UNIVERSITÉ Concordia UNIVERSITY

CME Thesis-based Graduate Programs

Dr. Zhibin Ye

Department of Chemical and Materials Engineering

Concordia University, Montreal, Canada

CME Thesis Graduate Program Staff

- **Dr. Zhibin Ye, Graduate Program Director (GPD)**
  Zhibin.ye@concordia.ca

- **Erica Howse, Department Administrator**
  Erica.Howse@concordia.ca

- **Antonios Daskalakis, Programs Coordinator**
  cme-grad@concordia.ca

- **Harriet Laryea, Technical Supervisor**
  harriet.laryea@concordia.ca

- **Kerri Warbanski, Chemical Laboratory Technician**
  kerri.warbanski@concordia.ca

- **Dr. Alex De Visscher, Chair of the Department**
  alex.devisscher@concordia.ca

CME thesis-based programs

- **MASc**

45 credit program: courses + thesis; typically, 2 years

- **PhD**

90 credit program: courses + thesis; typically, 4 years

Get familiar with the CME Graduate Student Handbook. You will find detailed information on all programs offered by the Department and the guidelines you need to follow.

MASc program requirements

https://www.concordia.ca/academics/graduate/chemical-engineering-masc.html

➢ **Courses – 16 credits**

Mandatory:

**** CHME 6981 Chemical Engineering Research Protocols and Safety (4 cr.)**
– required prior to lab access; take ASAP

**** minimum 1 course (4 cr.) from**

CME MASc core courses:

- CHME 6011 Advanced Transport Phenomena (4 cr.)
- CHME 6021 Advanced Chem. Eng. Thermodynamics (4 cr.)
- CHME 6031 Chemical kinetics and Reaction Engineering (4 cr.)
- CHME 6041 Chemical Process Dynamics and Control (4 cr.)
- CHME 6051 Chemical Process Engineering and Design (4 cr.)
- CHME 6071 Materials Science and Engineering (4 cr.)
- CHME 6081 Advanced Separation Processes (4 cr.)
- CHME 6121 Nanomaterials Science and Engineering (4 cr.)
- ENCS 6021 Engineering Analysis (4 cr.)

Discuss with your supervisor on course selection!!!

MASc program requirements

https://www.concordia.ca/academics/graduate/chemical-engineering-masc.html

➢ Courses – 16 credits

Other 8 credits:

**** any courses from CME MASc core course list and electives list;**

MASc electives:
(> 24; expanding)

- CHME 6061 Advanced Biochemical Engineering (4 cr.)
- CHME 6091 Statistics for Chem. Eng. (4 cr.)
- CHME 6101 Advanced Battery Materials and Technologies (4 cr.)
- CHME 6111 Polymer Chemistry and Engineering (4 cr.)
- CHME 6131 Advanced Colloid and Interface Science and Engineering (4 cr.)
- CHME 6911 Topics in Chemical Engineering I (4 cr.)
- ENCS 6111 Numerical Methods (4 cr.)
- ENGR 6201 Fluid Mechanics (4 cr.)
- MECH 6131 Conduction and Radiation Heat Transfer (4 cr.)
- MECH 6141 Heat Exchanger Design (4 cr.)
- ….

**** possible to take 1 course outside the Electives list (get permission of GPD); courses at other departments at Concordia or other universities;**

Note: If you take a 3-cr. course, you must take 1-cr. CHME 6001 – Project in CME to obtain the missing credit.

MASc program requirements

https://www.concordia.ca/academics/graduate/chemical-engineering-masc.html

- **Research and thesis**

ENGR 8901 MASc Research and Thesis (29 cr.)

Discuss with your supervisor on your thesis research (topic, objectives, methodology, timeline) !!!

Department seminars by invited speakers: mandatory to attend 80%.

PhD program requirements

https://www.concordia.ca/academics/graduate/chemical-engineering-phd.html

➢ **Courses – 12 credits**

Discuss with your supervisor on course selection!!!
Choose courses that best align with your research areas and interest you most.

Mandatory:

**** CHME 6981 Chemical Engineering Research Protocols and Safety (4 cr.)**
– required prior to lab access; take ASAP

**** at least 4 cr. from CME PhD courses (> 30)**

- CHME 6011 Advanced Transport Phenomena (4 cr.)
- CHME 6021 Advanced Chem. Eng. Thermodynamics (4 cr.)
- CHME 6031 Chemical kinetics and Reaction Engineering (4 cr.)
- CHME 6041 Chemical Process Dynamics and Control (4 cr.)
- CHME 6051 Chemical Process Engineering and Design (4 cr.)
- CHME 6061 Advanced Biochemical Engineering (4 cr.)
- CHME 6071 Materials Science and Engineering (4 cr.)
- CHME 6081 Advanced Separation Processes (4 cr.)
- CHME 6121 Nanomaterials Science and Engineering (4 cr.)
- ….

PhD program requirements

https://www.concordia.ca/academics/graduate/chemical-engineering-phd.html

- **Courses – 12 credits**

Optional:

**** You may take 1 course outside the PhD course list (get permission of GPD);**

It can be a course at other departments at Concordia or at other universities

Note: If you take a 3-cr. course, you must take 1-cr. CHME 6001 – Project in CME to obtain the missing credit.

PhD program requirements

https://www.concordia.ca/academics/graduate/chemical-engineering-phd.html

- **Comprehensive and proposal exams, and Seminar - 8 credits**

ENCS 8501 Comprehensive Exam (0 cr.) – Critical Literature Review

Generally, within 1st year of PhD program; submit a critical literature review report and defend

ENCS 8511 Doctoral Research Proposal (6 cr.)

Generally, within half a year after passing Comprehensive Exam; submit a research proposal and defend

ENCS 8011 PhD Seminar (2 cr.)

