

GINA CODY SCHOOL OF ENGINEERING AND COMPUTER SCIENCE

DEPARTMENT OF CHEMICAL AND MATERIALS ENGINEERING

# CME

# GRADUATE STUDENT HANDBOOK

**SUMMER 2024** 



# **TABLE OF CONTENTS**

Information applicable to all programs	4
CME Administrative Office Address	4
CME Website	4
Title Abbreviations and Definitions	4
CME Department Contact List	5
ENCS Account	6
Time Limit	7
Graduation	7
Convocation	7
Student Service Requests	7
Academic Community and Conduct	9
Departmental Dispute Resolution Procedure	10
Resource Cheat Sheet	10
Graduate Certificate in Chemical Engineering Program	13
Gr. Cert. General Requirements	13
Gr. Cert. Program Table	15
Gr. Cert. Additional requirements	16
Transfer from the Graduate Certificate to the Graduate Diploma program	17
Graduate Diploma in Chemical Engineering Program	18
Gr. Dipl. General Requirements	18
Gr. Dipl. Program Table	21
Gr. Dipl. Additional requirements	22
Transfer from the Graduate Diploma to the MASc program	23
Master of Applied Science in Chemical Engineering Program	24
MASc General Requirements	24
MASc Program Table	26
MASc Additional Requirements	27
Lab Access	28
Picking up your Access Card	28
Lab Coats	29
Desk Assignment	29
Fast Track from the MASc to the PhD program	29

MASc Awards & Scholarships	30
MASc Thesis Submission	30
MASc Thesis Initial Submission	30
MASc Oral Defence	30
MASc Thesis Final Submission	
MASc Thesis Deadlines	31
Departure procedures	31
Doctor of Philosophy in Chemical Engineering Program	32
PhD General Requirements	
PhD Program Table	34
PhD Additional Requirements	35
Lab Access	36
Picking up your Access Card	36
Lab Coats	37
Desk Assignment	
PhD Awards & Scholarships	37
ENCS 8501 Comprehensive Examination	
ENCS 8501 Comprehensive Examination Failure	38
ENCS 8511 Doctoral Research Proposal	41
PhD Thesis Submission	41
PhD Thesis Initial Submission	42
PhD Oral Defence	42
PhD Final Thesis Submission	42
PhD Thesis Deadlines	43
Departure procedures	43

# **INFORMATION APPLICABLE TO ALL PROGRAMS**



### **CME** Administrative Office Address

1515 Ste-Catherine St. W. EV 3.139 Montreal, QC H3G 2WI



# CME Website



(i)

### **Title Abbreviations and Definitions**

### **GPD: Graduate Program Director**

The GPD is the professor responsible for managing all aspects of their programs and for advising students on academic matters, course registration, etc. The GPD makes important and final decisions about the programs, resolves issues, reviews and approves student requests, signs documents and forms.

#### **PC: Programs Coordinator**

The PC is the administrative employee responsible for advising students on administrative matters and helps the GPD with advising, course registration, etc. Although the PC may advise students on administrative matters, the student is responsible for knowing the rules, regulations, policies and deadlines in the Graduate Calendar.

MASc: Master of Applied Science PhD: Doctor of Philosophy CHME: Chemical and Materials Engineering CME: Chemical and Materials Engineering GCS: Gina Cody School (of Engineering and Computer Science) ENCS: Engineering and Computer Science



Service Calendar

Complete glossary of university terms and acronyms

# **CME DEPARTMENT CONTACT LIST**



# **CME DEPARTMENT CONTACT LIST**



# **ENCS ACCOUNT**

All GCS students are provided with ENCS computer and email accounts. Note that the Department and the Dean's Office use the automatically generated listservs from the ENCS accounts to distribute information. We ask that you sign into that email account regularly or set up automatic forwarding to your concordia.ca email account.





Please use your concordia.ca email account for all official communications with the university as it supports identification verification.

# TIME LIMIT

Students who will or have exceeded their time limit can submit a Time Limit Extension Service Request. A Time Limit Extension (TLE) notation is added to the extended terms and is replaced if a course is registered. The student must submit a timeline for completion of the degree, approved by their supervisor. You can find your time limit date on your Offer of Admission Letter, and on your Transcript.



# GRADUATION

Students must apply to graduate in the Student Center by the following deadlines: Spring Convocation 15-Jan Fall Convocation 15-Jul



# CONVOCATION

All graduates must apply to graduate and register to attend convocation ceremonies using an online form once ceremonies are announced. Information about convocation ceremonies will be sent by email to all students who have applied to graduate.

# **STUDENT SERVICE REQUESTS**

Applications from students for exceptions to academic regulations or related matters should be submitted by the student through a service request. Students may submit service requests through their Student Center under "Graduate Service Requests". As some requests may be time sensitive, it is the student's responsibility to ensure that they are aware of all deadlines and regulations.









Service requests require supporting documentation in order to be evaluated. Failure to provide supporting documentation will result in the refusal of a request.

Examples of supporting documentation:

- Medical note
- Birth certificate
- · Communications with department and faculty
- Employment letter
- Travel documents

# **MOST FREQUENT STUDENT SERVICE REQUESTS**



# O Change of option

For Graduate students who wish to switch from course-based option to thesis option or vice versa, and from department to department.

# O <u>Transfer credits</u>

To transfer credits from the Certificate to the Diploma, or from the Diploma to the MASc, or from the MASc to the PhD.

