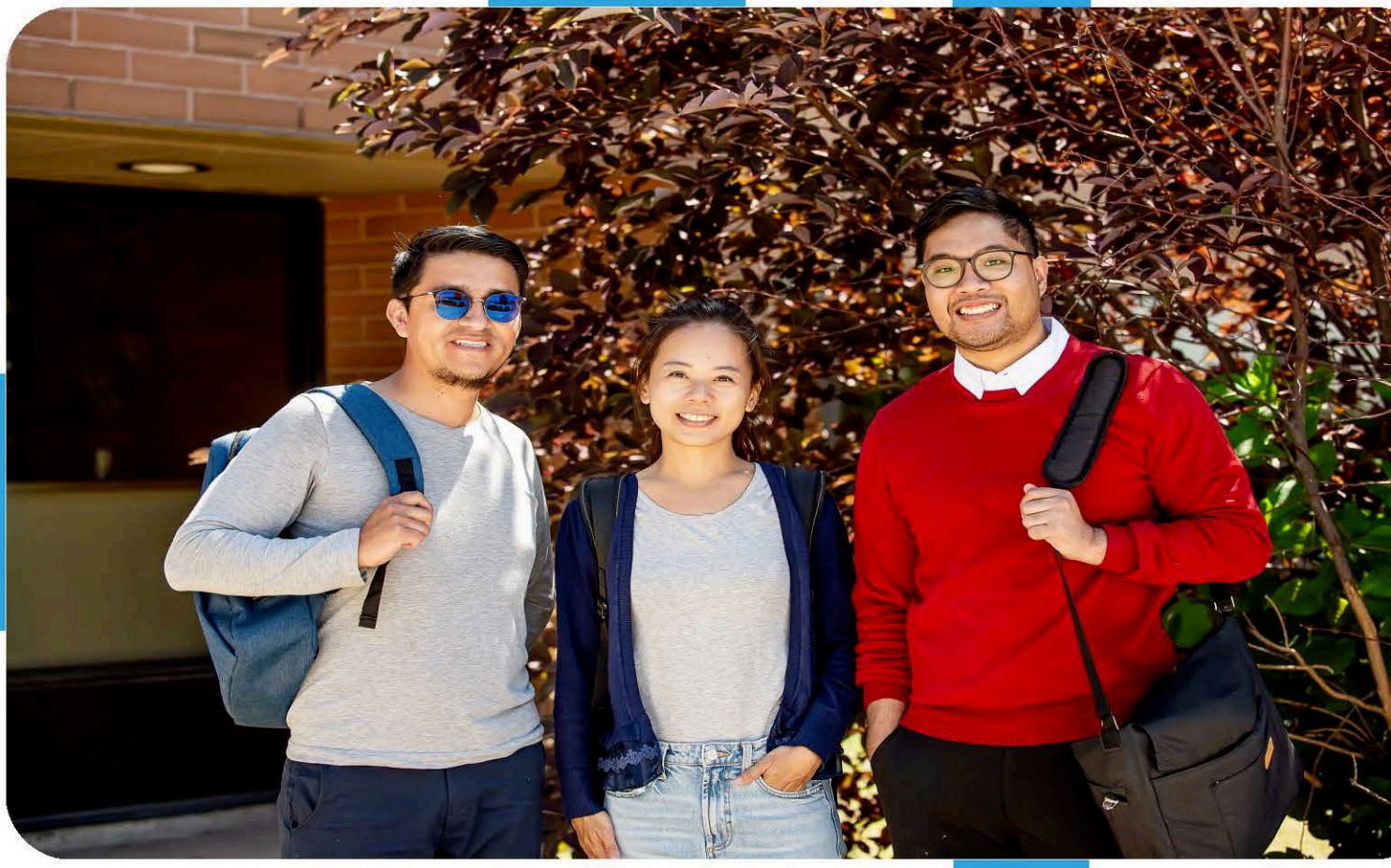

Electronics Technician

Program Guidebook

May 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 Electronics 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, Skilled Trades and Technology, 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, Skilled Trades and Technology

Program Team

The Electronics Technician program team consists of:

Nimmy Joseph	Instructor	nimmy.joseph@mitt.ca
Bill Smart	Instructional Assistant	bill.smart@mitt.ca
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Dustin Blackwell	Program Manager	dustin.blackwell@mitt.ca
Ken Komonko	Academic Coordinator	ken.komonko@mitt.ca

Program Overview

Electronics Technician is a 10-month certificate program. It consists of 10 courses. One of these courses is the Electronics Technician Practicum, which is an opportunity for students to apply their knowledge and skills during a four-week work placement.

Program Delivery

This program is delivered entirely on campus, except for the work experience, which occurs at an industry partner's place of business.

Courses

There are 10 courses in the Electronics 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.

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 Electronics Technician program.