Generally, after passing Doctoral Research Proposal; deliver a seminar and attend other seminars (by other PhD students and invited department seminar speakers)

Discuss with your supervisor on your comprehensive exam!!!

Note: we are in the process of proposing a change in comprehensive/proposal exams.

PhD program requirements

https://www.concordia.ca/academics/graduate/chemical-engineering-phd.html

- **Research and thesis**

ENGR 8911 Doctoral Research and Thesis (70 cr.)

Discuss with your supervisor to plan on your doctoral thesis!!!

Student resources

- **Scholarship and bursary opportunities available**

  Announced from time to time; will forward once announced

- **International Student Office**

  https://www.concordia.ca/students/international.html

- **Student Hub**

  https://www.concordia.ca/students/services.html

Help available at CME department

- **Academic questions**

  GPD, Department Chair

- **Administrative questions**

  Programs Coordinator, Antonios Daskalakis
  Department Administrator, Ms. Erica Howse

- **Lab safety questions**

  Technical supervisor, Ms. Harriet Laryea, and Chemical Laboratory Technician, Ms. Kerri Warbanski, as well as EHS staff

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Wish you best success in your study at CME !

CME Health & Safety

Harriet Laryea , P.Eng.

(Technical Supervisor)

Topics of Discussion

- CME Research and Teaching Labs
- CME Safety Policies
- CME Equipment
- Equipment Booking
- First Aid & CPR Training
- Operating Hours
- Concordia University Health Care Services
- Concordia Security

CME Research & Teaching Labs

- **SGW Campus (Downtown)**
  - a. EV Building – Subbasement , 13th floor, and 14th floor
  - b. H building: 10th floor** and 14th floor (2 labs)

- **Loyola Campus (NDG)**
  - a. Science Hub (2nd Floor)

** *Undergraduate Lab*

CME Safety Policies

- **LAB SAFETY** – CHME 6981 (Chemical Engineering Research Protocols and Safety)
- **Dress Code**
- **SOP** : Hydrofluoric acid (HF), Perchloric acid, Picric acid, Piranha solution, Tetramethylammonium Hydroxide (TMAH), Super acids, etc.

Cont.: CME Safety Policies

- Isothermal Fridge
- CME Safety Talk
- Transportation of Chemicals

a. Bag pack

b. From building/ floor to the next

c. Through the Tunnel

d. Metro

e. Personal car

f. Concordia Shuttle Bus

g. Metro

CME Equipment

- GC – Flame Ionization Detector (FID) …. (HU – 2nd floor)
- Litesizer / Particle Size Analyzer …. (HU – 2nd floor)
- Atomic Force Microscope (AFM) …. (HU – 2nd floor)
- Ultra Visible Spectroscopy (UVIS) …. (HU – 2nd floor)
- Surface Characterization Analyzer (BET) …. (HU – 2nd floor)
- Thermogravimetric Analyzers (TGA) …. (HU – 2nd floor)
- Differential Scan Calorimeter (DSC) …. (HU – 2nd floor)
- Fourier Transform Infrared (FTIR) …. (HU – 2nd floor)
- High-performance liquid chromatography(HPLC) …. (HU – 2nd floor)