# O Withdrawal from the program

For Students who wish to withdraw from their program or from the university. A Withdrawal form Program request is required when transferring from the Certificate to the Diploma, or when transferring from the Diploma to the MASc, or when Fast-Tracking from the MASc to the PhD.

### **<u>A Time Limit Extension</u>**

Students who will or have exceeded their time limit can submit this request. A Time Limit Extension notation is added to the extended terms and is replaced if a course is registered. The student must submit a timeline for completion of the degree, approved by their supervisor.

# Academic Re-evaluation Request

For Students who are dissatisfied with the grade received on one or more pieces of coursework. Students shall first attempt to meet with the instructor and explain their position.

# **REQUESTS NOT REQUIRING SUBMISSION OF A SERVICE REQUEST**

# Attestation Letter

Request an attestation letter to show your student status. Examples of attestation letters might include proof of full-time or part-time status, Certification of graduation, or Immigration/Visa extension.

# O CAQ letters

For International students whose CAQ letter and study permit is scheduled to expire, please send an email to the Programs Coordinator to prepare a letter to support your application for renewal.

# ACADEMIC COMMUNITY AND CONDUCT

Concordia is committed to promoting a safe, respectful and supportive environment for all students, faculty members, researchers and staff. Academic integrity refers to the principle of upholding honesty, responsibility and fairness in all aspects of academic life. The Academic Code of Conduct outlines the importance of academic integrity and the procedure to file a complaint if you believe you have discovered a case of cheating, plagiarism or any other dishonest behaviour related to academic pursuits.





Academic Integrity

# DEPARTMENTAL DISPUTE RESOLUTION PROCEDURE

If you find yourself in conflict with someone in the department, please reach out to Erica Howse to make an appointment for you to speak with Dr. Alex De Visscher, Chair of the Department.

# **RESOURCE CHEAT SHEET**



# **RESOURCE CHEAT SHEET**



HEALTH AND WELLNESS



A Health Services







# INTERNATIONAL STUDENTS

Immigration documents, health insurance, events and workshops, living and working in Canada, financial support





# **RESOURCE CHEAT SHEET**



# **GRADUATE CERTIFICATE IN CHEMICAL ENGINEERING PROGRAM**



**GENERAL REQUIREMENTS** 



All work for a graduate certificate program must be completed within 9 terms (3 years). You can find your time limit date on your Offer of Admission Letter, and on your Transcript.

A Student needs to complete a minimum of 15 credits choosing from the following graduate courses:



8 credits of Core Courses:

**CHME 6011** Advanced Transport Phenomena (4.00) ENCS 6021 Engineering Analysis (4.00)



4 credits chosen from one of the following two courses:

**CHME 6021** Advanced Chemical Engineering Thermodynamics (4.00) CHME 6031

Chemical Kinetics and Reaction Engineering (4.00)



3 credits minimum, with a maximum of 4 credits of Elective Courses chosen from one course from the list below, or any core Diploma, MEng, or MASc course in Chemical Engineering not included in the Certificate core course list.

**CHME 606 I** Advanced Biochemical Engineering (4.00)

**CHME 609 I** Statistics for Chemical Engineering (4.00)

**CHME 6101** Advanced Battery Materials and Technologies (4.00) CHME 6081 Advanced Separation Processes (4.00)

**CHME 6111** Polymer Chemistry and Engineering (4.00)

> **CHME 6131** Advanced Colloid and Interface Science and Engineering (4.00)

> > ENCS 6111

Numerical Methods (4.00)

**CHME 6911** Topics in Chemical Engineering I (4.00)

> **ENGR 6201** Fluid Mechanics (4.00)

**MECH 6131** Conduction and Radiation Heat Transfer (4.00)

MECH 6141 Heat Exchanger Design (4.00) MECH 7101 Convection Heat Transfer (4.00)

For advice on your course selection, please contact the GPD, non-thesis programs.



# Course descriptons

Chemical and Materials Engineering Courses

Mechanical, Industrial and <u>Aerospace Engineering Courses</u>

<u>Computer Science Courses</u>



# 

Graduate Certificate 15 Credits			
Course	Course Credits	Required Credits	
Required			
Chemical Engineering Gr. Certificate Core:			
8 credits:			
CHME 6011	4		
CHME 6021	4	I2 credits	
4 credits:		-	
CHME 6021	4		
CHME 6031	4		
Chemical Engineering Graduate Certificate Electives:			
3-4 credits:			
CHME 6061	4		
CHME 6081	4		
CHME 6091	4		
CHME 6101	4		
CHME 6111	4		
CHME 6131	4	3-4 credits	
CHME 6911	4		
ENCS 6111	4		
ENGR 6201	4		
MECH 6131	4		
MECH 6141	4	1	
MECH 7101	4	1	
or any core Diploma, MEng, or MASc course		]	

### **GRADUATE CERTIFICATE ADDITIONAL REQUIREMENTS**

# 0

### DEPARTMENTAL ORIENTATION SESSION

Attendance at the Departmental Orientation Session during the first term of residence is mandatory for new students and recommended for all graduate students. Orientation sessions are held as part of the course CHME 6981 Chemical Engineering Research Protocols and Safety during the first days of class in the Fall, Summer and Winter terms. Graduate Certificate students attending the Orientation Session do not need to register for CHME 6981. An email message will be sent to all students to inform them about the upcoming Orientation Sessions.