Course Code	Course Name	Course Description	Prerequisite(s)
ET-100	DC Circuit Fundamentals	Students will be introduced to electronics technology by studying DC circuit theory. Areas of study include instrumentation, measurement, component recognition, value determination, and fabrication. Students will learn Ohm's Law as it relates to series, parallel, and combination circuits.	n/a
ET-110	AC Circuit Fundamentals	This course builds on the electrical theory learned in Introduction to Electronics Technology. It focuses on AC waveforms and how they interact with reactive components in RL, RC, and RCL series and parallel circuits. Students will also explore frequency-sensitive circuits.	ET-100
ET-120	Introduction to Analog Devices and Applications	Students will learn about semiconductor materials and device construction, and how they affect current flow. They will also learn about low power signal devices, such as diodes and transistors, and how they are used in simple circuits.	ET-110
ET-130	Advanced Analog Devices and Applications	This course builds on the semiconductor theory learned in Semiconductor Technology and Signal Devices. It focuses on power devices, such as thyristors, power transistors, and MOSFETs, as well as their applications.	ET-120
ET-140	Introduction to Digital Devices and Basic Logic	This course focuses on the branch of electronics technology dealing with binary states. Students will learn the difference between analog and digital signals as well as the different number systems employed in digital systems. Students will also learn the basic logic gates and how they are combined to solve digital logic problems.	ET-130

Course Code	Course Name	Course Description	Prerequisite(s)
ET-150	Advanced Digital Devices and Systems	This course builds on the skills and theory learned in Digital Devices and Basic Logic. It focuses on higher-level functions such as multiplexers, decoders, counters, and displays.	ET-140
ET-160	Advanced Electronics Applications	This course covers three-phase power circuits, half-wave and full-wave rectifier circuits, industrial control devices, AC motors, motor controls, and low voltage signal systems. The application of basic programmable logic controllers is also covered.	ET-150
ET-170	Introduction to Microcontrollers and Applications	This course focuses on the branch of digital logic dealing with programmable devices. Students will learn to read information from sensors and use microprocessor functions to control outputs. Students will learn basic programming control structures to write microcontroller programs.	ET-160
ET-180	Electronic Fabrication Techniques	This course introduces students to the design and fabrication process of electronic devices. Students will learn basic soldering, de-soldering and troubleshooting techniques to build a power supply prototype using machine tools.	Successful completion of all preceding courses.
ET-190	Electronics Technician Practicum	The Work Practicum is the capstone component of this program and an integral pathway to transition students from the MITT learning environment to the workplace. Practicum is an unpaid, work integrated learning component of MITT technical training. It offers students the opportunity to gain industry-relevant experience and to build on their technical skills while increasing confidence, employability, and job readiness. Prerequisite: Successful completion of all preceding courses listed on this overview and any requirements listed on the practicum outline.	Refer to Table 6: Work Experience Requirements

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 2: 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 Electronics Technician program's Graduation Requirements are listed in Table 3: 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 2: Course Delivery Sequence

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

Term 1A

ET-100	DC Circuit Fundamentals
ET-110	AC Circuit Fundamentals

Term 1B

ET-120	Introduction to Analog Devices and Applications
ET-140	Introduction to Digital Devices and Basic Logic

Term 2A

ET-130	Advanced Analog Devices and Applications
ET-150	Advanced Digital Devices and Systems

Term 2B

ET-160	Advanced Electronics
ET-170	Introduction to Microcontrollers and Applications

Term 3A

ET-180	Electronic Fabrication Techniques
ET-190	Electronics Technician Practicum

Table 3: Graduation Requirements

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

1. Successfully complete each course with a minimum mark of 50%.
2. Achieve a minimum overall program average of 50%.
3. Receive a grade of P (Pass) in Electronics Technician Practicum (ET-190)

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 Electronics Technician program's Progression Requirements are listed in Table 4: Progression Requirements.

Work Experience

The Electronics Technician program has a four-week unpaid work experience. It provides an opportunity for students to apply the theoretical knowledge and practical skills that they have acquired throughout the program to a real-world setting.

A work experience placement is not guaranteed. To qualify for a work experience, students must meet the requirements listed in Table 5: Work Experience Requirements.

Table 4: Progression Requirements

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

1. Each course in the Electronics Technician program is a prerequisite for the next. This means that a student must receive a minimum grade of D (50%) in each course to remain in the program.

   If a student does not receive a minimum grade of D (50%) in a course, the student may be withdrawn from the program.

Table 5: Work Experience Requirements

To be eligible to take the Electronics Technician program's work experience credit (ET-190), a student must meet the following requirements:

1. Receive a minimum grade of D (50%) in all other courses in the program.
2. Achieve a minimum overall program average of 50%.
3. Provide a valid co-op work permit or demonstrate that an application for a co-op/work permit was submitted within the first 4 weeks of the program (international students only).

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 Electronics Technician Program?

A student has a maximum of three years, starting from the first day of scheduled classes, to complete the Electronics 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 Electronics Technician program. These policies are listed in Table 6: Program-Specific Policies.

Table 6: Program-Specific Policies

The Electronics 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 student requests for extensions that do not exceed the course's end date.

An instructor, with permission of an Academic Coordinator, may grant an extension that exceeds the course's end date.

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, prior to the test date, to the program's Academic Coordinator.

Attendance

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.

Mobile Device Usage

Mobile devices are not allowed in the class or lab areas unless authorized by the instructor. A student who uses a mobile device may be required to leave the class or lab and will have the Attendance Policy applied.

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.

Working in the lab space

Safety

Students are required to follow all safety requirements. Non-compliance may result in being required to leave the lab or shop area. A student who comes to class without the required PPE will not be allowed to participate and will be marked absent.

Technology Requirements

A laptop is a **mandatory** device that will be used as part of the learning process in this program. Please see requirements below:

Windows Laptop with recommended specifications:

Windows 11, i5 processor/equivalent or better, 16GB RAM, 256GB Storage

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

Parking at MITT campuses must be paid at all times of the day. Parking is $25/monthly with Impark or $5/day with Hangtag.
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 the Attendance Policy? Are there excused absences?
7. What is Academic Probation? What causes Academic Probation?
8. What is a Program Withdrawal? What causes a Program Withdrawal?