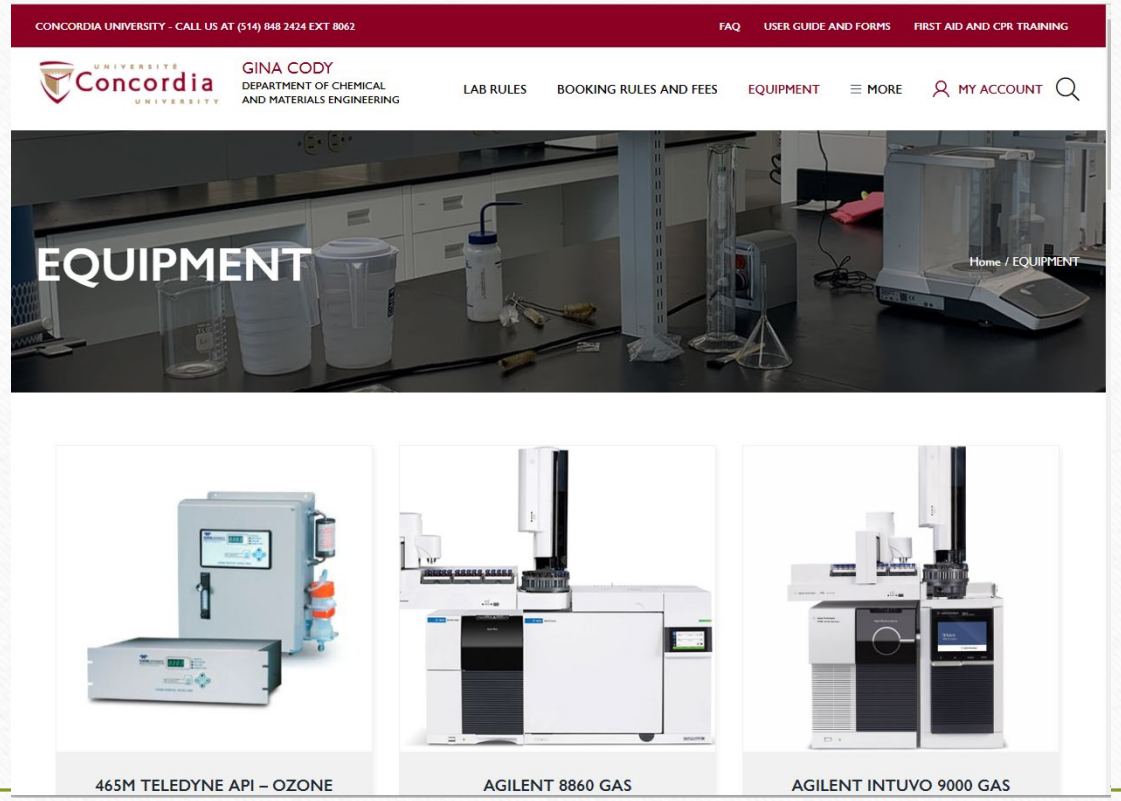
Instrument Owned by PIs

- Gas Chromatography (GC) – Mass Spectrometer (MSD) …. (HU – 2nd floor) << Dr. Alex De Visscher
- Micro GC …. (HU – 2nd floor) << Dr. Alex De Visscher
- Thermogravimetric Analyzers (TGA) …. (H– 14th floor) << Dr. Alex De Visscher
- Ozone Analyzer …. (H– 14th floor) <<< Dr. Alex De Visscher
- Laser Cutter …. (HU – 2nd floor) << Dr. Sana Anbuhi
- X- Ray Diffraction System (XDS) …. (HU – 2nd floor) << Dr. Zhibin Ye
- Raman Spectrometer (HU – 2nd floor) …. << Dr. Zhibin Ye
- Tribometer …. (HU – 2nd floor) << Dr. Pantcho
- Rheometer …. (**EV– 13th floor**) <<< Dr. Paula Wood-Adams

Equipment Booking

- *CME Instrument*

- *Other Instrument* :
  Email the owner



First Aid & CPR Training

Types of Training: Hero in 30 min, CPR-AED, CPR-AED (Adult and child), Emergency First Aid, Standard First Aid, etc.

Duration: 30 mins, 4 hours, 8 hours, and 16 hours

Price: **Free** for CME Personnel (students, staff, and faculty)

Operating Hours

- **Business hours**: 9 am – 5 pm
  a. Less risk
  b. Enough expertise
- **Off hours**: 6pm – next morning (8:00am)
  a. Risk high
  b. Less or no expertise

- **Summer hours : 1st week of** June - 2nd Week of August
  - School close at 1pm on Fridays (applicable to Concordia Staff)

Concordia University Health Care Services

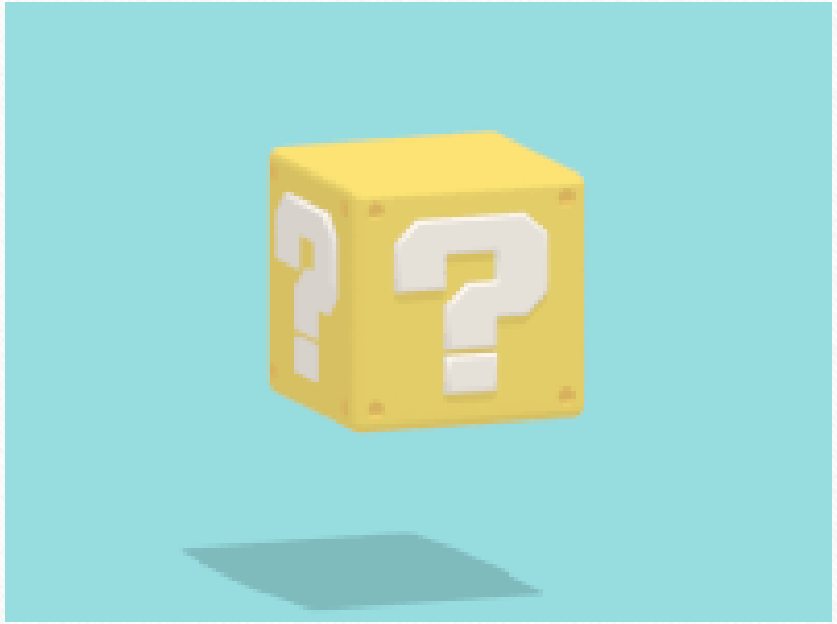
	Loyola Campus	SGW (Downtown) Campus
Civic Address	Room AD-131 7141 Sherbrooke Street W. Montreal, QC, H3G 1N2	Guy-Metro Building Room GM-200 1550 de Maisonneuve Blvd. W. Montreal, QC, H3G 1N2
Telephone	514-848-2424 ext. 3575	514-848-2424 ext. 3565
Fax	514-848-4533	514-848-2834
Working hours	Monday to Friday: 9:00 a.m. - 11:30 a.m. 1:00 p.m. - 4:30 p.m.	Monday to Friday: 9:00 a.m. - 5:00 p.m. ***Please note that nursing services begin at 10 a.m. on Thursdays***

Concordia Security

- Fire and / smoke
- Chemical Spill (minor or major)
- Gas leak
- Theft
- Alarm
- Other

Notify security at 514 848 3717

Any Question or Concern



thank
you!

Université Concordia University

GINA CODY SCHOOL OF ENGINEERING AND COMPUTER SCIENCE

Department of Chemical and Materials Engineering

Orientation session Fall 2022

Department of Chemical and Materials Engineering – Academic Information

Graduate Certificate

- Course-based program
- 4 courses:
  - ENCS 6021: Engineering Analysis
  - CHME 6011: Transport Phenomena
  - One of the following:
    - CHME 6021: Advanced Chemical Thermodynamics
    - CHME 6031: Chemical Kinetics and Reaction Engineering
  - One technical elective

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Graduate Diploma

- Course-based program
- 8 courses:
  - ENCS 6021: Engineering Analysis
  - CHME 6011: Transport Phenomena
  - CHME 6021: Advanced Chemical Thermodynamics
  - CHME 6031: Chemical Kinetics and Reaction Engineering
  - One of the following:
    - CHME 6041: Chemical Process Dynamics and Control
    - CHME 6051: Chemical Process Design
  - Three technical electives
    - At least one Materials course
    - At least one complementary (non-technical) course

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Things to be aware of

- Study permits normally require full-time status
  - Minimum 9 credits
  - Default: 3 courses = 12 credits
  - Option: 2 courses + 1-credit course/project
    - Currently the 1 credit not part of the program
- Most courses only offered once a year
- Minimum pass grade: B-

Recommended course plan – certificate

Recommended plan

- Fall 2022
  - ENCS 6021: Eng. Analysis
  - CHME 6021: Chem. Thermo.
  - Elective course
- Winter 2023
  - CHME 6011: Transp. Phenom.

