Courses for more information.

Course Outlines

Students are provided with a course outline for each course, which is posted to MyLearning. Course outlines contain important academic information such as a summary of the course's topics, assignments, and deadlines. Students are encouraged to carefully review course outlines and contact their instructor if they have any questions.

Course Prerequisites

What is a course prerequisite?

A prerequisite is a type of course eligibility requirement that a student must successfully complete before being eligible to take a specified related course. For example, suppose that Intermediate Math (MATH-200) has a course prerequisite of Basic Math (MATH-100). This means that a student must successfully complete MATH-100 before they are eligible to take MATH-200.

Refer to Table 2: Course Prerequisites for a visual overview of the program's prerequisites.

What happens if a student does not meet a prerequisite?

If a student does not meet a prerequisite, they will not be eligible to proceed into the associated course. Not meeting a prerequisite may result in a gap in studies and additional tuition costs.

Table 1: Courses

This table presents the courses in the CAD Technician program.

Course Code	Course Name	Course Description	Prerequisite(s)	Minimum Grade Required for Graduation
CAD-130	Drafting Fundamentals	Students will be introduced to the basic tools and techniques of drafting. Students learn the basics of graphic representation, various drafting tools, sketching techniques, lettering techniques, and are introduced to the principals of orthographic projection and dimensioning. The focus is on an introduction to architectural and engineering drafting using various drafting techniques through hand drawing or AutoCAD.	n/a	C (60%)
CAD-110	Mathematics	After completing this course, students will have the basic math skills needed for entry level drafting. Students learn basic applied mathematics, geometry, ratios and proportions, scaling, basic algebra, trigonometry, and interpolation.	n/a	C (60%)
CAD-140	Advanced Drafting	This course introduces students to the fundamentals of AutoCAD. The focus is on learning to utilize the software to create 2d engineering and architectural drawings in both imperial and metric. Students will learn file management, basic and intermediate software commands, utilization of standards & templates, dimensioning settings and techniques, and build on previously learned drafting skills.	Minimum grade of C (60%) in CAD-130	C (60%)
CAD-180	Drafting for Manufacturing	This course introduces students to the fundamentals of manufacturing drafting. Students will learn advanced orthographic drafting including auxiliary and section drawings, manufacturing methods, basic fasteners and basic and advanced dimensioning and tolerance techniques.	Minimum grade of C (60%) in CAD-140	C (60%)

Course Code	Course Name	Course Description	Prerequisite(s)	Minimum Grade Required for Graduation
CAD-190	Inventor Fundamentals	After completing this course students will understand and apply the principals of design, drafting engineering standards, and manufacturing to design parts, assemblies and subassemblies in Autodesk Inventor. Emphasis is on modeling techniques and problem-solving procedures.	Minimum grade of C (60%) in CAD-180	C (60%)
CAD-160	Residential Drafting	This course introduces students to the fundamentals of architectural construction techniques and procedures. The focus is on the design of a residential structure. Students will learn about the Manitoba Building code, City of Winnipeg bylaws, basic wood construction and building design.	Minimum grade of C (60%) in CAD-140	C (60%)
CAD-200	Civil Drafting	This course introduces students to the fundamentals of civil drafting. Topics include cartography, land descriptions, contour plotting and interpolation, earthworks, site and subdivision plans, surveying fundamentals and road construction drawings.	Minimum grade of C (60%) in CAD-140	C (60%)
CAD-170	Commercial Drafting	This course introduces students to commercial construction drawings, building materials, and systems. The focus is on drafting of a commercial structure. Students will learn requirements for parking, steel, reinforced concrete, and masonry construction drawings, as well as an understanding of drawing symbols and processes used in commercial construction.	Minimum grade of C (60%) in CAD-140	C (60%)
CAD-120	Communications	This course focuses on office and business communications, etiquette, and presentation skills. Students will prepare for and participate in discussions, group and solitary presentations, and use standard office-related software. Other activities include creating training videos, speeches, mock meetings, and interviews. This course is designed to provide students with the necessary skills for a successful career in a drafting, engineering, or architectural office.	n/a	C (60%)

