



# **Department of Chemical Engineering**

## **Graduate Student Handbook**

### **For Research Students**

**August 2024**

## TABLE OF CONTENTS

<b>Welcome from Dr. Lowry</b>	3
<b>You're Here, What's Next??</b>	5
- Registration	
- Student U Card (ID)	6
- Set up a Bank Account	
- Financial Services	
- Meet the Director of Graduate Studies	
- International Students	
<b>Courses and Registration</b>	8
- Registering for Classes	
- Taking Courses for Credit	
- Taking "Extra" Courses	
- Auditing a Course	
- Grade Standards	9
- Courses Offered	
- ChE 6800 Seminar Course	10
<b>General Notes for Graduate Students</b>	11
- Mail	
- Copying	
- Supplies	
- Stores	
- Machine Shop	
- Keys	
- Health Insurance for International Students – Leaving the Province	12
- Research Computer Usage	
<b>Admission and Degree Requirements</b>	13
- Admission Requirements	
- Degree Requirements	
o MScE	
o PhD	
<b>Chemical Engineering Ph.D. Qualifying Exams</b>	14
<b>General Guidelines for the Research Proposal Examination</b>	16
<b>Financial Support for MScE and PhD Students</b>	16
- Graduate Academic Assistantship (GAA)	
- Teaching Assistantship (TA)	

<b>Teaching Assignments</b>	17
<b>Progress Reports</b>	18
<b>Teaching and Writing Centre</b>	19
<b>Finishing up</b>	20
- Oral Examinations and Acceptance of Thesis/Report	
- Acceptance of Thesis/Report (MScE)	
- Acceptance of Thesis/Report (PhD)	21
<b>Laboratory Safety</b>	22
- General Laboratory Rules	
- Emergency Procedures	23
- Chemical Handling	
- Chemical Labeling	
- Chemical Waste	24
- Gas Cylinders	
- Chemical Storage	25
- Your Rights	
<b>Attachments</b>	25
• Map of Campus	
• Course Registration Approval Form	
• Graduate Student Course Change Form	
• Self-Service Registration Quick Reference	
• Payroll Direct Deposit Authorization Form	
• Annual Progress Report	
• Checklist for Students Submitting Final Copies (Thesis)	
• PhD Research Proposal for Qualifying Exam	
• PhD Completion Timeline	
• Important Links to Visit	



## *Preface*

Welcome to Graduate Studies in Chemical Engineering at the University of New Brunswick.

This document, prepared by the Graduate Academic Unit (GAU) of the Department of Chemical Engineering, contains a variety of information that will assist you in pursuing your studies. Information in this document is meant to provide assistance by outlining some University policies and procedures that you will need as graduate students. The document does not supersede nor take precedence over any academic or other regulation of the School of Graduate Studies or the University of New Brunswick.

Students are specifically directed to consult the webpage of the UNB School of Graduate Studies for University Regulations. These are available as "Calendar and Regulations", located at: <http://www.unb.ca/gradstudies/>

If you have any questions, please do not hesitate to contact me or the Graduate Assistant in the Chemical Engineering Office.

Dr. Brian Lowry  
Director of Graduate Studies  
Department of Chemical Engineering

## You're Here, What's Next??

Welcome to UNB!! When you first arrive you will no doubt be tired and anxious to get accommodated. The first place you should come to when you arrive on campus is the Chemical Engineering office which is located on the bottom right of campus when you are looking South. Our new office space is in Room 2105 in Head Hall (Engineering Building across from the cafeteria). Below are the steps on how to activate your UNB IT Services, which includes your email account:

### **IMPORTANT:**

**All new laptops must be registered on the UNB network or you will not have access to the secure wireless network. This can be done after setting up your e-services.**

1. Before starting, please have in front of you: -
  - Your **student number** (example: 3123456)
  - Your **login id** (example: m1unb)
1. Open a web browser and type in this url: <https://www.unb.ca/its>
2. Click "Activate My Account"
3. Follow the instructions and fill in the required information as requested.

Once your program becomes active, your MYUNB Intranet will be your one-stop shop for all things student-related during your time here at UNB. Here you can register for courses, check out your exam schedule, view your fee statement, and more.

## 2. Registration

Before planning and registering for courses, be sure to contact your supervisor, Director of Graduate Studies or Student Studies Assistant for guidance on which courses to add to our plan and schedule.

Registering for courses is a two-step process. Select and plan your courses, then complete the registration process. Planned courses are not registered courses. If there is no day/time/instructor information showing then that course is not being offered. All courses that are being offered will have that information showing.

A complete list of available courses at UNB can be found in the Self-Service Course Catalogue.