Alternative plan

- Fall 2022
  - ENCS 6021: Eng. Analysis
  - Elective course
  - 1-credit course
- Winter 2023
  - CHME 6011: Transp. Phenom.
  - CHME 6031: Kinetics & Reactors

Recommended course plan – diploma

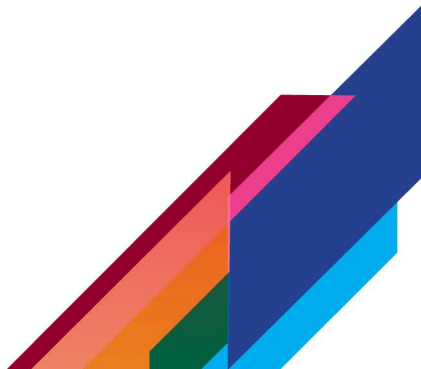
Recommended plan

- Fall 2022
  - ENCS 6021: Eng. Analysis
  - CHME 6021: Chem. Thermo.
  - CHME 6051: Proc. Design **or** Elective course
- Winter 2023
  - CHME 6011: Transp. Phenom.
  - CHME 6031: Kinetics & Reactors
  - CHME 6041: Proc. Control **or** Elective course
- Summer 2023 **or** Fall 2023
  - Technical elective (Materials focus if not already taken)
  - Complementary course

Academic and community conduct

- My advice:
  - Be honest at all times
    - Plagiarism is not tolerated
      - Don’t cheat on exams
      - Don’t copy from others
      - Always cite every source you use
  - Be respectful at all times
    - Rudeness or bullying is not tolerated
    - Concordia encourages and celebrates diversity
  - Be responsible at all times
    - Inform yourself of the rules and follow them
      - Read your admission letter – in its entirety
      - Read your course outlines – in their entirety

CONCORDIA.CA



ECSGA

ENGINEERING AND COMPUTER SCIENCE GRADUATE ASSOCIATION

CONCORDIA UNIVERSITY

ECSGA

Our Mission

The mission of ECSGA is to optimally, responsibly, and efficiently serve its members.

Our Vision

Work to improve the quality and accessibility of post-graduate education at Concordia University.

WHAT WE DO?

- Represent the collective interests and promote the general welfare of the graduate students in the ENCS Faculty.
- Represent graduate students on various boards, councils, and committees in the ENCS Faculty and at Concordia University and to promote their interests in accordance with the Accreditation Act.
- Promote the educational, social, recreational, and cultural interests of its members.
- Co-operate with other organizations having similar interests in promoting student activities and interests.
- Consider and support activities which enhance the quality of life for students of Concordia University.

THE TEAM...

Consists of 10 members and categorized into 2 divisions.

Executive team(4)

- President
- Vice president - Internal
- Vice president - External
- Vice president - Finance

Department Representatives(6)

- Building, Civil and Environmental Engineering (BCEE)
- Mechanical, Industrial and Aerospace Engineering (MIAE)
- Concordia Institute for Information Systems Engineering (CIISE)
- Chemical and Materials Engineering (CME)
- Computer Science and Software Engineering (CSSE)
- Electrical and Computer Engineering (ECE)

EXECUTIVE TEAM

Vice-President Internal

Surya Lakshmi

Vice-President Finance

Sesank Srinivas Manda

President

Vamsi Bodapati

Vice-President External

Yagnik Patel

DEPARTMENT REPRESENTATIVES

CSSE

Sivakumaran Malli Janardhanan

.

ECE

Sindhuja Anbuchezhian

BCEE

Revanth Vyamsani

MIAE

Sandeep Kumar Gadimuthana

CIISE

Ruchika Sardana

CME

Kashish Shah

TECHNICAL SESSIONS

DR's exclusive work on screening and hiring Subject or Industrial experts for technical sessions. so far we have conducted 7 technical sessions on behalf of ECSGA. The following is the breakdown of sessions from each department

BCEE

CAPM certification Route Map

BCEE Career Webinar and guidance

CME

2- Informative sessions on experience in oil and gas industry

MIAE

Informative session on full time jobs for MIAE dept

ECE & CSSE & CIISE- Sessions conducted by the respective DR's will be common for all the ENCS students

Data Analyst Road Map-

Cyber security Certifications Over view and their importance

SO FAR WHAT WE HAVE DONE - EXTERNAL

Gaspé Trip

It was 3 days trip to Gaspe, Quebec

MAIN ATTRACTIONS OF THE TRIP:

Cruise in Perc'e
Bonaventure Island
Forillion National Park
Metis Garden

La-Ronde Tickets

- **Subsidized one-day pass were given to students**
- **Guest ticket option was also given considering the family and friends of our students**
- **900+ tickets were issued on the whole**

BEACH CLUB PARTY

- Frosh Event for FALL 2022.
- Biggest event ever organized with capacity of 2000 students from Concordia University student associations.
- Exclusive Collaboration with multiple student associations to promote integrity and give an opportunity to all the students to meet the fellow students irrespective of their program and course.

INITIATIVES

- Idea Hub - a platform for fellow students to provide their inputs and suggestions for anything & everything.

- Collaborations with other associations to promote more inter-faculty & diverse events.

- Organize more engaging and exciting external activities for all grad students.

Next Event:

Meet & Greet

Date: September 17th
Venue: Grey Nuns, 1175 St. Mathieu (SGW Campus)

Thank you all, for your time and patience!
Stay tuned with ECSGA.

Feel free to reach out to us at:

Website: www.concordiaecsga.ca

Address: Concordia University, EV 1.166, 1515 Saint-Catherine St W, Montreal, QC H3G 2W1

Email: info@concordiaecsga.ca, cme@concordiaecsga.ca

Phone Number: 514-848-2424 ext. 8604

Welcome to Your Library!