Course Code	Course Name	Course Description	Prerequisite(s)	Minimum Grade Required for Graduation
CAD-150	Revit Fundamentals	This course introduces students to the fundamentals of Revit. The focus is on learning to utilize the software to create structural and/or architectural 3D models and drawings. Students will learn to add components, load families, add and modify levels, create and apply materials and utilize their models to generate 3D walkthroughs and drawings.	Minimum grade of C (60%) in CAD-160 and CAD-170	C (60%)

Table 2: Course Prerequisites

This table presents the prerequisites in the CAD Technician program in an alternate format. For a listing of prerequisites, refer to Table 1: Courses. A student requires a minimum grade of C (60%) in any prerequisite course.

		Has the following prerequisites:									
		CAD-130	CAD-110	CAD-140	CAD-180	CAD-190	CAD-160	CAD-200	CAD-170	CAD-120	CAD-150
Is a Prerequisite for:	CAD-130	n/a	-	X	-	-	-	-	-	-	-
	CAD-110	-	n/a	-	-	-	-	-	-	-	-
	CAD-140	-	-	n/a	X	-	X	X	X	-	-
	CAD-180	-	-	-	n/a	X	-	-	-	-	-
	CAD-190	-	-	-	-	n/a	-	-	-	-	-
	CAD-160	-	-	-	-	-	n/a	-	-	-	X
	CAD-200	-	-	-	-	-	-	n/a	-	-	-
	CAD-170	-	-	-	-	-	-	-	n/a	-	X
	CAD-120	-	-	-	-	-	-	-	-	n/a	-
	CAD-150	-	-	-	-	-	-	-	-	-	n/a

Course and Program Schedule

A course's location and schedule are stated on its course outline. A student can check the start and end dates of each course in their program by using the MITT Student Portal: https://mitt.ca/current-students/student-portal

The college's Academic schedule, which includes information about campus closures and other important dates, can be found on the MITT website: https://mitt.ca/current-students/academic-schedule

A visualization of this program's usual course delivery sequence is presented in Table 3: Course Delivery Sequence. Note that while this visualization provides the program's usual delivery sequence, it is subject to change.

Graduation Requirements

The Academic Standards (AC-2-10) policy defines a **Graduation Requirement** as "a program-specific academic requirement that a student must meet to graduate from a program." A common example of a Graduation Requirement is having to successfully complete each course in a program. A student who does not meet one or more Graduation Requirements by their program's scheduled end date is ineligible to graduate.

The CAD Technician program's Graduation Requirements are listed in Table 4: Graduation Requirements.

What happens if a student does not meet a Graduation Requirement?

If a student does not meet a graduation requirement they will be ineligible to graduate. This often means that a student will need to repeat a course or take some other action to address the missing graduation requirement. This may result in a gap in studies and additional tuition costs.

For example, assume that a Graduation Requirement is to successfully complete a course. If a student does not successfully complete the course, they will need to repeat the course to be eligible to graduate.

Table 3: Course Delivery Sequence

This table presents the usual course delivery sequence in the program.

Term 1	
CAD-130	Drafting Fundamentals
CAD-110	Mathematics
CAD-140	Advanced Drafting
CAD-180	Drafting for Manufacturing
Term 2	
CAD-190	Inventor Fundamentals
CAD-160	Residential Drafting
CAD-200	Civil Drafting
CAD-170	Commercial Drafting
Term 3	
CAD-120	Communications
CAD-150	Revit Fundamentals