### DEPARTMENTAL SEMINAR SERIES

Every term the Chemical and Materials Engineering Department holds a seminar series where guest speakers from all over the world are invited to talk about their current research in a variety of fields related to chemical and materials engineering. In addition, end of program PhD students from the Department are invited to present the results of their research projects to the community.

Attendance at 80% of the seminars is mandatory for all students in each term. Attendance will be monitored with a sign-in sheet and students should sign their name upon entering the classroom. The department believes strongly in encouraging students to take advantage of all the learning opportunities available to them, and to contribute to and participate in the life of the department. The schedule of the seminars will be communicated by email in advance.

Graduate Certificate students who want to transfer to the Graduate Diploma program can transfer up to 15 credits to the Graduate Diploma (30 credits).

### **PROCESS:**

- I.Students must obtain the Graduate Program Director's approval before transferring to the Graduate Diploma program.
- 2. Students must submit a complete admission application for the term they will start the Graduate Diploma.
- 3. Students must submit a Withdrawal from Program Service Request to withdraw from the Graduate Certificate program before the DNE deadline of the semester in which they start the Graduate Diploma.
- 4. Students must submit a Transfer Credits Service Request to transfer credits from the Graduate Certificate to the Graduate Diploma program.



**One Deadline One Deadline** Service Requests

# **GRADUATE DIPLOMA IN CHEMICAL ENGINEERING PROGRAM**



# **GENERAL REQUIREMENTS**



All work for a diploma program must be completed within 12 terms (4 years) from the time of initial registration. You can find your time limit date on your Offer of Admission Letter, and on your Transcript.

A Student needs to complete a minimum of 30 credits choosing from the following graduate courses:



### 16 credits:

**CHME 6011** Advanced Transport Phenomena (4.00)

**CHME 6021** Advanced Chemical Engineering Thermodynamics (4.00) ENCS 6021 Engineering Analysis (4.00)

CHME 603 I Chemical Kinetics and Reaction Engineering (4.00)



4 credits chosen from one of the following courses:

CHME 6041 Chemical Engineering Process Dynamics and Control (4.00) CHME 605 I Chemical Process Engineering and Design (4.00)



4 credits chosen from any courses listed in E57 - Composite Materials or from the following of Materials Engineering graduate courses:

#### CHME 6101

Advanced Battery Materials and Technologies (4.00)

**CHME 6071** Materials Science and Engineering (4.00)

CHME 6111

Polymer Chemistry and Engineering (4.00)

**CHME 6121** Nanomaterials Science and Engineering (4.00)

# **GRADUATE DIPLOMA IN CHEMICAL ENGINEERING PROGRAM**

**CHME 6131** Advanced Colloid and Interface Science and Engineering (4.00) **CHME 7911** Topics in Chemical Engineering II (4.00)

**MECH 6431** 

ENGR 6601

) Introduction to Tribology

Principles of Solar Engineering (4.00)

### (Wear, Friction and Lubrication) (4.00)

MECH 6571

Corrosion and Oxidation of Metals (4.00)



3 credits minimum with 4 credits maximum (one course) technical elective chosen from Chemical Engineering or from any other Engineering and Computer Science graduate program, or from the Chemistry, Physics, or Biology graduate programs.

Ē

3 or 4 credits from the following list of Complementary Courses chosen from any 6000-level course(s) listed in the following Topic Areas: E08 - Academic Communication Skills E09 - Professional Leadership Skills

Students may take an elective course outside the elective list with permission of the GPD.

For advice on your course selection, please contact the GPD, non-thesis programs.

# **GRADUATE DIPLOMA IN CHEMICAL ENGINEERING PROGRAM**



**E57 - Composite Materials** 

**E09 - Professional Leadership Skills** 

**<u>Engineering and</u>** <u>Computer Science Courses</u> **E08 - Academic Communication Skills** 

**Chemical and Materials** <u>Engineering Courses</u>

<u>Mechanical, Industrial and</u> <u>Aerospace Engineering Courses</u>



# **GRADUATE DIPLOMA PROGRAM TABLE**

Graduate Diploma 30 Credits			
Course	Course Credits	Required Credits	
Required			
		·	
Chemical Engineering Graduate Diploma Core:			
16 credits:			
CHME 6011	4		
CHME 6021	4		
CHME 6031	4	20 credits	
ENCS 6021	4		
4 credits:		-	
CHME 6041	4		
CHME 6051	4	-	
Chemical Engineering Graduate Diploma Electives:			
4 credits:			
Electives List I - E57 Composite Materials	4	-	
3-4 credits:		_	
Electives List 2 - Technical elective course in CHEM ENG, ENG & COM SCIE. CHEM, PHYS, BIOL.	3-4	I0 credits	
Electives List 3		_	
3-4 credits:		]	
E08 - Acad. Comm. Skills		]	
E09 - Prof. Leadership Skills	3-4		

### **GRADUATE DIPLOMA ADDITIONAL REQUIREMENTS**



### DEPARTMENTAL ORIENTATION SESSION

Attendance at the Departmental Orientation Session during the first term of residence is mandatory for new students and recommended for all graduate students. Orientation sessions are held as part of the course CHME 6981 Chemical Engineering Research Protocols and Safety during the first days of class in the Fall, Summer and Winter terms. Graduate Certificate students attending the Orientation Session do not need to register for CHME 6981. An email message will be sent to all students to inform them about the upcoming Orientation Sessions.