Chemical and Materials Engineering Graduate Orientation

Chloe Lei
Teaching & Research Librarian, Engineering & Computer Science
chloe.lei@concordia.ca

CONCORDIA

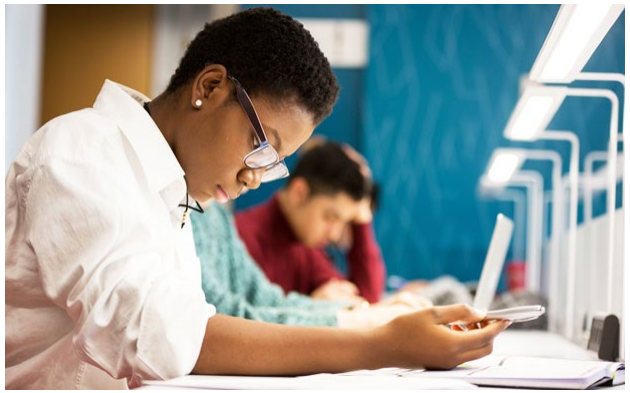
The Libraries

Webster (SGW)

Grey Nuns Reading Room (SGW)

Vanier (Loyola)

Webster Library (downtown)



Graduate study space (5th floor)

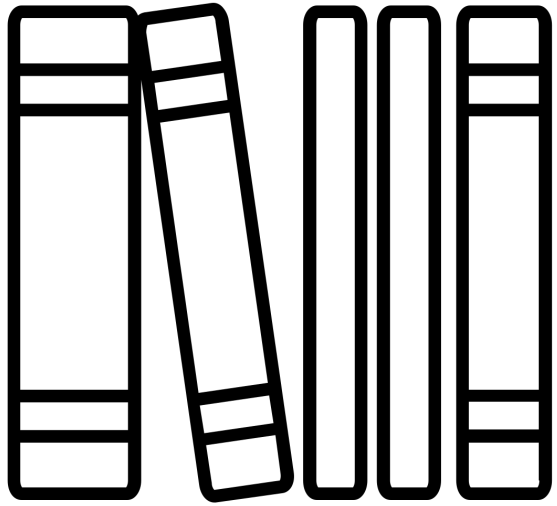
Vanier Library (Loyola)

Your Concordia ID card is your Library card

Use it to borrow books and equipment from the Loans & Returns desk

How many items can you borrow?

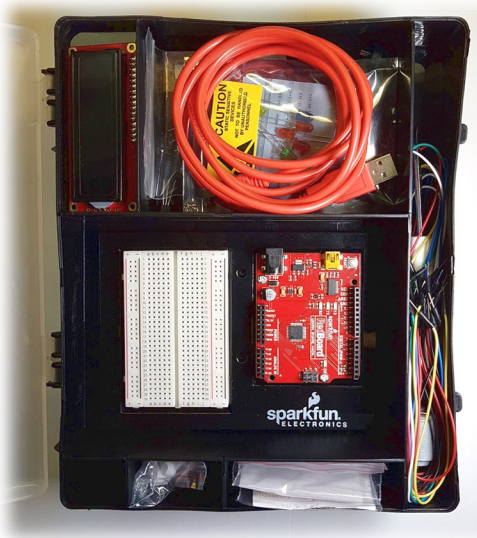
Maximum items to borrow	Maximum number of holds
100	50



Item type	Loan duration
General items	30 days (+ renewals)
Daily course reserves	1 day
3-hour course reserves	3 hours
Accessories	1 day
Equipment	1 day
Library laptops	1 day
Library tablets	3 days
Technology Sandbox items	7 days