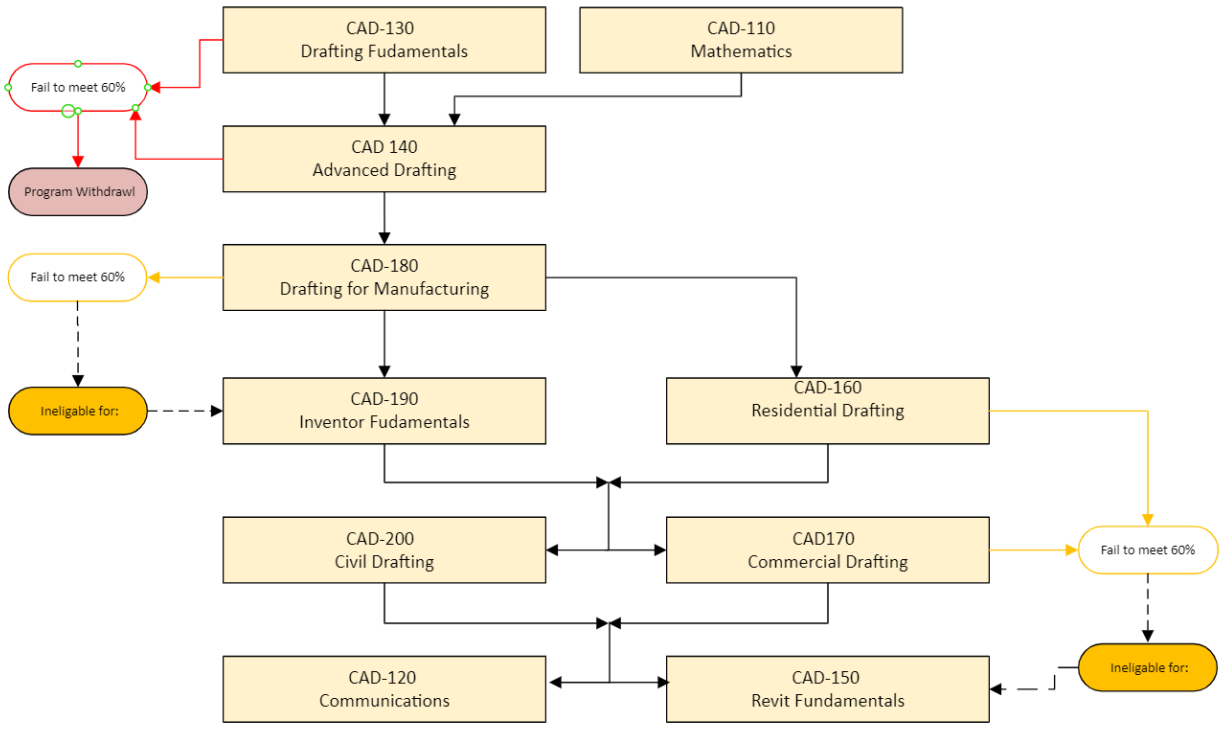

Table 4: Graduation Requirements

To graduate from the CAD Technician program, a student must meet the following Graduation Requirements:

1. Successfully complete the Work Skills Foundations course.
2. Receive a minimum grade of C (60%) in the following 10 courses.
    1. Drafting Fundamentals (CAD-130)
    2. Mathematics (CAD-110)
    3. Advanced Drafting (CAD-140)
    4. Drafting for Manufacturing (CAD-180)
    5. Inventor Fundamentals (CAD-190)
    6. Residential Drafting (CAD-160)
    7. Civil Drafting (CAD-200)
    8. Commercial Drafting (CAD-170)
    9. Communications (CAD-120)
    10. Revit Fundamentals (CAD-150)

Progression Requirements

The Academic Standards (AC-2-10) policy defines a **Progression Requirement** as "a program-specific academic requirement that a student must meet to remain enrolled in a program." A common example of a Progression Requirement is to successfully complete a certain course. A student who does not meet a Progression Requirement is withdrawn from their program.

The CAD Technician program's Progression Requirements are listed in Table 5: Progression Requirements.

Work Skills Foundations

Students enrolled in this program are required to complete Work Skills Foundations. It consists of 10 self-directed (learn at your own pace) modules, which take approximately 30 hours to complete. Students are expected to successfully complete Work Skills Foundations prior to the start of their program.

To learn more, refer to the Work Skills Foundations webpage: https://mitt.ca/current-students/work-skills-foundations

Table 5: Progression Requirements

To continue to progress in the CAD Technician program, a student must meet the following Progression Requirements:

1. Receive a minimum grade of C (60%) in Drafting Fundamentals (CAD-130).
2. Receive a minimum grade of C (60%) in Advanced Drafting (CAD-140).