For step-by-step instructions on how to plan and register for your courses, check out our hand how-to resources in the appendix or refer online to:

Self-Service How to Register Quick Reference Guide  
Self-Service Registration FAQ

3. Student U Card (ID)

Go to the U Services which is located Marshall D'Avray Room 106 (Open 9:00 am - 4:00 pm) to get your student ID card (you will need your student ID when you go to the bank or access any of the University's libraries).

4. Set up a Bank Account.

Most banks will require that you have an appointment to set up an account. You may choose any banking institution in Fredericton (Royal Bank of Canada, Bank of Montreal, Credit Union, Scotia Bank, etc.). When you go to your appointment have the bank complete the Cheque Distribution Form. You will need this for your Direct Deposit for your scholarship).

5. See Shannon Douglass, Financial Services

Shannon Douglass sets up your payroll, tuition payments, tax information and arranges for your health coverage which is mandatory for all students. UNB allows students to pay their tuition in two payments (September & January) or if you are receiving a teaching assistantship you can arrange to have your tuition taken out in installments from your pay (tuition deduction form). Please note that you must be registered for courses for each term in order to have payments processed. If you are not registered your payments will be held until you are. (gradfees@unb.ca)

6. Meet the Director of Graduate Studies.

Our director (often referred to as DOGs) is currently Dr. Brian Lowry. He is located in Head Hall in GE230. You may speak to him regarding any graduate advising or concerns you may have. Contacting Dr. Lowry via email to make an appointment is probably the best way of reaching him (bjl@unb.ca). You may also speak with Sylvia, she can assist you with most things related to your graduate program (sdemerso@unb.ca).

7. International Students.

International students seeking advice on the next steps in their journey to UNB have a place to reach out to in the International Student Advisor's Office. The University of New Brunswick is home to over 800 international students, comprising of a vibrant community of scholars, and an intrinsic part of UNB's Family.

UNB's ISAO can help:

- Advise new international students on what's next
- Facilitate orientation sessions for new international students
- Advise on immigration
- Provide information for families
- Tax and legal advice and more.

For more information on any of the above services, contact [isao@unb.ca](mailto:isao@unb.ca) to be put in touch with the appropriate contact.

Now that you've completed the above six items you can settle in to your desk, meet with your research group and supervisor and decide on any courses you may like to register for.

## **Courses and Registration**

### **Registering for Classes**

Before registering for courses, you need to consult with your supervisor on the courses you should take each term (whether it be for credit, or extra to degree or audit). The Department requires proof of this exercise and there is a form (see appendix) each term that is required to be filled out by yourself and signed by your supervisor.

### **Taking Courses for Credit**

Chemical Engineering Courses that begin at the 6000 level are considered graduate level courses ie. ChE6511. These courses count for the full amount of credit hours assigned to the course (usually 3 ch or 4 ch). At times a supervisor may require their student to take a course at the 5000 or 4000 level; this course would be considered to be an undergraduate course and would only count as ½ credit value. It is important to note that courses taken outside of ChE ie., Civil may consider their 5000 level courses to be undergraduate level courses.

### **Taking Extra Courses**

At times students may want to take extra courses in addition to the courses required for their MSc or PhD requirements.

Usually the two main reasons for this is:

- A supervisor may require the student to improve their knowledge in a certain course area, or
- A student may want to take undergraduate courses to fulfill the requirements for PEng status (Professional Engineer).

When taking extra courses it is important to remember that if they are not taken as “extra” to their degree the grade obtained will affect their GPA. It is also possible that if the “extra” courses are not required by their supervisor UNB may charge additional fees.

Students will have to complete a Course Change Form (see appendix) for any courses they wish as an extra to their graduate program.

### **Auditing a Course**

To audit a course, a student must receive permission from the instructor, the student’s supervisor, and the DoGS of the student’s GAU. Students will have to complete a Course Change Form for any course(s) they wish to audit. To audit a course, both the course instructor and the DoGS must approve and sign the course change form. The course



instructor is the final arbiter on whether a student may audit a course. It is up to the student to discuss these regulations with the instructor before registration.

The degree of participation by a student auditing a course is limited and must be agreed to in advance by the student and the instructor. A student may not convert an Audit to Credit or Credit to Audit beyond the normal date for adding or changing course registrations. If, at the end of the course, the student has fulfilled all the requirements set forth by the instructor and agreed to by the student, the instructor will inform the registrar and the course will be retained as an AUDIT course on the transcript. If the student does NOT fulfill the requirements, the course will be deleted from the transcript. A course that has been taken on an audit basis may not be subsequently taken on a normal credit with grade basis.