Technology & Equipment

Laptops
Tablets
Headsets
Printers
Scanners
3D printers
…

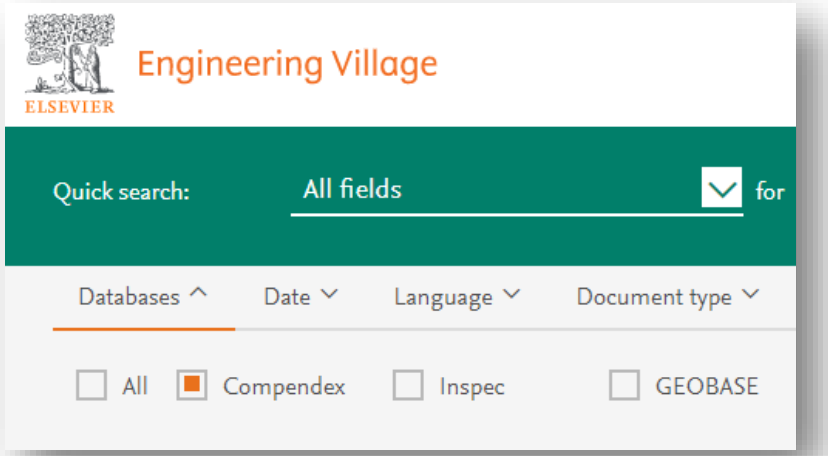


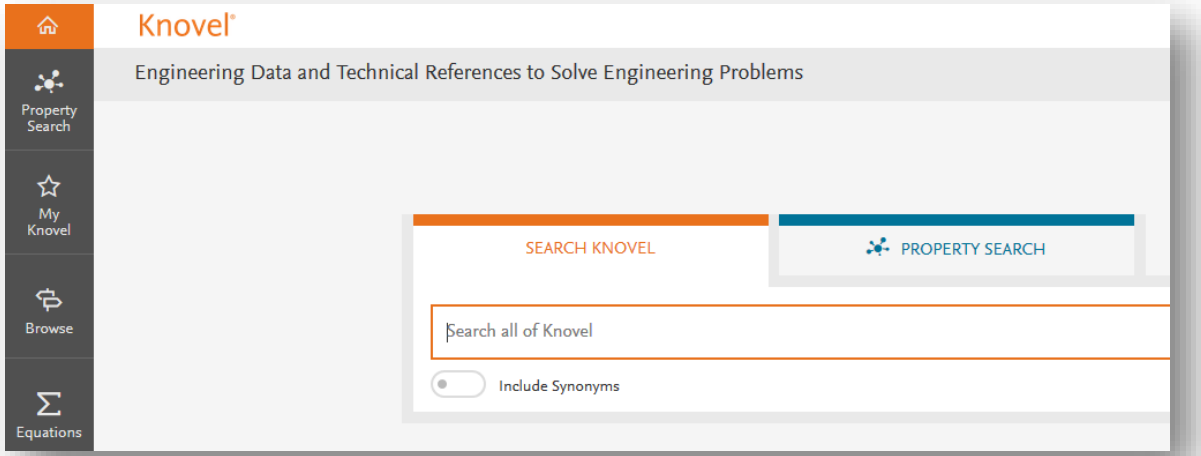
Off-campus access

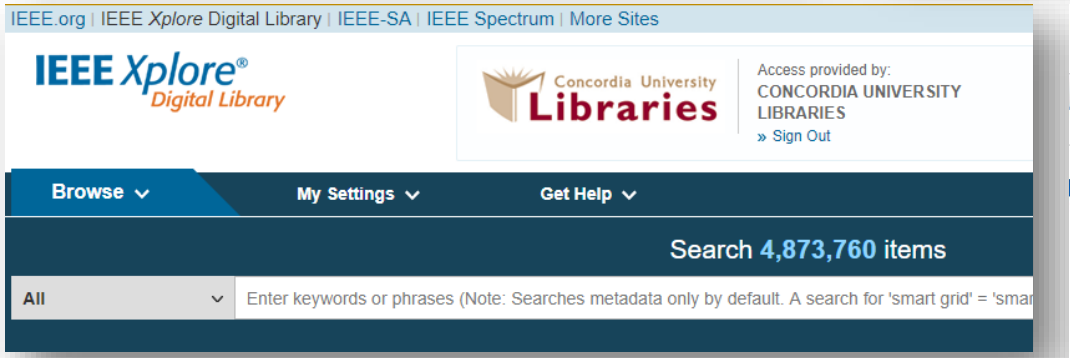
Use your Concordia netname and password

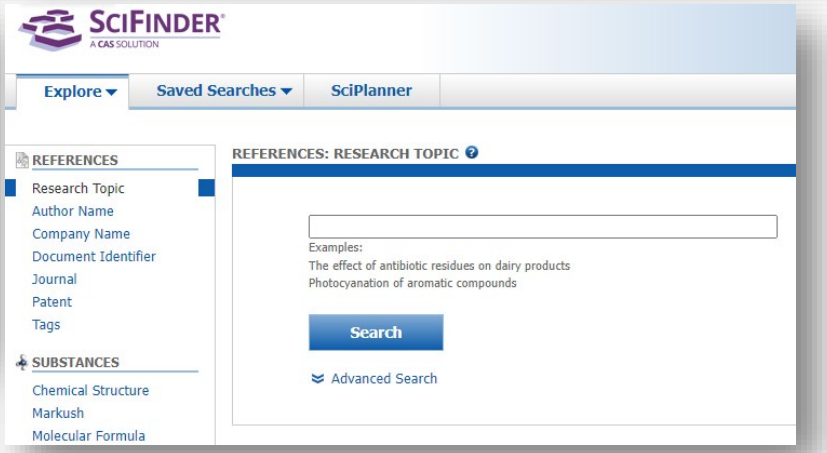
Best place to start searching

Digital Resources

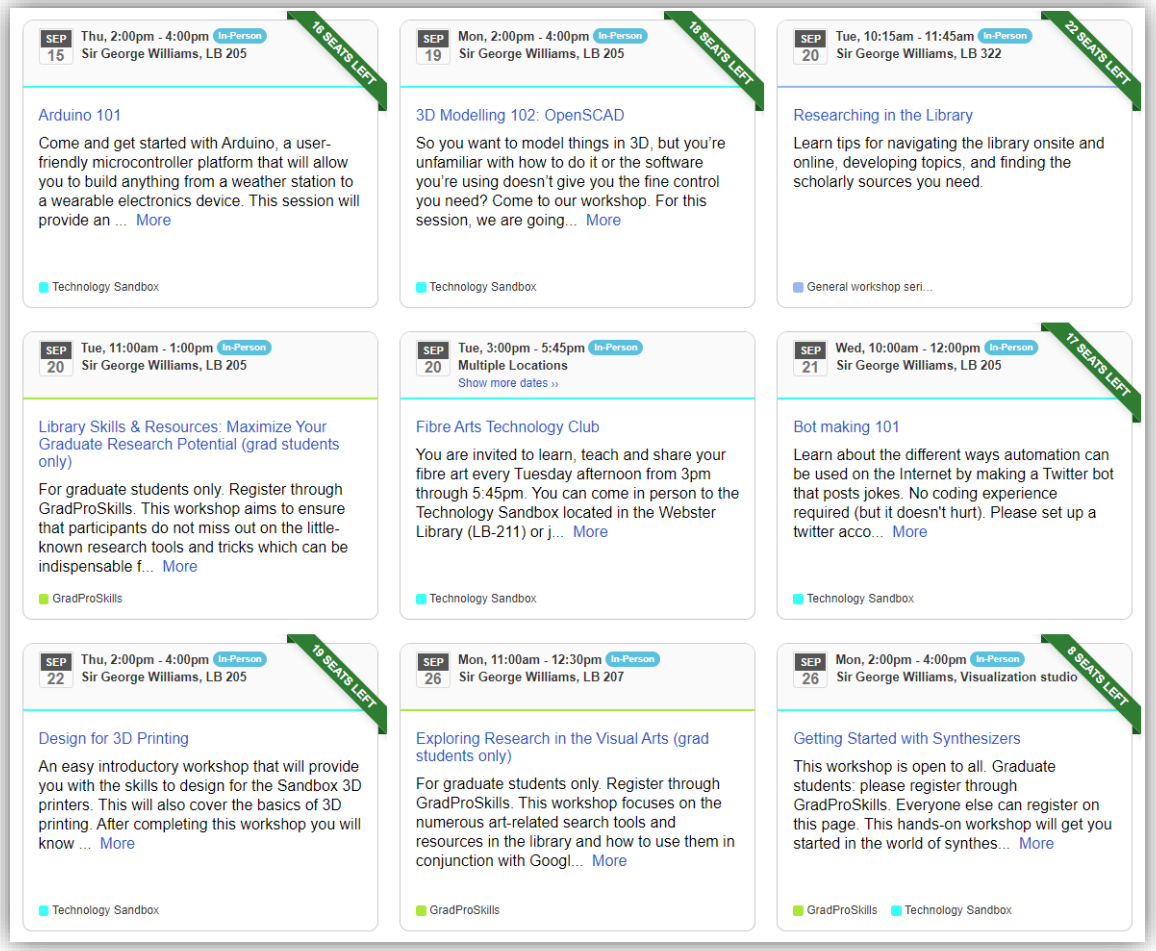








Library workshops and tutorials



SEP 15 Thu, 2:00pm - 4:00pm In-Person
Sir George Williams, LB 205
16 SEATS LEFT

Arduino 101

Come and get started with Arduino, a user-friendly microcontroller platform that will allow you to build anything from a weather station to a wearable electronics device. This session will provide an ... More

Technology Sandbox

SEP 19 Mon, 2:00pm - 4:00pm In-Person
Sir George Williams, LB 205
18 SEATS LEFT

3D Modelling 102: OpenSCAD

So you want to model things in 3D, but you're unfamiliar with how to do it or the software you're using doesn't give you the fine control you need? Come to our workshop. For this session, we are going... More

Technology Sandbox

SEP 20 Tue, 10:15am - 11:45am In-Person
Sir George Williams, LB 322
22 SEATS LEFT

Researching in the Library

Learn tips for navigating the library onsite and online, developing topics, and finding the scholarly sources you need.

General workshop seri...

SEP 20 Tue, 11:00am - 1:00pm In-Person
Sir George Williams, LB 205

Library Skills & Resources: Maximize Your Graduate Research Potential (grad students only)

For graduate students only. Register through GradProSkills. This workshop aims to ensure that participants do not miss out on the little-known research tools and tricks which can be indispensable f... More

GradProSkills

SEP 20 Tue, 3:00pm - 5:45pm In-Person
Multiple Locations
Show more dates ››

Fibre Arts Technology Club

