



Mechanical Program(s) Handbook

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Coordinator Welcome

Welcome to Confederation College and the Mechanical Techniques, Technician, and Technology Program(s).

Program Overview:

The Mechanical Techniques, Technician, and Technology program(s) offer a wide variety of subjects and several employment directions when you graduate.

Classes start off at an introductory level in the first semester enabling everyone to get on the same page.

The Mechanical program is a good balance of hands on and in classroom learning. Many students go into the trades, some go into Engineering support roles and others continue with their education.

The key to being successful in the program are, come to class, come on time, come prepared, and turn in your work. Be proactive to the program and get things done in advance in case you need help. Don't leave things to the night before its due.

If you need help, ask for it. Instructors are here to help and will gladly as log as you are putting the effort in.

Take some time to get to know your classmates. They are an excellent source for help and the college experience. When you graduate many of them will be your lifelong friends.



Coordinator Contact Information

Richard Kukkee

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1. Introduction

We want you to be successful in this program. You have chosen it for good reason, and we are excited to work with you to help you succeed.

We designed this handbook to help you understand the expectations of this program, the policies of the college, and the resources available to you.

We work hard to make sure the information in this handbook is accurate. If any changes occur through this school year, you will be notified by email. Be sure to check that you are reading the handbook for the year we are in.

This handbook is specific to your program, but there are other general college policies that you also need to be familiar with.

These can be found

- On the [College website](#)
- In the [New Student Guidebook](#)
- In the [SUCCI Student Handbook](#)

The SUCCI Student Handbook provides details regarding Student Services, Safety and Security, Student Rights and Responsibilities and more.

It is the responsibility of each student to review and comply with the content in this handbook.

If there are any questions or concerns regarding the content in this handbook, please contact:

Program Coordinator: Richard Kukkee

Email address: rkukkee@confederationcollege.ca

Student Success Advisor: Ashley Hancharik

Email address: ahancha1@confederationcollege.ca

We wish you all the best in your studies!

2. Program Credential and Courses

Mechanical Techniques <https://www.confederationcollege.ca/program/mechanical-techniques>

Mechanical Technician <https://www.confederationcollege.ca/program/mechanical-engineering-technician>

Mechanical Technology <https://www.confederationcollege.ca/program/mechanical-engineering-technology>

Explanation of credential and courses.

There are three Mechanical programs at Confederation College (Mechanical Techniques, Mechanical Engineering Technician, Mechanical Engineering Technology). You may switch back and forth between the programs if at some point you decide to change your mind. However, there are a few minor differences in the math between each program. If you are in the Techniques program and decide to change you will have to upgrade your math credit.

Students who take the 3-year Mechanical Engineering Technology program, if they choose and marks allow, continue onto Lakehead University to complete their Mechanical Engineering Degree. Lakehead university will grant the first two years credit towards the Mechanical Engineering degree upon completion of the 3-year Confederation program.

Students who take the 2-year Technician program and are interested in Millwrighting are not required to come back for the in-class portion of their apprenticeship. The 2-year program contains all the classroom material for the millwright apprenticeship (this does not include their apprenticeship hours).

The standard sequence of courses for **Mechanical Techniques** are as follows:

Semester 1		Semester 2	
MA170	Technology Math I	SY066	Sociology of Community: The Indigenous Context
MC165	Microsoft Office	MX271	Industrial Design I
MX110	Applied Physics I	MX261	Power Transmission I
MX111	Engineering Graphics	MX251	Introduction to Electricity
MX121	Mechanical Practices	MX241	Welding Practices II
MX132	Machine Shop 1 – Theory	MX233	Machine Shop 2 – Practical
MX133	Machine Shop 1 – Practical	MX232	Machine Shop 2 – Theory
MX141	Welding Practices I	MX210	Applied Physics II
CS050	College Writing	MA270	Technology Math II

The standard sequence of courses for **Mechanical Technician** are as follows:

Semester 1		Semester 2	
MA170	Technology Math I	SY066	Sociology of Community: The Indigenous Context
MC165	Microsoft Office	MX271	Industrial Design I
MX110	Applied Physics I	MX261	Power Transmission I
MX111	Engineering Graphics	MX251	Introduction to Electricity
MX121	Mechanical Practices	MX241	Welding Practices II
MX132	Machine Shop 1 – Theory	MX233	Machine Shop 2 – Practical
MX133	Machine Shop 1 – Practical	MX232	Machine Shop 2 – Theory
MX141	Welding Practices I	MX210	Applied Physics II
CS050	College Writing	MA270	Technology Math II
Semester 3		Semester 4	
MX301	Statics	MX410	Introduction to Thermodynamics
MX361	Power Transmission II	MX471	Power Transmission III
MX371	Industrial Design II	MX475	Advanced Structural Design
MX381	Fluid Power	MX481	Fluid Mechanics
MX341	Strength of Materials	MX432	Introduction to CNC
MA370	Technology Math III	GE	General Elective
CS219	Communications for Technology		
GE	General Elective		

The standard sequence of courses for **Mechanical Technology** are as follows:

Semester 1		Semester 2	
MA170	Technology Math I	MX232	Machine Shop 2 – Theory
MC165	Microsoft Office	SY066	Sociology of Community: The Indigenous Context
MX110	Applied Physics I	MX271	Industrial Design I
MX111	Engineering Graphics	MX261	Power Transmission I
MX121	Mechanical Practices	MX251	Introduction to Electricity
MX132	Machine Shop 1 – Theory	MX241	Welding Practices II
MX133	Machine Shop 1 – Practical	MX233	Machine Shop 2 – Practical
MX141	Welding Practices I	MX210	Applied Physics II
CS050	College Writing	MA270	Technology Math II
Semester 3		Semester 4	
MX371	Industrial Design II	MA431	Mathematics IV
MX381	Fluid Power	MX410	Introduction to Thermodynamics
MX361	Power Transmission II	MX432	Introduction to CNC
MX301	Statics	MX471	Power Transmission III
MA331	Mathematics III	MA475	Advanced Structural Design
CS219	Communications for Technology	MX481	Fluid Mechanics
MX341	Strength of Materials	GE	General Elective
GE	General Elective		
Semester 5		Semester 6	
MX591	Engineering Operations & Management	MX611	Metrology and Quality Control
MX531	Advanced Dynamics	MX641	Advanced Strength of Materials
MX501	Advanced Calculus	MX631	Advanced Dynamics of Machines
MX581	Advanced Fluid Mechanics	MX621	Machine Design
MX571	Mechanical Lab I	MX610	Applied Thermodynamics and Heat Transfer
MX561	Research Project I	MX671	Mechanical Lab II
		MX661	Research Project II

DegreeWorks is a web-based assessment tool to assist you in tracking your progress throughout your program.

Note: Please check [Degree Works](#) for the most recent version of your programs' courses.

Mechanical Techniques Certificate Planner

Course Planner Checklist Name: _____ Student # _____

Full-Time Program Requirements	✓ have (Grade)	X need
SEMESTER 1		
MA170 Technology Math I		
MC165 Microsoft Office		
MX110 Applied Physics I		
MX111 Engineering Graphics		
MX121 Mechanical Practices		
MX132 Machine Shop 1 – Theory		
MX133 Machine Shop 1 – Practical		
MX141 Welding Practices I		
CS050 College Writing		
SEMESTER 2		
SY066 Sociology of Community: The Indigenous Context		
MX271 Industrial Design I		
MX261 Power Transmission I		
MX251 Introduction to Electricity		
MX241 Welding Practices II		
MX233 Machine Shop 2 – Practical		
MX232 Machine Shop 2 – Theory		
MX210 Applied Physics II		
MA270 Technology Math II		

Note: Please check [Degree Works](#) for the most recent version of your programs' courses.

Mechanical Technician Diploma Planner

Course Planner Checklist Name: _____ Student # _____

Full-Time Program Requirements	✓ have (Grade)	X need
SEMESTER 1		
MA170 Technology Math I		
MC165 Microsoft Office		
MX110 Applied Physics I		
MX111 Engineering Graphics		
MX121 Mechanical Practices		
MX132 Machine Shop 1 – Theory		
MX133 Machine Shop 1 – Practical		
MX141 Welding Practices I		
CS050 College Writing		
SEMESTER 2		
SY066 Sociology of Community: The Indigenous Context		
MX271 Industrial Design I		
MX261 Power Transmission I		
MX251 Introduction to Electricity		
MX241 Welding Practices II		
MX233 Machine Shop 2 – Practical		
MX232 Machine Shop 2 – Theory		
MX210 Applied Physics II		
MA270 Technology Math II		

Full-Time Program Requirements	✓ have (Grade)	X need
SEMESTER 3		
MX301 Statics		
MX361 Power Transmission II		
MX371 Industrial Design II		
MX381 Fluid Power		
MX341 Strength of Materials		
MA370 Technology Math III		
CS219 Communications for Technology		
GE General Elective		
SEMESTER 4		
MX410 Introduction to Thermodynamics		
MX471 Power Transmission III		
MX475 Advanced Structural Design		
MX481 Fluid Mechanics		
MX432 Introduction to CNC		
GE General Elective		

Note: Please check [Degree Works](#) for the most recent version of your programs' courses.