### **Grade Standards**

*Graduate credit will be given for required courses in which a grade of B or better is obtained. A minimum cumulative grade point average of 3.0 must be maintained for required courses in order to graduate.*

Notwithstanding the above, the performance of a student who obtains a cumulative grade point average of less than 3.0, or who obtains one or more grades in the range of D to F, shall be considered unsatisfactory, and appropriate action will be taken by the GAU in consultation with the Dean of Graduate Studies. Normally a student whose performance is considered to have been unsatisfactory will be required to withdraw from the School of Graduate Studies. Where the unsatisfactory performance is due to a grade in a single course, a student may normally petition to the School of Graduate Studies to take a single course to replace the unsatisfactory one or to repeat the course.

### **Courses Offered**

The GAU offers the courses that are listed below at least once every two years or as demand dictates. The 6000 courses are normally for graduate students only. The courses are grouped in general subject areas and graduate students are normally expected to make their selection from at least two areas.

Master's and PhD students must register for your Thesis course every term (Fall, Winter and Summer)

CHE 6234 Process Design and Simulation	3 ch
CHE 6313 Energy and the Environment	3 ch
CHE 6314 Air Pollution Control	3 ch
CHE 6416 Bioseparations Science & Engineering	3 ch
CHE 6417 Polymer Reaction Engineering & Poly Proc.	3 ch
CHE 6418 Chemical Reaction Eng. II and Catalysis	3 ch

CHE 6423 Practice School	2 ch
CHE 6434 Transport Phenomena	4 ch
CHE 6501 Special Topics in Chemical Engineering	1 ch
CHE 6502 Special Topics in Chemical Engineering	2 ch
CHE 6503 Nanotechnology	3 ch
CHE 6511 Introduction to Research Methods	3 ch
CHE 6515 Advanced Surface Characterization	3 ch
CHE 6522 Nanoparticle Engineering	3 ch
CHE 6601 Special Topic	1-6 ch
CHE 6611 Independent Study	3 or 6 ch
CHE 6714 Electrochemical Engineering	3 ch
CHE 6744 Steam Supply Systems	3 ch
CHE 6800 Seminar	1 ch
CHE 6804 Nuclear Chemical Processes	3 ch
CHE 6808 Reactor Chemistry & Corrosion	3 ch
CHE 6824 Corrosion Processes	3 ch
CHE 6834 Nuclear Engineering	3 ch
CHE 6844 Nuclear Safety	3 ch
CHE 6855 Reactor Physics	3 ch
CHE 6877 Advanced Nuclear Systems	3 ch
CHE 6913 Pulp Production	3 ch
CHE 6923 Papermaking	3 ch
CHE 6933 Biorefining: Principles, Procedures and Prod.	3 ch
CHE 6997 MScE Thesis	CR
CHE 6998 PhD Thesis	CR

### **ChE 6800 Seminar Course**

All research graduate students (MSc & PhD) must complete ChE 6800. This is a presentation course where credit is assigned instead of a grade. Students register for this course each term, same as the thesis course. Each student is required to give a presentation on their research work during their program. The presentation schedule will be made by the Director of Graduate Studies. Students should email their title and abstract to the DOGs at the start of term in which they wish to present. Students usually present near the end of their program completion. Credit (CR) for this course is given at completion of your degree and is ongoing up until then.

All research graduate students (MSc & PhD) are required to attend the presentations each term. Failure to attend at least 50% of the presentations will result in a penalty where you will be required to present a seminar the following term or risk a failing grade in this course. Penalty presentations will be in addition to the required CHE 6800 presentation.

Evaluation sheets will be filled out by the audience (graduate students and Faculty).

## **General Notes**

### **ChE Office** ROOM 2105 Head Hall

Phone: (506) 453-4520

Fax: (506) 453-3591

Office Hours: Fall/Winter 8:15 – 4:30 pm closed from 12:00-1:00

### **Mail**

All Graduate students have a mailbox located in D32 – please check it regularly for phone messages, notices, mail, etc. Please note that personal mail should be directed to your home address not the ChE Department.

### **Copying**

Students may use the photocopier located in the office or E230 to copy or print material for their research. During peak class times Faculty members may interrupt your copying if they are in a rush to get to class.

### **Supplies**

The Department will supply you with lab notebooks and paper – please see Sylvia in ROOM 2105. All other supplies (binders, pens etc.) must be supplied by you or your supervisor.

### **Stores**

The Department has a store manager, his name is Carl Murdock and he is located next to the B24 lab. At some point your supervisor will probably request that you get Carl to order you some sort of chemical, gas or equipment

- He will have a form that you must complete and have your supervisor sign
- He will then arrange for the ordering. Students do not usually buy research related items with their own money.

### **Machine Shop**

The Department also has two machinists on staff. If you require them to make something for your research project, they require you to fill out a form indicating the work required and that you have your supervisor's permission. Adon Briggs is responsible for the handling of shop requisitions.