You are invited to learn, teach and share your fibre art every Tuesday afternoon from 3pm through 5:45pm. You can come in person to the Technology Sandbox located in the Webster Library (LB-211) or j... More

Technology Sandbox

SEP 21 Wed, 10:00am - 12:00pm In-Person
Sir George Williams, LB 205
17 SEATS LEFT

Bot making 101

Learn about the different ways automation can be used on the Internet by making a Twitter bot that posts jokes. No coding experience required (but it doesn't hurt). Please set up a twitter acco... More

Technology Sandbox

SEP 22 Thu, 2:00pm - 4:00pm In-Person
Sir George Williams, LB 205
19 SEATS LEFT

Design for 3D Printing

An easy introductory workshop that will provide you with the skills to design for the Sandbox 3D printers. This will also cover the basics of 3D printing. After completing this workshop you will know ... More

Technology Sandbox

SEP 26 Mon, 11:00am - 12:30pm In-Person
Sir George Williams, LB 207

Exploring Research in the Visual Arts (grad students only)

For graduate students only. Register through GradProSkills. This workshop focuses on the numerous art-related search tools and resources in the library and how to use them in conjunction with Googl... More

GradProSkills

SEP 26 Mon, 2:00pm - 4:00pm In-Person
Sir George Williams, Visualization studio
8 SEATS LEFT

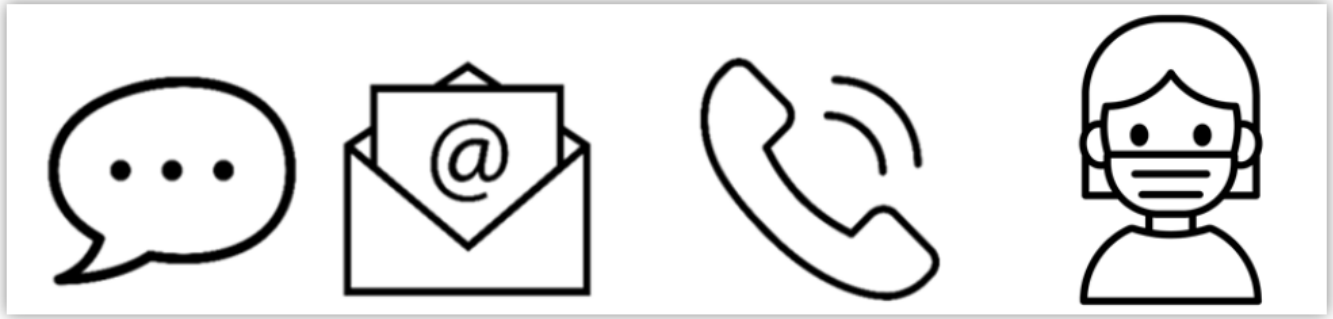
Getting Started with Synthesizers

This workshop is open to all. Graduate students: please register through GradProSkills. Everyone else can register on this page. This hands-on workshop will get you started in the world of synthes... More

GradProSkills Technology Sandbox

Ways to contact the library

ASK QUESTIONS - GET HELP



https://library.concordia.ca/help/questions/

Chloe Lei

Teaching & Research Librarian, Engineering & Computer Science

chloe.lei@concordia.ca

514-848-2424 ext. 7909

Feel free to contact me for an appointment in-person or online.