Academic Standards

The Academic Standards (AC-2-10) policy establishes academic requirements that a student must meet to remain enrolled in, or graduate from, a program. An overview of important concepts from the policy, such as Academic Probation, Program Withdrawal, and Academic Suspension, are included in this program guidebook.

Academic Probation

What is Academic Probation?

The Academic Standards (AC-2-10) policy defines Academic Probation as "a student status that results when a student is identified as being at-risk of unsuccessful program completion." A student receives a student status of Academic Probation if any of the following occur:

1. Upon completion of a course, the grade received is not sufficient for use as a Course-Eligibility Requirement (e.g., prerequisites) or Graduation Requirement.
2. Following a review of the student's performance, an Academic Manager determines that the student is at risk of not meeting, or is unable to meet, a Graduation Requirement.

A student who receives a status of Academic Probation is:

1. Permitted to continue their studies.
2. Removed from any course for which they no longer meet the Course-Eligibility Requirements (e.g., prerequisites).
3. Subject to Conditions for Program Continuance.
4. Responsible for any additional costs resulting from the Academic Probation, including those associated with the established Conditions for Program Continuance.

What is the Purpose of Academic Probation?

The purpose of Academic Probation is to promote program recovery by implementing a structured process to review a student's academic performance, provide referrals to on-campus and off-campus support services (where appropriate), and establish Conditions for Program Continuance.

Academic Suspension

What is Academic Suspension?

The Academic Standards policy defines an Academic Suspension as "a student status that results in a student being ineligible to continue in post-secondary studies for a period of eight months. Academic Suspension occurs when a student:

- Receives a student status of Required Program Withdrawal two or more times.
- Does not successfully complete the same course three times, or a Work-integrated Learning course two times.

A student who receives an Academic Suspension is:

- Withdrawn from their program, subject to the Withdrawal and Refund Policies.
- Given a status of Academic Suspension and is not eligible to apply to or study in any MITT post-secondary program for a period of 8 months.
- Subject to the tuition refund schedule, based on the start date of the Academic Suspension.

Program Withdrawal

What is Program Withdrawal?

The Academic Standards (AC-2-10) policy defines a Required Program Withdrawal as an administrative action that results in a college-initiated withdrawal from a program. A student receives a Program Withdrawal if any of the following occur:

1. A student does not meet a Progression Requirement.
2. A student on Academic Probation does not fulfill their Conditions for Program Continuance.

A student who receives a Program Withdrawal is:

1. Withdrawn or dropped from all their courses.
2. Withdrawn from their program.
3. Eligible to apply for Program Re-entry to the same program, or admission to another program.
4. Subject to the Tuition Refund Schedule, based on the effective date of the Required Program Withdrawal.

Note that a student may be subject to Program Withdrawal without first being placed on Academic Probation.

Grade Scale

MITT uses the following grade scale.

Letter Grade	Grade Point Value	Accumulated Evaluation Percentage
A+	4.5	90 – 100%
A	4.0	80 – 89%
B+	3.5	75 – 79%
B	3.0	70 – 74%
C+	2.5	65 – 69%
C	2.0	60 – 64%
D	1.0	50 – 59%
F	0.0	0 – 49%

Maximum Time to Complete

What is the Maximum Time to Complete the CAD Technician Program?

A student has a maximum of three years, starting from the first day of scheduled classes, to complete the CAD Technician program. A student who is at risk of not completing the program within this time limit is encouraged to meet with their program's Academic Coordinator.

Why does a Maximum Time to Complete Exist?

MITT's time limits are designed to be flexible enough to accommodate various challenges that could delay a student's program completion (e.g., a course failure or personal circumstances), while at the same time, short enough to ensure that a student's skills and learning are current and up to date for the workplace.

Student & Academic Policies

Students are responsible for reviewing and complying with all Student and Academic Policies. MITT's policies are listed on the college website: https://mitt.ca/about-mitt/mitt-policies

Academic Integrity

The Academic Integrity (AC-1-4) policy defines what is academic integrity and provides examples of what constitutes grounds for academic misconduct. Students who commit academic misconduct are subject to disciplinary action, as defined in the Student Discipline (AC-1-8) policy.