### **Keys**

When you arrive at the Department you will be given a pink form (ChE Key Application). This must be completed and your supervisor will mark down what keys you will need. A deposit of \$5 is required before you receive any keys. The deposit is paid to the ChE

office, you will then be given a slip to give to Carl Murdock to receive your keys. When you leave UNB (and return your keys) you will be given back your deposit.

If you will be working at the Pulp & Paper Centre please see Lisa as they have a keypad system and you will need a code.

### **Health Insurance for International students - leaving the province**

Students should note that the health insurance they are enrolled in through UNB is for treatment in New Brunswick only. Should you travel outside of New Brunswick or go to another province for study purposes for any length of time, you must make sure that you apply for additional insurance. Please see Shannon Douglass in Financial Services for details.

### **Research Computer Usage**

Graduate students often have the use of a UNB owned computer for research purposes during their stay here at UNB. These machines are for research only and are not for personal use. If you have a problem with the machine you are using you may contact Sylvia Demerson, the Level 1 for Chemical Engineering at 453-4520 and she will come and take a look at the machine. If it is discovered that there has been improper use of the computer i.e. partitioning the hard drive, downloading programs that interfere with other programs that may be installed on the current computer, uninstalling programs and/or adding unauthorized programs, installing programs which there is not a valid license for, etc. you will be dealt with and appropriate action will be taken. If there is a repeat offense you may lose your computer privileges permanently. If you are uncertain as to whether you should or should not do something on your computer please contact Sylvia.

## Admission and Degree Requirements

### ADMISSION REQUIREMENTS

Candidates should normally hold a chemical engineering bachelor's degree from a recognized university with an average of B or better (second division standing). Candidates with a Bachelor's degree in science, applied science or other engineering disciplines are also eligible, provided that they have the requisite academic standing. Candidates with non-chemical Engineering background will be conditionally accepted to our graduate program with the conditions being: the candidate needs to take up to four courses that be chosen from any of the 3000 level courses, which must be completed during the first year of admission. The four courses (except Fluid Mechanics) with grade B or better might be counted as half value towards the graduate degree.

By taking appropriate courses to complement their background, candidates may satisfy the requirements for professional engineering registration. It is the responsibility of the student to apply to the Professional Engineering organization and establish which courses are needed to satisfy the requirements.

### DEGREE REQUIREMENTS

#### MScE

The MScE is a research oriented master's degree which normally requires 18 months to two years for completion from the BSc level. The degree requires successful completion of a research thesis and an approved course program of 16 ch. The course program must include the Seminar course (CHE6800), and Introduction to Research Methods course (CHE6511). MSc students must always be registered in the thesis course (CHE 6997).

#### PhD

The PhD is a research degree for which the thesis is the major requirement. Students are required to successfully complete the research proposal course (CHE 6511 Introduction to Research Methods), the Seminar course (CHE 6800), and two graduate level courses for a minimum course requirement of 10 credit hours. PhD students must always be registered in the thesis course (CHE 6998).

PhD students are also required to pass a comprehensive examination covering the major areas of chemical engineering within the first year of study. Candidates who have completed their Master's degree at UNB will not be required to complete CHE 6511 but will be required to present a research proposal. Normally, candidates for the PhD should hold a Master's degree in Chemical Engineering or in an appropriate related discipline.

PhDs entering the program will be required to give an oral research proposal within the 12 month period of the student's arrival. This proposal will be given to a committee of three

reviewers (two reviewers chosen by the supervisor, these reviewers may be internal or external Faculty members, as well as the supervisor).

A student who holds a recognized bachelor's degree is generally admitted, initially, to the MScE program. Such a student may transfer directly to the PhD program (without writing the MScE thesis) after successful completion of the MScE course program, the comprehensive examination, and presenting and defending a detailed research proposal for the thesis project.

For the comprehensive examination candidates are required to choose three areas from the following list: heat transfer, mass transfer, reaction engineering, thermodynamics, process dynamics/control, unit operations. Written examinations are generally set in two sessions (morning and afternoon) on the same day. Candidates may also be asked to defend their papers orally.

In addition to the university oral, each MScE or PhD candidate is required to pass a departmental oral examination. Candidates are examined primarily on areas related to their research but must be prepared also to answer questions of a general nature.

## **Chemical Engineering Ph.D. Qualifying Exams**

The Ph.D. qualifying exam ensures that each Ph.D. candidate has a level of knowledge equal to a B.Sc. of Chemical Engineering.