### DEPARTMENTAL SEMINAR SERIES

Every term the Chemical and Materials Engineering Department holds a seminar series where guest speakers from all over the world are invited to talk about their current research in a variety of fields related to chemical and materials engineering. In addition, end of program PhD students from the Department are invited to present the results of their research projects to the community.

Attendance at 80% of the seminars is mandatory for all students in each term. Attendance will be monitored with a sign-in sheet and students should sign their name upon entering the classroom. The department believes strongly in encouraging students to take advantage of all the learning opportunities available to them, and to contribute to and participate in the life of the department. The schedule of the seminars will be communicated by email in advance.

**C TRANSFER FROM THE GRADUATE DIPLOMA TO THE MASC PROGRAM** 

Graduate Diploma students who want to transfer to the MASc program can transfer up to 12 credits (4 courses) from the Graduate Diploma Core in the MASc program (45 credits). Please note that securing a Supervisor is required for admission to the MASc program.

### **PROCESS:**

- I.Students must secure a Supervisor.
- 2. Students must submit a complete admission application for the term they will start the MASc.
- 3. If accepted, students will receive an official letter of admission.
- 4. Students must submit a Withdrawal from Program Service Request to withdraw from the Graduate Diploma program before the DNE deadline of the semester in which they start the MASc Program.
- 5. Students must submit a Transfer Credits Service Request to transfer credits from the Graduate Diploma to the MASc Program.



**ODNE Deadline OTransfer Credit** Service Requests

# MASTER OF APPLIED SCIENCE IN CHEMICAL ENGINEERING PROGRAM



# **GENERAL REQUIREMENTS**

- The minimum residence requirement for the master's degree is 3 terms (one year) of full-time study, or the equivalent in part-time study. This requirement must be met regardless of the amount of graduate work previously completed in any other program or at any other university.
- All work for a thesis-based master's degree for full-time students must be completed within 9 terms (3 years) from the time of initial registration in the program; for part-time students the time limit is 15 terms (5 years). You can find your time limit date on your Offer of Admission Letter, and on your Transcript.
- Completion of a minimum of 45 credits.
- Completion of the graduate courses list below.
- Submission and defense of a thesis.



4 credits: CHME 6981 Chemical Engineering Research Protocols and Safety must be completed in the first term in the program.



**4 credits minimum from the Chemical Engineering MASc Core Courses.** Consult with your Supervisor prior to registering for any courses from the Chemical Engineering MASc Core Courses



8 credits maximum from the Chemical Engineering MASc Electives List with permission of the Graduate Program Director. Consult with your Supervisor prior to registering for any courses from the Chemical

Engineering MASc Electives List

Students may take an elective course outside the Chemical Engineering MASc Electives List with permission of the Graduate Program Director.

# MASTER OF APPLIED SCIENCE IN CHEMICAL ENGINEERING PROGRAM



# **GENERAL REQUIREMENTS**

Students who take a three-credit course towards their requirement of 12 credits chosen from the Chemical Engineering MASc Core Courses list and the Chemical Engineering MASc Electives List: must take the one-credit course CHME 6001 - Project in Chemical and Materials Engineering to obtain the missing credit.





# MASC PROGRAM TABLE

MASc 45 Credits			
Course	Course Credits	Required Credits	Recommended Timeline
Required			
CHME 6981 Protocol & Safety	4	4	Term I
Chemical Engineering MASc Core:			
CHME 6011	4	1	
CHME 6021	4		
CHME 6031	4	1	
CHME 6041	4		Yeen I
CHME 6051	4		Tear I
CHME 6071	4	1	
CHME 6081	4	1	
CHME 6121	4	1	
ENCS 6021	4	1	
ENGR 8901 Thesis Submission	29	29	Year 2
		·	·
Chemical Engineering MASc Electives:			
CHME 6061	4		
CHME 6091	4		
CHME 6101	4		
CHME 6111	4		
CHME 6131	4		
CHME 6911	4		
ENCS 6111	4		
ENGR 6201	4		
MECH 6131	4	]	
MECH 6141	4	]	
MECH 7101	4	]	
CHME 7911	4	]	
ENGR 6601	4	Maximum 8 credits	Year I-2
ENGR 6971	4	]	
MECH 6571	4		
CHEM 631	3		
CHME 6001	1		
E03 - Systems and Control			
E04 - Fluid Mechanics			
E07 - Energy Conversion			
E08 - Acad. Comm. Skills	Topic Area - Except MASc		
E09 - Prof. Leadership Skills	Core		
E37 - Env. Engineering			
E52 - Thermo. & Heat Transf.			
E57 - Composite Materials			





### DEPARTMENTAL ORIENTATION SESSION

Attendance at the Departmental Orientation Session during the first term of residence is mandatory for new students and recommended for all graduate students. Orientation sessions are held as part of the course CHME 6981 Chemical Engineering Research Protocols and Safety during the first days of class in the Fall, Summer and Winter terms. Graduate Certificate students attending the Orientation Session do not need to register for CHME 6981. An email message will be sent to all students to inform them about the upcoming Orientation Sessions.

# -

### DEPARTMENTAL SEMINAR SERIES

Every term the Chemical and Materials Engineering Department holds a seminar series where guest speakers from all over the world are invited to talk about their current research in a variety of fields related to chemical and materials engineering. In addition, end of program PhD students from the Department are invited to present the results of their research projects to the community.