SCHEDULE AN APPOINTMENT

I can help you with library resources and services, including but are not limited to:

- Locate specific items (e.g. books, articles)
- Navigate resources related to engineering and computer science
- Literature searching
- Citations and references
- Recommend new resources

Follow us on Instagram & Twitter

@concordialib

GradProSkills

Empowering graduate students to achieve their academic and professional goals

Javier Ibarra-Isassi

Graduate Success Workshop Facilitator

CONCORDIA GradProSkills

STATEMENT OF PURPOSE

GradProSkills

Empowering

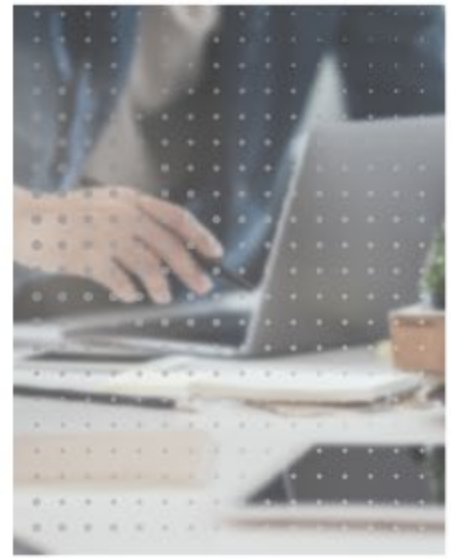
Concordia graduate students and postdoctoral fellows to engage with community resources, optimize their graduate school experience and equip themselves to achieve their professional and academic goals.

CONCORDIA GradProSkills

GradProSkills OFFERINGS

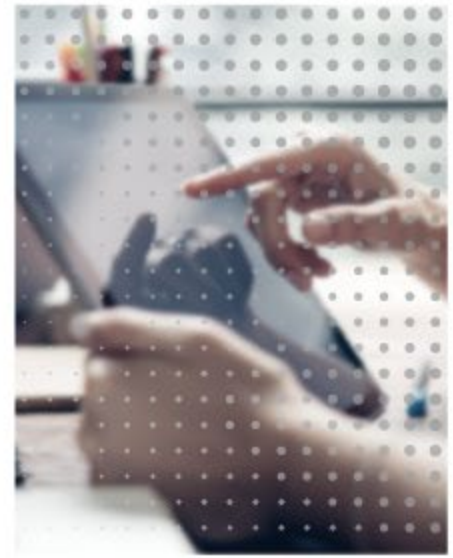
WORKSHOPS

More than 300 free workshops



CERTIFICATES

Record of participation and certificates



EVENTS

3MT/MT180, Thesis Boost, Meet & Write

RESOURCES

Online resources: GradProBlog, Udemy, Mitacs, and more!

OPPORTUNITIES

Work opportunities

CONCORDIA GradProSkills

SKILL DOMAINS

- Career Development
- Communication
- Digital, Media and Information
- Graduate Academic Success
- Language Training
- Leadership and Management
- Teaching
- Wellness & Life Balance

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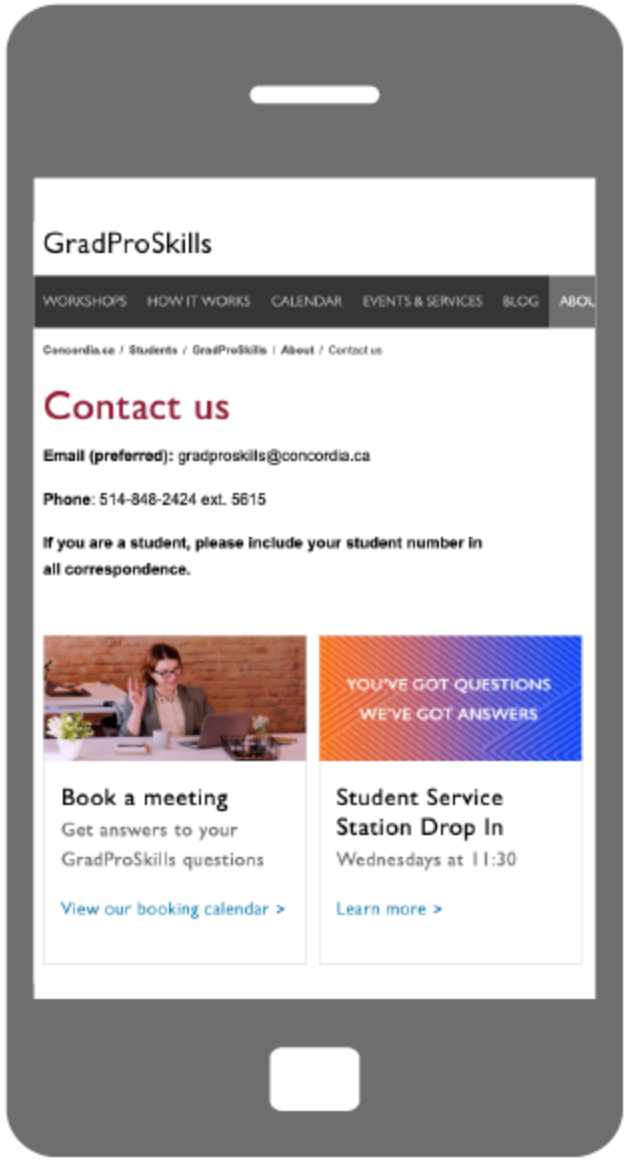

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FOLLOW US!

What is next?
You can find all the information about GradProSkills workshops, events, and resources on our website and social media:

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