The Ph.D. qualifying exam is a full day exam which is normally offered in April of each year. The format and scheduling of the exam is established by the Department of Chemical Engineering. Ph.D. students must take the Ph.D. qualifying exam within twelve months of their arrival at UNB. Approximately four weeks before an upcoming Ph.D. qualifying exam the graduate secretary will send a notice via e-mail to all Ch.E. graduate students of the exam. Candidates must then submit a letter to the Director of Graduate Studies of their intent to write the exam indicating the three areas in which they will be tested. In addition to the Qualifying Exam students will also be required to complete a Research Proposal Examination.

For the comprehensive examination, candidates are required to consult with their supervisor and choose two topics from the following list:

- Heat Transfer
- Mass Transfer
- Reaction Engineering
- Thermodynamics
- Process Dynamics/Control
- Unit Operations

(The third requirement is the completion of the Research Proposal Examination, details follow in the next section.)

Copies of the past Ph.D. qualifying exams as well as a suggested reading list are available on a memory key from the Chemical Engineering Department Office.

To successfully complete the comprehensive exam each candidate must attain a grade of “B” or higher in each area of testing.

Should a candidate fail one of the sections a review committee will be established by the Director of Graduate Studies. The Committee will decide which of the following actions is to be taken:

- a) Rewrite the exam, or
- b) Conduct an oral exam.

If a student fails again when rewriting the exam or taking the oral exam, he or she will be asked to withdraw from the program, or be allowed to transfer to the M.Sc. program, providing a supervisor is available.

If a candidate fails more than one section of the exam, he or she has failed the qualifying exam. A review committee will be established by the Director of Graduate Studies which will recommend one of the following actions:

- a) Allow the student to transfer to the M.Sc. program, providing a supervisor is available
- b) Require the student to withdraw from the Graduate Program.

The candidate will be informed in writing by the Director of Graduate studies of the results of the qualifying exam.

1. If a candidate fails one of the sections of the qualifying exam, a review committee will be established by the Director of Graduate Studies (DoGS). The committee will consist of three faculty members including the examiner of the course that the candidate has failed, and the Director of Graduate Studies. The supervisor or supervisors can attend the review meeting and ask questions in the same way as the other committee members; however, they will be excused from the decision making process and vote.
2. If a candidate fails more than one of the sections of the qualifying exam, a review committee will be established by the DoGS to recommend that:
  - i) The candidate be transferred to the M.Sc. program, providing a supervisor is available; or
  - ii) The candidate is required to withdraw from the Graduate Program.

In the case of a large number of candidates failing one section, it is highly recommended that the examiner of that section discuss the matter with the Department Chair and DOGs for

action to be taken before releasing the marks to the candidates. It is the Chair's discretion whether a faculty meeting should be convened to discuss the case.

## **General Guidelines for the Research Proposal Examination**

The research proposal is more comprehensive than the one required by CHE 6511, in particular, the sections of literature review and the proposed research program. Detailed instructions are provided in the template shown in the Appendices. The obtained experimental results, if there are any, may be included in this proposal.

For new PhD students, the 4 weeks following the written examination, candidates will be required to submit their PhD Research Proposal to the Director of Graduate Studies (Dr. B. Lowry). The proposal must follow the department guidelines which can be found in the Appendices (similar to proposal prepared in ChE6511).

A formal proposal with the approval of supervisor(s) is required to submit to a committee, made of the thesis supervisor(s), together with 2 additional faculty members.

An oral examination will be scheduled, which consists of 20- 25 minutes presentation, followed by a comprehensive oral examination by the committee on the presented proposal, as well as the associated chemical engineering fundamentals.

*Deadline to present is August 31<sup>st</sup> or the student will not be permitted to continue in the program and will be withdrawn.*

## **FINANCIAL SUPPORT**

### **MScE and PhD Students**

The Department provides financial support for MScE and PhD students in the form of graduate academic and teaching assistantships. A valid Study Permit is required for all funding by students that are not Canadian or have a Permanent Residency in Canada. The permit must be kept current or funding may be interrupted until a valid permit is obtained. Please keep in mind that applying for a new permit may take up to 3 months or longer.

a) ***Graduate Academic Assistantship.*** This is paid for pursuing research work under the guidance of a faculty member during the academic year and the summer months. Graduate students who have graduate academic assistantships for a full twelve-month period may take vacation not exceeding three weeks during this period. Students should consult with their supervisor(s) for scheduling their vacations.

b) ***Teaching Assistantship.*** This is paid for assisting a faculty member with demonstrating laboratories, marking papers, holding tutorial sessions, etc. Teaching assistantship workloads are measured in units of 100 hours, i.e. one unit consists of 4 hours



of work per week for two terms. Due to differences in the requirements of assigned courses, the workloads may be higher in some terms and lower in others.

The stipend for a teaching assistantship is normally issued each term. The stipend for a graduate academic assistantship is initially offered for one year and renewed, subject to satisfactory performance, until the completion of the degree program within the time limits defined below.