Attendance at 80% of the seminars is mandatory for all students in each term. Attendance will be monitored with a sign-in sheet and students should sign their name upon entering the classroom. The department believes strongly in encouraging students to take advantage of all the learning opportunities available to them, and to contribute to and participate in the life of the department. The schedule of the seminars will be communicated by email in advance.

# 0

### **PROGRESS REPORTS**

The School of Graduate Studies is responsible for annually monitoring the progress of graduate students in research programs. Students must submit a report every year by March 31, and if not submitted a block will be placed on the students' record that will prevent registration of any further courses. The contents of the students' reports remain confidential to the Graduate Program Director, Department Chair, and School of Graduate Studies (the Supervisor doesn't have access to the students' reports).



# LAB ACCESS

Thesis students are required to complete CHME 6981 Research Protocols and Safety in their first semester. All required training for lab access, among other components, is included in this course. You can find information about lab safety, including the list of training required for each lab on the Department's Lab Safety page. Please read all the policies carefully as you are responsible for your own safety and those around you.

When you have completed and passed all training, and are in your second semester, your supervisor will request lab access on your behalf. Erica will verify your completed training with the Environmental Health and Safety Office. Lab access will be added to your access card 24 hours after the request is entered into the system.



### **PICKING UP YOUR ACCESS CARD**

### LOYOLA

After the DNE deadline date, visit the Loyola Security Desk at SP-144 (Science Pavilion) to have your photo taken and access card printed. Make sure you bring a valid photo ID. Hours of operation: Monday to Friday, 7:30 a.m. to 2:30 p.m. If the security desk asks you to complete a form, let them know that you are from GCS and we do not need to complete the form.

### SGW

After the DNE deadline date, visit the SGW Security Desk H-118 (Hall Building) to have your photo taken and access card printed. Make sure you bring a valid photo ID. Hours of operation: Monday to Sunday, 9:00 a.m. to 9:00 p.m. If the security desk asks you to complete a form, let them know that you are from GCS and we do not need to complete the form.

Access to the following rooms in the EV Building will be added to your access card after the DNE deadline date:

EV 8.101, 8.105, 8.109, 8.119, 8.143, 8.165, 8.169, 8.181, 8.187, 9.113, 9.139, 9.241, 9.245, 9.411\*, 10.411\*, 14.401\*, 16.105\*.

\*These rooms are Student lounges which have a fridge, a microwave and tables where you can eat. Note that the access card is the property of the Concordia University Security Department. This card is nontransferable and is to be used by the cardholder only. If this card is lost or stolen, it must be reported

immediately to the Security Department at 514-848-2424 ext. 3717 and to Erica. The access card must be presented or returned to authorized University personnel upon request.











You will need a lab coat in order to work in the lab. Complete the <u>Lab Coat Policy and Request</u> <u>Form</u>. Once verified, the Administrator will schedule a time to meet with her (for SGW labs) or forward the request to Kerri (for Loyola labs).



As a research-based student you are eligible to be assigned a desk on campus in your second semester dependent on availability. Your supervisor should request this desk on your behalf by writing to Erica.



# > FAST TRACK FROM THE MASC TO THE PHD PROGRAM

- I.Prior to the request for fast-track PhD, the student must have passed at least 3 four-credit MASc courses with excellent grades (GPA: minimum 3.7) and should have an outstanding undergraduate academic record (GPA: minimum 3.2).
- 2. In order to fast-track from MASc to PhD, the student's supervisor must send a recommendation letter, along with other supporting documents (CV, transcripts, and publication if applicable) to the Graduate Program Director to justify the student's upgrade to the PhD.
- 3. The Graduate Program Director will meet with the departmental graduate studies committee to review the request and make the decision.
- 4. If approved, the request will then be forwarded to the Gina Cody School for final approval by the Associate Dean.
- 5. Students who fast-track to PhD must take minimum 5 courses (including those taken prior to the transfer) to satisfy the departmental requirements.
- 6. Upon approval, the students must submit a complete admission application for the term they will start their PhD.
- 7. Students must submit a Withdrawal from Program Service Request to withdraw from the MASc program before the DNE deadline of the semester in which they start the PhD.
- 8. Students must submit a Transfer Credits Service Request to transfer credits from the MASc to the PhD program.



**DNE** Deadline

Service Requests



### MASC AWARDS & SCHOLARSHIPS

There are many possible scholarship programs and funding agencies. To help students navigate these diverse opportunities, GradProSkills and the Graduate Awards Office will be offering workshops and information sessions each year. The Department will inform you and your Supervisor(s) when the application opens for any awards and competitions by providing information about the eligibility requirements, and the application / nomination process.





MASC THESIS SUBMISSION

Learn everything you need to know about how to prepare, submit, and defend your master's thesis



### MASC THESIS INITIAL SUBMISSION

Students are responsible to submit their Initial Thesis to the Graduate Program Director and the Program Coordinator.



### MASC ORAL DEFENCE

In consultation with the Supervisor, the Oral Defence is commonly scheduled within 3 to 5 weeks from the initial submission of your thesis.



# MASC THESIS FINAL SUBMISSION

The Final Thesis can be submitted after the Oral Defence and depending on the outcome of the Oral Defence.