Accessibility

MITT is committed to creating a learning environment that meets the needs of its diverse student body. If a student has a disability, or thinks they may have a disability, it is strongly recommended that they meet with the Accessibility Student Advisor. More information about Accessibility Services, including contact information, can be found at www.mitt.ca/student-success/accessibility-services.

If a student does not have a documented disability, remember that other support services, including the Learning Support advisor, peer tutors, and clinical services are available through MITT Student Services.

Student Concerns and Appeals

If a student has a concern about a college service that is not related to assessment or instruction (e.g., admissions, facilities, or finance), they are encouraged to discuss their concern with the employee most directly involved. If the matter is not resolved, the student should then bring their concern to the appropriate department supervisor.

If a student has a concern related to their studies, such as assessment or instruction, they are encouraged to discuss their concerns with their instructor. If the matter is not resolved, the student should then bring their concern to their Academic Coordinator.

There is also a Student Appeals (AC-2-2) policy. Students are encouraged to speak with a student advisor to learn more about the appeals process at MITT.

Student Conduct

MITT seeks to provide students, staff, and partners with an inclusive, safe, and respectful environment. Our campuses consist of a diverse group of learners, including secondary students, domestic and international post-secondary students, and adult EAL learners. MITT

expects all students, regardless of program, to conduct themselves in a safe and respectful manner.

There are many Academic/Student policies that relate to MITT's commitment to create a campus environment that is safe, inclusive, and respectful. Policies that relate specifically to student conduct include:

- Student Behaviour (AC-1-1)
- Student & MITT Expectations (AC-1-2)
- Drug and Alcohol (AC-1-5)
- Respectful Workplace, Harassment Prevention, and Non-Discrimination (CC-2)
- MITT Computer and Telecommunications Usage (IT-1)
- Sexual Violence (SV-1)
- Workplace Safety, Health, and Wellness (WSH-1)

Program-Specific Policies

There are program-specific policies in the CAD Technician program. These policies are listed in Table 6: Program-Specific Policies.

Table 6: Program-Specific Policies

The CAD Technician program has the following program-specific policies:

Missed and Late Assessments

Students are required to submit each assessment item (assignment, project, etc.) by the deadline assigned by their instructor. Any assessment item not submitted by its deadline receives a mark of zero. An instructor may allow or deny a student's request for an extension.

Late Arrival to Time-Limited Evaluations

Students are required to write time-limited evaluations (quizzes, tests, etc.) and to complete practical assessments on the date set by their instructor(s). A student who arrives late to a time-limited evaluation is not provided with extra time to complete the evaluation.

A student unable to attend a time-limited evaluation due to illness or compassionate reasons may request alternate arrangements. A student who requests alternate arrangements must submit a written request to the program's Academic Coordinator prior to the missed assessment.

Language Use

In this program, the language used in learning activities (e.g., lectures, group activities, class discussion, and demonstrations) and assessments (e.g., assignments, tests, etc.) is English. To support an inclusive learning environment in this program, students are expected to speak in a common language so everyone can participate equally.

Program Advancement & Return to Studies

A student who returns to the CAD Technician program after a gap in studies of at least 3 months, and who did not successfully complete a course which has CAD-140 as a prerequisite, is required to successfully complete an AutoCAD Skills Assessment prior to returning to the program. A student may be required to retake CAD-140 if they do not successfully pass the AutoCAD Skills Assessment.

Attendance Policy

Students are expected to arrive on time and to come prepared for class. The following penalties apply to absences, late arrivals or early departures, and being unprepared for class:

- A student receives a 2% deduction from their final grade for each absence that occurs in a course.
- A student receives a 1% deduction from their final grade whenever they arrive late or leave early in a course.

- A student receives a 0.5% deduction from their final grade whenever they come to class unprepared in a course. Examples of being unprepared include not having a required textbook, supplies, PPE, or hand tools.