<u>Program</u>	<u>Normal Years</u>
MScE student with a Bachelor's degree in Engineering	2
MScE student with a Bachelor's degree in other disciplines	2.5
PhD student with a Master's degree in Engineering	3
PhD student with a Master's degree in other disciplines	3.5

Students who receive a Graduate Academic Assistantship are expected to spend a minimum of 36.25 hours per week working towards their degree. Students are granted the same holidays as UNB staff and normally are given 2-3 weeks of holiday each year (10 - 15 working days) or 1.25 days for each month they are in attendance at UNB. All holiday schedules (except statutory holidays) must be approved by your supervisor. Students who require extra holidays will have their research assistantship reduced to reflect the time away from UNB.

## **Teaching Assignments**

Teaching assignments are usually determined 3-4 weeks before new term and are emailed to the Graduate Student List. Students may accept up to 130 hours per term. Teaching Assignments are on a competition basis as there are not always enough positions to go around, so unfortunately not everyone that applies will necessarily receive a Teaching Assignment. While we make every effort to place a student in their course of choice we cannot always accommodate such requests. Please do not approach a Professor to obtain their permission to TA a particular course.

Please note that guidelines around the Collective Agreement with the Union of Graduate Student Workers are followed. Students in the PhD program are given first priority for a 4 year period (from the beginning of when they began the program). MSc students are given first priority for a 2 year period.

Accepting a Teaching Assignment means a firm commitment to the department that you will be available throughout that term and will not be away on conference or have other commitments that will make it difficult for you to keep your Teaching Assignment responsibilities. Please indicate in the space provided if you think you may have a conflict.

Social Insurance Number (SIN) – Human Resources requires that you have a valid Social Insurance Number for the duration of your Teaching Assignment. Please ensure that the Graduate Secretary always has a copy of your current SIN for your file. If you do not have

a SIN you will need your passport and study permit to take with you to Human Resources Canada downtown to apply for your Social Insurance Number. Your pay will not be processed by the University until you have a valid SIN on file.

## **Progress Reports**

Every year an annual progress report form must be completed by the research student and their supervisor. This information is kept on file at the Graduate School. These are due no later than June 1<sup>st</sup> each year and are required from ALL research-based students (both part time and full time).

*A sample form can be found in the appendix.*



# UNB Writing Centre

UNB's Writing Centre, located on the top floor of Keirstead Hall in rooms 318-319, helps students improve their academic skills through individual tutoring and small group workshops.

***Individual Tutoring:*** The Writing and Study Skills Program is open to all full and parttime UNB students and provides individual tutoring in writing and other academic skills, including note taking, examination preparation, and time management. Call **453-4646** to make an appointment.

***Engineering Library Drop-in Hours:*** We will be offering a drop-in service in the Engineering Library: Tuesdays and Thursdays from 11:00 to 3:00.

***Saturday Workshops:*** During both terms, the program conducts a number of weekend workshops. For topics and dates consult our web site or the College of Extended Learning calendar; the Fall 2006 schedule is on the reverse of this flyer.

***Monday Night Writing Workshops:*** From September to April, the Writing Centre hosts weekly one-hour workshops concentrating on key writing topics: punctuation, sentence structure, paragraphing, diction, documentation systems, and more. Check our online schedule for details and come join us on Mondays at 6:30!

***Special Services:*** Tutoring is also available for distance education students; contact us for more information.

**E-Mail:** [wss@unb.ca](mailto:wss@unb.ca)  
**Phone:** **Appointments: 453-4646**  
(College of Extended Learning)  
**Writing Centre: 452-6346**



**Web Site:** <http://extend.unb.ca>

## FINISHING UP

### Oral Examinations and Acceptance of Thesis/Report

The School of Graduate Studies and Research publishes a document entitled “Regulations and Guides for the Preparation and Submission of Graduate Theses and Reports” which should be consulted by students before starting to write their thesis. Copies of this document may be obtained from the Graduate School website. The deadlines for the submission of thesis and reports are indicated in the Graduate Calendar along with regulations concerning examining boards and examination procedures. The School of Graduate Studies and Research are quite rigid in these regulations and deadlines, and it is advisable to be familiar with them well in advance of starting to prepare the thesis. Another useful tool is the School of Graduation Studies “Checklist for Students Submitting Final Copies” – *see Appendix*.

### Acceptance of Thesis/Report (MSc)

To determine if a MSc Thesis is acceptable by the GAU for the Examining Board, the thesis must first be reviewed at the department level. This is done through a departmental oral examination coordinated between the Student, Supervisor, DOGs and Sylvia. A department examining board comprising of the supervisor and a minimum of two other ChE Faculty members will read the thesis and review the oral presentation. This presentation follows the same format as the University Oral Examination but is attended only by ChE Faculty Members with the DOGs acting as Chair.