# MASC THESIS DEADLINES

MASc Thesis Deadlines			
Spring Convocation		Fall Convocation	
Apply to Graduate	I 5-Jan	Apply to Graduate	l 5-Jul
Initial Thesis Submission	4-Mar* recommendation	Initial Thesis Submission	4-Aug* recommendation
Final Thesis Sub.	I-Apr	Final Thesis Sub.	I-Sep



# DEPARTURE PROCEDURES

### CONGRATULATIONS ON YOUR GRADUATION! PLEASE DON'T FORGET TO:

- I.Put your lab coat in the laundry chute and let Erica know you have done so. Your access to the lab will then be removed.
- 2. Clean out your desk and drawer/locker. You will be unassigned as soon as possible to make room for the next student. Spots are in high demand.
- 3. Return any keys you may have to your supervisor.



# DOCTOR OF PHILOSOPHY IN CHEMICAL ENGINEERING PROGRAM



# **GENERAL REQUIREMENTS**

- The minimum residence requirement for a doctoral degree is 6 terms (two years) of full-time graduate study, or the equivalent in part-time study.
- All work for a doctoral degree must be completed within 18 terms (6 years) of full-time study or 24 terms (8 years) of part-time study from the time of original registration in the program. You can find your time limit date on your Offer of Admission Letter, and on your Transcript.
- All required and complementary courses should be completed within the first year of the program.
- Completion of a minimum of 90 credits.
- Completion of the graduate courses list below.
- Submission and defense of a thesis.

C	

4 credits: CHME 6981 Chemical Engineering Research Protocols and Safety must be completed in the first term in the program.



### 8 credits:

- ENCS 8501 Comprehensive Examination (0 credits) should be completed within the first 16 months of the PhD program.
- ENCS 8511 Doctoral Research Proposal (6 credits) should be completed within the first 24 months of the PhD program.
- ENCS 8011 PhD Seminar (2 credits) should be completed within the first 30 months of the PhD program.



### 8 credits: chosen from the Chemical Engineering PhD Courses list.

Please consult with your Supervisor prior to registering for any courses from the Chemical Engineering PhD Courses list.

Students may take a course outside the course list with permission of the Graduate Program Director. Students who take a three-credit course towards their course requirement of 12 credits must take the course CHME 6001 Project in Chemical and Materials Engineering (1 credit) to obtain the missing credit.

# DOCTOR OF PHILOSOPHY IN CHEMICAL ENGINEERING PROGRAM



# **GENERAL REQUIREMENTS**



**70 credits: ENGR 8911 Doctoral Research and Thesis (70 credits)** Should be completed within the first 48 months of the PhD program.



PhD Courses

<u>Engineering and</u> <u>Computer Science Courses</u>

Chemical and Materials Engineering Courses



# **PHD PROGRAM TABLE**

PhD 90 Credits				
Course	Course Credits	Required Credits	Timeline	
Required				
CHME 6981 Protocol & Safety	4	4	Term I	
ENCS 8501 Comp Exam	0		Within 16 months	
ENCS 8511 Research Prop.	6	. 8	Within 24 months	
ENCS 8011 Seminar	2		Within 30 months	
ENGR 8911 Thesis Submission	70	70	Within 48 months	
Complimentary				
CHME 6011	4			
CHME 6021	4			
CHME 6031	4			
CHME 6041	4			
CHME 6051	4			
CHME 6061	4			
CHME 6071	4			
CHME 6081	4			
CHME 6091	4			
CHME 6101	4			
CHME 6111	4			
CHME 6131	4			
CHME 6911	4			
CHME 7911	4			
ENCS 6021	4			
ENCS 6111	4			
ENGR 6201	4		Within 12 months	
ENGR 6601	4	8		
ENGR 6971	4			
MECH 6131	4			
MECH 6141	4			
MECH 6571	4			
MECH 7101	4			
CHEM 631	3			
CHME 6001	I			
E03 - Systems and Control				
E04 - Fluid Mechanics	1			
E07 - Energy Conversion				
E08 - Acad. Comm. Skills				
E09 - Prof. Leadership Skills	i opic Area - Except MASc Core & Electives			
E37 - Env. Engineering	1			
E52 - Thermo. & Heat Transf.	1			
E57 - Composite Materials	1			

PHD ADDITIONAL REQUIREMENTS



### DEPARTMENTAL ORIENTATION SESSION

Attendance at the Departmental Orientation Session during the first term of residence is mandatory for new students and recommended for all graduate students. Orientation sessions are held as part of the course CHME 6981 Chemical Engineering Research Protocols and Safety during the first days of class in the Fall, Summer and Winter terms. Graduate Certificate students attending the Orientation Session do not need to register for CHME 6981. An email message will be sent to all students to inform them about the upcoming Orientation Sessions.

# -

### DEPARTMENTAL SEMINAR SERIES

Every term the Chemical and Materials Engineering Department holds a seminar series where guest speakers from all over the world are invited to talk about their current research in a variety of fields related to chemical and materials engineering. In addition, end of program PhD students from the Department are invited to present the results of their research projects to the community.

Attendance at 80% of the seminars is mandatory for all students in each term. Attendance will be monitored with a sign-in sheet and students should sign their name upon entering the classroom. The department believes strongly in encouraging students to take advantage of all the learning opportunities available to them, and to contribute to and participate in the life of the department. The schedule of the seminars will be communicated by email in advance.