Absence Communication

Students are expected to be present for all lessons and assessments. The CAD Technician program acknowledges that there may be times where a student misses class, or arrives late, due to unforeseen and unavoidable circumstances. If this occurs, a student must contact their instructor by email, or by another means specified by their instructor, as soon as reasonably possible. Accommodation for lost time or missed assignments is considered on a case-by-case basis and is not guaranteed.

Technology Requirements

Online Tools

A variety of web-based technologies and tools may be used throughout this program, such as MyLearning, the Student Portal, and Microsoft 365. To be successful in your studies you will need to learn about, and become familiar with, these tools.

Information about these tools, including how-to guides on how to access them, can be found on the *About Online Learning* webpage: https://mitt.ca/about-online-learning

Technical Support for Students

Information on how to access technical support for various web-based technologies and tools can be found on the Student Accounts and Logins webpage: https://mitt.ca/current-students/student-accounts-and-logins-faq

Cameras and Recording Devices

Unless otherwise indicated, online class sessions are not recorded for later viewing. Students should ensure they have a way to take notes. To comply with MITT policies and to protect student and instructor privacy, cameras and other recording devices are not to be used by students, unless authorized by the course instructor.

Campus Life

Student Services

The MITT Student Services team provides academic, personal, and career support to future and current students. Students are encouraged to meet with an advisor whenever they need help or have questions about how to be successful in their MITT program.

To learn more, refer to the Student Services webpage: https://mitt.ca/student-services.

Career and Employment Services

The MITT Career and Employment Services team works with students to prepare them for meaningful careers and connects graduates with employers. The Career and Employment Services team helps current students and alumni with:

- Resume and cover letter review
- Interview preparation
- Job search
- Career exploration

To learn more, refer to Career and Employment Services webpage: https://mitt.ca/career-and-employment-services

Student Life

The MITT Student Life team of staff and volunteers deliver a wide range of on-campus and online opportunities for students to connect with employers, make friends, build their work skills, and gain professional experience while at MITT.

Student Life works year-round to facilitate student and staff-led events, activities, and student groups to learn about other cultures, build community, and to network with future colleagues and employers.

To learn more, refer to the Student Life webpage: https://mitt.ca/student-life

Food Services

Food services are available at the Henlow, Pembina, and Scurfield campuses:

Henlow Campus: The Bridge Café offers hot breakfast, hot lunch, and afternoon snacks including grab and go items and an assortment of hot and cold beverages. This building is within walking distance of the Fultz Campus. Onsite microwaves and vending machines are available.

Scurfield Campus: Offers grab and go food options, an assortment of hot and cold beverages, and onsite microwaves and vending machines. This building is within walking distance of the Henlow Campus.

Pembina Campus: Offers grab and go food options, an assortment of hot and cold beverages, and onsite microwaves and vending machines. There are also several off-site fast food and dine-in restaurants nearby.

Public Transportation

All MITT campuses are accessible by public transportation. Route information is available on Winnipeg Transit's website: https://winnipegtransit.com/

Students can buy a peggo card (bus pass) directly from MITT. A valid student ID card must be shown at the time of purchase. Peggo cards are available for purchase at the Henlow and Pembina campuses.

Parking

Daily and monthly parking passes are available for the following campuses:

- 130 Henlow Bay
- 7 Fultz Boulevard
- 1551 Pembina Highway

For more information please visit: https://mitt.ca/parking

Knowledge Check

To be successful in your program, you should be able to answer the following questions:

1. How many courses are in my program?
    a. What is a course outline?
    b. Where are course outlines posted?
2. What is a course prerequisite?
    a. Which courses have prerequisites?
    b. What are those prerequisites?
    c. What happens if a student does not meet a prerequisite?
3. What is a Graduation Requirement?
    a. What happens if a student does not meet a Graduation Requirement?
4. What is a Progression Requirement?
    a. What happens if a student does not meet a Progression Requirement?
5. What are the requirements to take the Work Experience credit? (if applicable)
6. What is Work Skills Foundations?
    a. Do I need to complete Work Skills Foundations to graduate?
7. What is Academic Probation? What causes Academic Probation?
8. What is a Program Withdrawal? What causes a Program Withdrawal?