A letter (or email) by the supervisor should be sent to the ChE DOGs (Dr. Lowry) and the Graduate Assistant (Sylvia) indicating the list of committee members along with the name of the possible future external examiner (the external would be a non-supervising member from a GAU other than that in which the candidate has studied.). **The External Examiner is not to be given a copy of the thesis to review until successful completion of the department oral.** It is expected that the committee will require a minimum of seven days to review the thesis before the department oral is held. Students need to email Sylvia an electronic copy of the abstract and complete title for notice purposes.

After the successful completion of the Department Oral the supervisor can confirm the list of committee members along with the external examiner. The external examiner must be given a minimum of seven days to review the thesis. The supervisor will notify the DOGs and Assistant of a suitable date and time for the University Oral. At this time an official Oral Notice can be prepared and distributed and announced on Universities website and email list inviting the public to attend. The graduate school requires that notices be advertised for a minimum of seven days.

It is the student's responsibility to photocopy their thesis/report, and to ensure that the members of the Examining Board receive their copy of the thesis or report.

After successful completion of the University Oral the student will make any recommended corrections and submit a PDF copy fully electronically, along with the proper forms, to the School of Graduate Studies (gradthesis@unb.ca). The forms may be obtained from the Graduate Assistant (Sylvia) or in the School of Graduate Studies website. <https://www.unb.ca/gradstudies/current/forms.html>

## **Acceptance of Thesis/Report (PhD)**

To determine if a PhD Thesis is acceptable by the GAU for the University Oral, the thesis must be reviewed through a departmental oral examination coordinated between the Student, Supervisor, DOGS and Grad Assistant. A department examining board will normally comprise of the Supervisor, The DOGS who will act as Chair and two members of the GAU. The committee will read the thesis and review the oral presentation. It is expected that the committee will require a minimum of seven days to review the thesis before the department oral is held. Students should email Sylvia an electronic copy of the abstract and title for notice purposes. The presentation follows the same format as the University Oral Examination but is attended only by ChE Faculty Members. **The External Examiner is not to be given a copy of the thesis to review until successful completion of the department oral.**

Upon successful completion of the Department Oral the following will be sent to the Dean of Graduate Studies

- 1) A letter from the Director of Graduate Studies indicating the nomination for the examination committee (A sample of this letter is included in Appendix A). The examination committee will consist of the following:
  - Supervisor
  - 3 members of the School of Graduate Studies (At least one must be from ChE and at least one must be from outside ChE.
  - External Examiner (please note criteria)
- 2) Completion form (green – available from grad assistant)
- 3) Copies of thesis for each member of the examining board in labeled blue boxes.
- 4) Conflict of interest form (external reviewer)
- 5) Purolator shipping slip completed with external examiners address information.

From this point on, the Graduate School will handle the University Oral and make all arrangements once the External Examiner has submitted their recommendation. This process could take from 6 – 12 weeks depending on how long the external examiner takes in reviewing the dissertation and the availability of the Dean of Graduate Studies. It is important to note that all contact with the external examiner must be done through the graduate school. The examiner is not to be contacted by the candidate or the candidate's supervisor. Questions may be directed to Andrea Ruehlicke at [andrea.ruehlicke@unb.ca](mailto:andrea.ruehlicke@unb.ca) or 453-4672. *See PhD Completion timeline in the Appendix for a step-by-step guide.*

## Laboratory Safety

The responsibility for the management of laboratory safety is the responsibility of all Faculty, Staff and Students. Everyone should be concerned with safety whenever they are working in a laboratory setting.

All students/employees require WHMIS training before they are allowed to deal with chemicals. The supervisor is responsible for providing a safety orientation of the working environment to identify all safety equipment, potential hazards and proper safety procedures. Please note that chemicals will not be given to anyone without showing your valid WHMIS card.

If you are not given a safety orientation when you go to work in a new area, you must ask for one. It is your responsibility to know the hazards in the area so you can remain safe. You are responsible for your safety.

Safety is covered in CHE 6511, however, Sandra Riley (sriley@unb.ca) offers WHMIS training regularly for our department. You may register for this training by clicking on the attached link

[https://docs.google.com/forms/d/e/1FAIpQLSeY4JX2sVgDSvmpG6ZBUUG3DJraS8wifTWD2X\\_eNZPLRTUgbA/viewform?usp=sf\\_link](https://docs.google.com/forms/d/e/1FAIpQLSeY4JX2sVgDSvmpG6ZBUUG3DJraS8wifTWD2X_eNZPLRTUgbA/viewform?usp=sf_link)

### General Laboratory Rules

The proper personal protective equipment must be worn at all required times. The required equipment is always a lab coat and safety glasses, and any other pieces the situation calls for. This could be nuclear badges, dust masks, shields etc. The extra pieces of equipment are to be provided by the supervisor if required. NO open toe shoes may be worn in the lab and shorts and skirts should be avoided as exposed skin is always more susceptible to chemical spills.