Mechanical Technology Advanced Diploma Planner

Course Planner Checklist Name: _____ Student # _____

Full-Time Program Requirements	✓ have (Grade)	X need
SEMESTER 1		
MA170 Technology Math I		
MC165 Microsoft Office		
MX110 Applied Physics I		
MX111 Engineering Graphics		
MX121 Mechanical Practices		
MX132 Machine Shop 1 – Theory		
MX133 Machine Shop 1 – Practical		
MX141 Welding Practices I		
CS050 College Writing		
SEMESTER 2		
MX232 Machine Shop 2 – Theory		
SY066 Sociology of Community: The Indigenous Context		
MX271 Industrial Design I		
MX261 Power Transmission I		
MX251 Introduction to Electricity		
MX241 Welding Practices II		
MX233 Machine Shop 2 – Practical		
MX210 Applied Physics II		
MA270 Technology Math II		

Full-Time Program Requirements	✓ have (Grade)	X need
SEMESTER 3		
MX371 Industrial Design II		
MX381 Fluid Power		
MX361 Power Transmission II		
MX301 Statics		
MA331 Mathematics III		
CS219 Communications for Technology		
MX341 Strength of Materials		
GE General Elective		
SEMESTER 4		
MA431 Mathematics IV		
MX410 Introduction to Thermodynamics		
MX432 Introduction to CNC		
MX471 Power Transmission III		
MA475 Advanced Structural Design		
MX481 Fluid Mechanics		
GE General Elective		

Full-Time Program Requirements	✓ have (Grade)	X need
SEMESTER 5		
MX591 Engineering Operations & Management		
MX531 Advanced Dynamics		
MX501 Advanced Calculus		
MX581 Advanced Fluid Mechanics		
MX571 Mechanical Lab I		
MX561 Research Project I		
SEMESTER 6		
MX611 Metrology and Quality Control		
MX641 Advanced Strength of Materials		
MX631 Advanced Dynamics of Machines		
MX621 Machine Design		
MX610 Applied Thermodynamics and Heat Transfer		
MX671 Mechanical Lab II		
MX661 Research Project II		

Note: Please check [Degree Works](#) for the most recent version of your programs' courses.

3. Class Guidelines

Our goal at Confederation College is to create open, inclusive, and respectful learning environments for everyone – students, professors, and staff.

In order to maintain this kind of learning environment, we have created policies and procedures that outline the rights and responsibilities of students and professors.

Policies regarding Academic and Personal conduct are on the College website ([link provided](#)) and at the end of this handbook. We expect all students to review and follow these policies.

Policies below are specific to the Mechanical Techniques, Technician, and Technology programs.

General Class Structure

On the first day or two of a class your professors will inform you of specific class rules and provide you with a course outline. This outline will describe the course, outline your assignments, explain the grading system, and provide a class schedule with important dates and deadlines. Usually, this information is posted in Blackboard, so refer to it often to avoid missing any deadlines.

Professors will use your college email address and/or Blackboard as a means of communication.

It is your responsibility to check your college email regularly.

4. Program Expectations

Attendance / Participation / Missed Tests & Assignments

- Success is directly related to attendance. It is expected that you will attend all classes.
- Absences for legitimate and documentable reasons do occur BUT **your professors need to be made aware – either prior to, or immediately following the absence.** Waiting to contact a professor for multiple weeks or months is not acceptable.
- If you are absent from class, you must find out what you missed from your classmates or professor. Your professor will not come to you or re-teach the material.
- Legitimate and documentable reasons for missing class need to be discussed in advance with your professor. Examples include the following:
 - Illness or Medical Emergency:
If you are sick or experience a medical emergency, you should inform your professor as soon as possible, preferably before the class.
 - Court summons, jury duty:
A court summons or jury duty notice serves as documentation.
 - Death of family member:
Documented through discussion with your Professor