### **PROGRESS REPORTS**

The School of Graduate Studies is responsible for annually monitoring the progress of graduate students in research programs. Students must submit a report every year by March 31, and if not submitted a block will be placed on the students' record that will prevent registration of any further courses. The contents of the students' reports remain confidential to the Graduate Program Director, Department Chair, and School of Graduate Studies (the Supervisor doesn't have access to the students' reports).



# LAB ACCESS

Thesis students are required to complete CHME 6981 Research Protocols and Safety in their first semester. All required training for lab access, among other components, is included in this course. You can find information about lab safety, including the list of training required for each lab on the Department's Lab Safety page. Please read all the policies carefully as you are responsible for your own safety and those around you.

When you have completed and passed all training, and are in your second semester, your supervisor will request lab access on your behalf. Erica will verify your completed training with the Environmental Health and Safety Office. Lab access will be added to your access card 24 hours after the request is entered into the system.



### **PICKING UP YOUR ACCESS CARD**

### LOYOLA

After the DNE deadline date, visit the Loyola Security Desk at SP-144 (Science Pavilion) to have your photo taken and access card printed. Make sure you bring a valid photo ID. Hours of operation: Monday to Friday, 7:30 a.m. to 2:30 p.m. If the security desk asks you to complete a form, let them know that you are from GCS and we do not need to complete the form.

#### SGW

After the DNE deadline date, visit the SGW Security Desk H-118 (Hall Building) to have your photo taken and access card printed. Make sure you bring a valid photo ID. Hours of operation: Monday to Sunday, 9:00 a.m. to 9:00 p.m. If the security desk asks you to complete a form, let them know that you are from GCS and we do not need to complete the form.

Access to the following rooms in the EV Building will be added to your access card after the DNE deadline date:

EV 8.101, 8.105, 8.109, 8.119, 8.143, 8.165, 8.169, 8.181, 8.187, 9.113, 9.139, 9.241, 9.245, 9.411\*, 10.411\*, 14.401\*, 16.105\*.

\*These rooms are Student lounges which have a fridge, a microwave and tables where you can eat.

Note that the access card is the property of the Concordia University Security Department. This card is nontransferable and is to be used by the cardholder only. If this card is lost or stolen, it must be reported immediately to the Security Department at 514-848-2424 ext. 3717 and to Erica. The access card must be presented or returned to authorized University personnel upon request.











You will need a lab coat in order to work in the lab. Complete the <u>Lab Coat Policy and Request</u> <u>Form</u>. Once verified, the Administrator will schedule a time to meet with her (for SGW labs) or forward the request to Kerri (for Loyola labs).



As a research-based student you are eligible to be assigned a desk on campus in your second semester dependent on availability. Your supervisor should request this desk on your behalf by writing to Erica.



# PHD AWARDS & SCHOLARSHIPS

There are many possible scholarship programs and funding agencies. To help students navigate these diverse opportunities, GradProSkills and the Graduate Awards Office will be offering workshops and information sessions each year. The Department will inform you and your Supervisor(s) when the application opens for any awards and competitions by providing information about the eligibility requirements, and the application / nomination process.

GradProSkills Workshops

**A Funding sources** 



### **ENCS 8501 COMPREHENSIVE EXAMINATION**

You are required to submit to your comprehensive examination committee at least one week prior to the exam a critical literature review report and three key journal articles. Please note that the report should be a maximum of 15 pages (font size 12, margins of 2 cm and spacing of 1.5) for sections two through four below. The complete report should consist of the following recommended components:

- I. Abstract
- 2. Introduction/background
- 3. Literature review results
- 4. Conclusion and potential future work

#### 5. References.

You are also required to present the highlights of your report to the committee. Prepare your presentation so that it does not exceed 25 minutes. In the beginning of your presentation, please use 2-3 minutes to introduce your academic biography, including your academic background, why you decide to pursue a degree in this area, what are your goals or expectations in the PhD study, etc.

Your examination will be administered and evaluated by your examination committee.

### ENCS 8501 COMPREHENSIVE EXAMINATION FAILURE

The oral examination is the default format of the comprehensive examination at the CME Department, unless the comprehensive examination committee suggests the alternative written exam in specific cases. Should students fail the comprehensive exam in the first time, they can request to take it for a second time within the next four months and the written examination is the default format for the second time. Nevertheless, the examination committee may still suggest the oral format for the second examination in special cases, subject to the approval by the Graduate Program Director.

The following are the guidelines for the written examination that students take as their second comprehensive examination.