Always wash your hands with soap before leaving the laboratory.

No food or drink is allowed to be consumed or STORED in the laboratory. Food should always be kept outside the lab. You should never risk the consumption of chemicals.

Always be aware of the emergency equipment in the room and its location, i.e. fire extinguisher, eye wash station.

The MSDS (Material Safety Data Sheets) binder is located on the wall next to the entrance door. Everyone in the lab is required to know where the MSDS binder is located so that proper emergency procedures can be followed in case of an accident with a chemical. The university is required by law to keep the MSDS data up to date in the laboratories. Therefore it is the students responsibility to insure that every chemical that they introduce into the

laboratory had it's accompanied MSDS placed in the binder in alphabetical order and that the chemical inventory sheet is updated. The sheets are only valid for 3 years and are required to be replaced after they expire. Chemicals that are no longer in the lab should have their sheet removed from the binder and the inventory updated.

To avoid accidents the work place should always be kept clean and tidy. Chemicals and equipment that are no longer in use should be returned the Chemical Stores.

## Emergency Procedures

All emergency procedures can be found in the UNB safety handbook online at [www.unb.ca/safety](http://www.unb.ca/safety). A guide is located next to all telephones in the laboratories.

The Department Safety Officer, Sandra Riley (453-3556) and your supervisor must be informed of all accidents and near misses. Near misses are just as important to report as accidents. This is to avoid the situation occurring again causing a real accident. If a problem is not identified as a near miss then the result could be an accident.

Should an accident occur a UNB accident report form must be completed within 24 hours.

## Chemical Handling

Anyone requesting chemicals must have a valid WHMIS card. This card must be presented to the Store Clerk (Carl Murdock).

Transporting chemicals must be done with great care. The safety of the general public (everyone in the general vicinity) must always be of the upmost importance. There are proper procedures outlined in the TDG – transport of dangerous goods.

Compressed gas cylinders must always be transported on a cart and must be properly restrained at all times.

For more information on the proper handling please check with the stores manager, Carl Murdock, in room B14.

## Chemical Labeling

Every container that holds a chemical requires a label.

Labels should include the following in CLEAR BLOCK LETTERING:

- IN ENGLISH, the name of the chemical (abbreviations, common names, and formulas are not acceptable),
- the concentration of the chemical,
- the date the bottle was first opened, or the date the mixture was created,
- the name of the individual that the chemical belongs to.

## Chemical Waste

Chemical Waste is anything that is generated from chemicals that must be disposed of in a special manner.

This could include products from chemical reactions, gas cylinders, contaminated containers and broken glass.

In chemical waste containers only compatible chemicals may be stored together. It is the responsibility of the student to understand what chemicals are in the waste container and to be able to identify if their waste is compatible or not.

All chemical waste containers must be properly labeled as “CHEMICAL WASTE”, and must note the names of the chemicals in the container and their approximate quantities. Listing the container as “solvent waste” is NOT an acceptable label.

Detail and care must be taken when labeling the waste since this will make disposal safer.

## Gas Cylinders

Gas cylinders are of special concern, they pose 3 hazards. They could fall over and onto someone and cause injury. They could fall and have the valve sheared off, allowing the discharge of contents which could cause the cylinder to become a projectile. Also, if the regulator or valve is leaking, hazardous gas could be released into the air.

Gas cylinders must be properly retained at all times during storage and transportation.

Proper regulators must always be used.

Full and empty cylinders should always be stored separately.



## Chemical Storage

All chemicals must be properly stored according to their specific requirements. The Storage requirement must be known (MSDS) and followed.

Acids and bases should always be stored separately from one another. This is to avoid undesired contact between the two types of chemicals. Acids sometimes warrant special storage facilities, but in general simply keeping them in separate designated cabinets is acceptable.

Flammable and corrosive and toxic chemicals must always be stored separately.

Full and empty gas cylinders should always be stored in separate areas, and they should be MARKED as EMPTY or FULL.

The maximum allowable container size is 5 liters (exceptions to this rule are found in the policy on flammable liquids). The maximum quantity of flammable liquids that are allowed to be kept in a given lab is 50 liters.

## Your Rights

You always have the right to refuse to do work you do not feel is safe.

According to Work Place Health and Safety no one can be forced to do work they feel puts them at risk. The situation can be assessed and then the proper safety precautions can be put in place

You can request extra PPE (Personal Protection Equipment) if you feel it necessary.

## **Attachments**