- Unacceptable reasons for missing class include the following:
 - Procrastination or poor time management
 - Sleeping in
 - Trips
 - Work
- If you miss a test/exam/quiz without a legitimate reason, you will receive a grade of zero (0).
- If you miss an in-class assignment or activity (ones that are given and completed within the scheduled class time) without a legitimate reason, you will receive a grade of zero (0).
- Assignments, projects, essays, etc. (given as "homework" with a due date) are due on the assigned date. Acceptance of late submissions will be at the instructor's discretion. Any work that is accepted will receive a late penalty designated by the instructor.
- You CANNOT submit a semester's worth of work at the end of the semester. Assessments are continuous throughout the semester.
- All work will not be accepted after the last day of class unless other arrangements have been made with the professor.
- Assignments are to be submitted in the manner prescribed by your professor. For example, some Professors require assignments to be submitted via hard copy while others will accept electronic attachments. Follow the submission instructions provided by your professor. Professors are NOT required to print off your papers or projects, etc. This is YOUR responsibility.
- Some courses require safety training before you are allowed to run hazardous equipment. The instructor has the right to remove you from the class if the safety training has not been attended or completed. The instructor will not run a special training session just for you.

Teamwork

A significant amount of group work is required in this program. Individual students are expected to be full participants in, and contributors to, each group-based project/assignment within the program coursework.

Guidelines will be provided outlining the requirements of group work by individual faculty members. Expectations will vary among faculty and students are expected to ask questions if they are not clear. Instructors have the right to adjust individual marks during group work should an individual not be doing their share.

Grading

For mark grading and breakdown refer to each course outline. Note that 50% is required to pass a course. However, a GPA of 2.0 must be attained to graduate. Therefore, it is possible to pass all your classes and still not graduate (a GPA average of 2.0 is approximately a 63% average in the Mechanical program).

Banner will give you your GPA average at the end of each semester and a running total as you complete each semester.

Course Evaluation and Grading Policy Ch5-s1-01 can be found on the [Academic Policies webpage](#).

Professionalism and In-class Behaviour

- **Conduct yourself as a professional.** This includes your emails and interactions in the classroom and labs with faculty and classmates. Address your colleagues and teachers with respect both online and in-person.
- **Bring a drink or small snack to class if you need.** (Certain lab/shop environments prohibit this, so ask your professor if you are unsure). Dispose of your own garbage.
- **Turn off your cell phone in class.** If you must answer a call, leave the classroom quietly so you do not disturb the class. Tell your professor before class if you are expecting a call that you will have to answer.
- **Focus on what's happening in class.** Talking to classmates while the professor is speaking is considered disrespectful and disruptive.
- **Arrive on time to class.** If you are late, enter the classroom as quietly and discreetly as possible. Some teachers require students to wait for a break to enter the class if they are late. If you need to leave the class early, try to leave at a break and explain to your professor why you need to leave.
- **Ask for help when you need it.** We have many supports available to all students to help them be successful.
- **Participate during the class.** Students are encouraged to pay attention, take notes, participate in classroom
- **Ask for permission before recording lectures.** Because of the disclosures that occur in many class discussions, professors have the ability to deny this request.

Additional expectations:

- **Have reasonable expectations regarding email/telephone response times.** Messages sent at late hours or on weekends will not be responded to until appropriate working hours.
- **Leave clear messages.** When leaving messages for professors, always (and clearly) include your full name, contact information, and specific class, as well as your question or concern.
- **Keep track of appointments.** If you schedule a meeting outside of class time with your professor, be sure to add it to your calendar and attend. If you cannot make an appointment, contact your professor beforehand to let him/her know you will not be showing up.
- **Know the start date and end date of each semester, as well as dates for any holidays or breaks.** (All relevant dates are identified in your SUCCI Student Handbook.) Early departure at the semester's end, early departure or late return at Student Success Week, or other scheduled vacation during the academic semester is not considered as an 'extraordinary circumstance.' You will NOT be granted permission to write tests or exams earlier or later to accommodate this.
- **Labs and classroom spaces.** Are to be kept cleaner than you found it. If something was left behind from the previous class put it away. All tools and equipment should be put back where you found it. Clean up after yourself. It is not the instructor's responsibility and cleaners do not clean the labs and equipment. Instructors have the right to adjust lab marks for not cleaning up after yourself. Cleaning up is part of the job on the worksite as it is here.