### COMPONENTS OF THE WRITTEN EXAMINATION AND SCHEDULING

- Students who fail the first comprehensive exam must make a written request, within 2 weeks after the first exam, to the Graduate Program Director to take the written comprehensive exam.
- 2 The written examination should be focused on the fundamentals related to the students' field of research or key fields in chemical and materials engineering (including but not limited to thermodynamics, reactor engineering, transport phenomena, separation, materials engineering) or any of their combinations.
- 3 An examination committee will be proposed by the supervisor within I week after the exam is requested, which is to be approved by the Graduate Program Director. The committee should have at least three members other than the supervisor/co-supervisors, with at least one internal CME member. The Graduate Program Director also appoints one of the committee members other than the supervisor/co-supervisors as the Chair for the committee. Usually, the committee is the same one for the student's first comprehensive examination.
- 4 The examination committee will meet to define the fields and the contents that the written examination will cover and the textbooks that the students can use for their preparation of the written examination, as well as other details as follows. Typically, the written examination should be composed of various problems/questions in the defined fields/contents. It should take place physically as a closed-room examination, either open-book or closed-book, and last typically for up to 3 hours determined by the examination committee. During the written examination, the student is not allowed to use any electronic devices, except faculty-approved calculators.
- **5** The committee and the student decide on the mutually agreed date/time for the written examination. For students who take the written examination as their second comprehensive examination, the written examination must take place within the following semester after their first examination. Once determined, the Chair will write to the Graduate Program Director, confirming the details of the written examination, including topics/content of the examination, textbooks, the date/time, open-book or closed-book, etc. This should be completed within I week following the formation of the committee. The written examination will be scheduled with the student and the committee within 8-12 weeks after this point. The PC will book a room for the examination. The Graduate Program Director will send to the student the official announcement of the written examination, along with the details mentioned above.

# COMPONENTS OF THE WRITTEN EXAMINATION AND SCHEDULING

- 6 Should the students have any questions regarding the details of the written examination, they are directed to the Chair of the examination committee, who may also seek the input from the committee if needed.
- 7 The examination committee prepares and finalizes the problems/questions for the written examination, and defines the minimum passing mark, which should be agreed upon by all examination committee members. The question booklet should be finalized at least one week prior to the written examination and should be treated strictly as confidential information. The supervisor is responsible for printing out the question booklet and bringing it to the examination, along with an answer booklet and other items if needed.
- 8 The supervisor and Chair of the examination committee will invigilate the written examination and answer questions that the students may have during the examination.
- 9 The committee chooses two members to independently grade the exam within three workdays following the written examination, and then have a meeting, within a week after the written examination, with all committee members to judge if the student passes the written examination. The potential outcomes of the written examination are:
  - Pass.
  - Fail.

# Students who fail this written examination as their second comprehensive examination are withdrawn from the program.

- 10 Committee members should circle their decision on the signature sheet, only one cosupervisor can vote. After that, the student is invited to meet the committee and is informed of the committee's decision.
- The committee members sign the PhD Comprehensive Examination Report and the Supervisor signs the Grade Activity Report.
- 12 The Chair will return the exam question booklet and answer booklet, as well as the signed forms, to the Graduate Program Director (copy PC).



In the case of plagiarism, the student will face consequences that are defined in Concordia University academic code of conduct.



### ENCS 8511 DOCTORAL RESEARCH PROPOSAL

Please note that the proposal should be a maximum of 15 pages for sections one through six below. Please ensure that about 50% of the proposal is on the proposed research methodology. You may have an appendix with a maximum of five pages to include your progress to date. The complete proposal should consist of the following recommended components:

- I. Introduction/background,
- 2. Literature pertinent to the proposal,
- 3. Scope and objectives of the dissertation research,
- 4. Detailed research methodology plan (about 50% of the proposal),
- 5. Timelines,
- 6. Anticipated significance/impact of the work,
- 7. References,
- 8. Appendix progress to date (maximum five pages).

You are also required to present the highlights of your report and the proposed dissertation to the committee. Prepare your presentation so that it does not exceed 25 minutes. You are required to submit the proposal report to your examination committee at least two weeks before the presentation.

Your examination will be administered and evaluated by your examination committee.

The proposal may be accepted, returned for modifications, or rejected. A student whose proposal is accepted will be admitted to candidacy for the PhD. The rejection of a proposal will result in the student's withdrawal from the program.



### PHD THESIS SUBMISSION

<u>Learn everything you need to know about how to prepare, submit, and defend your doctoral thesis</u>



### PHD THESIS INITIAL SUBMISSION

In consultation with their supervisor, students complete and submit the Doctoral thesis examining committee form, and the External Examiner's curriculum vitae to the Graduate Program Director. Once approved, the following documents are required for a complete initial submission and must be sent to the thesis office at least 6 weeks prior to the Oral Defence date:

- Doctoral Thesis Examining Committee form
- Electronic copy of thesis in PDF/A (archival PDF format)
- Abstract (Word document)
- A copy of the candidate's up-to-date CV
- A copy of the external examiner's up-to-date CV



Thesis Office

thesis@concordia.ca



### PHD ORAL DEFENCE

In consultation with the Supervisor, the Oral Defence is commonly scheduled at least 6 weeks from the initial submission of your thesis.



### PHD FINAL THESIS SUBMISSION

The Final Thesis can be submitted after the Oral Defence and depending on the outcome of the Oral Defence.



PhD Thesis Deadlines			
Spring Convocation		Fall Convocation	
Apply to Graduate	15-Jan	Apply to Graduate	l 5-Jul
Initial Thesis Submission	II-Feb* recommendation	Initial Thesis Submission	l 4-Jul* recommendation
Oral Defence	At least 6 weeks after Initial Thesis Submission	Oral Defence	At least 6 weeks after Initial Thesis Submission
Final Thesis Sub.	I-Apr	Final Thesis Sub.	I-Sep



### CONGRATULATIONS ON YOUR GRADUATION! PLEASE DON'T FORGET TO:

- I. Put your lab coat in the laundry chute and let Erica know you have done so. Your access to the lab will then be removed.
- 2. Clean out your desk and drawer/locker. You will be unassigned as soon as possible to make room for the next student. Spots are in high demand.
- 3. Return any keys you may have to your supervisor.