5. Academic Policies

Students should familiarize themselves with the following College policies:

Charter of Students' Rights & Responsibilities: Ch5-s5-03

Course Evaluation and Grading Policy: Ch5-s1-01

Student Code of Conduct: Ch5-s5-02

Academic Integrity: Ch5-s5-01 (Sign-off Required, see page 19)

Use of Electronic Devices in Class: Ch5-s5-06

Academic Appeal Policy: Ch5-s1-02

A complete list of Confederation College Policies and Procedures can be found on the website, or accessed through the link below:

[Link to main Academic Policies and Procedures webpage](#)

Academic Integrity

Purpose: Academic integrity is central to the mission of Confederation College. Commitment to academic integrity supports the mutual respect and learning that our community values. The Academic Integrity Policy and Procedure reflect these values.

Scope: Applies to all students and staff to guide behavior and support learning.

Academic Integrity: Having academic integrity means acting fairly and honestly when engaging in academic activities. By having and applying an Academic Integrity Policy and Procedure, Confederation College ensures graduates complete their studies fairly and honestly through hard work and dedication, and thus are well-prepared for their future careers.

Definition of Academic Dishonesty: A violation of academic integrity. Academic dishonesty takes the form of any kind of cheating in academic work, including taking credit for the work of others without crediting them, misrepresenting one's own work, fabricating information, and facilitating academic dishonesty by others.

Examples of academic dishonesty include, but are not limited to, the following:

- Plagiarism: representing the words or ideas of someone else as one's own including copy and pasting from internet, as well as failing to attribute any of the following: quotations, paraphrases, or borrowed information.
- Unauthorized use of artificial intelligence: utilizing AI and specifically foundational models to create writing, computer code, or images from minimal human prompting and presenting that work as one's own is an academic offense. There will be times when you are able to utilize generative artificial intelligence for productive and ethical academic use, but these instances will be guided and introduced by your faculty as part of your learning.
- Cheating: using or attempting to use unauthorized information or materials in any academic exercise; copying from one's own or someone else's work; representing someone else's work as one's own; or violating rules and policies governing examinations, such as bringing pre-written work into an in-class examination or talking during examination or accessing information via the internet.
- Fabrication: inventing or falsifying data, citations, or information.
- Facilitating academic dishonesty: intentionally helping or trying to help someone else commit an act of academic dishonesty.

Consequences: Violations will result in failing grades, suspension, or expulsion. Violation will also entail being recorded in the online tracking tool. The school has the right to make note of cheating on your permanent transcript which employers may see.

Procedure for Students:

- Read and become familiar with College policy and faculty expectations regarding academic integrity, as stated in the course outline.
- Seek clarification of principles and practices of academic integrity from the faculty and/or other academic resources, such as librarians, tutors, or the writing center, before completing assignments or attempting examinations.
- Cooperate with faculty if issues of Academic Dishonesty arise.

Academic Integrity Sign-off

Sign-off shows acknowledgment of your commitment to uphold academic integrity and understanding of the consequences for academic dishonesty, including specific examples provided.

I, _____ (print name) have read and understand the Academic Integrity information and policy contained in the Mechanical program handbook.

Signature: _____ Date: _____

6. Resources and Support Services

Writing Centre

<https://www.confederationcollege.ca/department/tutoring/writing-centre>

Student Success Centre

<https://www.confederationcollege.ca/department/student-success-centre>

Degree Works

<https://www.confederationcollege.ca/department/registration/degreeworks>

Academic Date Calendar

<https://www.confederationcollege.ca/department/admissions/registration-services>

7. Contact Information

Program Coordinator:	Richard Kukkee Ph: 807-475-6606	Email: Richard.Kukkee@confederationcollege.ca
Faculty:	Wesley Grace	Email: Wesley.Grace@confederationcollege.ca
	Patricia Wilson	Email: pwilson2@confederationcollege.ca
	Keith Raine	Email: Keith.Raine@confederationcollege.ca
Student Success Advisor:	Ashley Hancharik Ph: 807-475-6548	Email: ahancha1@confederationc.on.ca
Associate Dean:	Andrew Phillips Ph: 807-473-3748	Email: Andrew.Phillips@confederationcollege.ca
Distance Education:		Email: de@confederationcollege.ca