



Dean of Graduate Studies

Maggie Benston Student Services
Centre 1100
8888 University Drive
Burnaby, BC
Canada V5A 1S6

TEL 778.782.3042
FAX 778.782.3080

report-dgs@sfu.ca
www.sfu.ca/Dean-
GradStudies

MEMORANDUM

ATTENTION Senate
FROM Wade Parkhouse, Dean of Graduate
Studies
RE: Faculty of Science

DATE 8 January 2014
No. GS2014.03

A handwritten signature in blue ink, appearing to read "Wade Parkhouse".

For information:

Acting under delegated authority at its meeting of 6 January 2014, SGSC approved the following curriculum revision:

Effective Date: September 2014**Faculty of Science****[GS2014.03]**

- a) Department of Chemistry
 - MSc Program:
 - 1. Addition of Mandatory Program Requirements:
 - i) Change of degree completion time maximum from 12 (GGR 1.12.2) to 9 terms
 - ii) Addition of mandatory courses:
 - CHEM 801-3 Student Seminar
 - CHEM 802-3 New Course: M.Sc. Research Proposal and Examination
 - iii) Addition of mandatory attendance at departmental seminars
 - iv) Resultant calendar language

GS2014.03

MEMO

Faculty of Science

ATTENTION Wade Parkhouse, Dean, Graduate Studies

FROM Peter Ruben, Associate Dean, Research and Graduate
Studies, Faculty of Science

RE Chemistry Major Program Changes

DATE December 12, 2013

TIME 10:33
AM

The introduction of a new course, CHEM 802, is intended to shorten the time to degree completion in the Department of Chemistry. This new course has been approved by the Faculty of Science and is forwarded for approval by the Senate Graduate Studies Committee. Please include this item on the next SGSC agenda.



P. Ruben



FACULTY OF SCIENCE

DEPARTMENT OF
CHEMISTRY

Attention SGSC

From: Department of Chemistry Graduate Studies Committee

Re: Major Program Changes

September 5, 2013

DR. ROBERT BRITTON
Associate Professor
Michael Smith Foundation
for Health Research Scholar
Chair, Chemistry Graduate
Studies Committee
TEL: 778.782.4889
FAX: 778.782.3765
rbritton@sfu.ca

MAILING ADDRESS
8888 University Drive
Burnaby, B.C.
Canada V5A 1S6

At the Departmental Retreat for Faculty held in January of 2013, there was general consensus that the time required for degree completion in the M. Sc. program in Chemistry (>3.4 year average) is too long and not in line with the advertised degree completion time, the present funding situation for M. Sc. students (e.g., 1 year NSERC PGSM), and degree completion times at most other Canadian Universities. The faculty discussed issues contributing to the unusually long degree completion time for M. Sc. students and agreed that many M. Sc. projects were in fact "mini-Ph. D." projects, expectations for M. Sc. students to publish a paper were unreasonable, and that it is often difficult to complete the course requirements in 6 semesters. Also, the faculty agreed that a mechanism should be identified to increase graduate student attendance at the weekly departmental seminar. The response of the DGSC to these concerns involves several changes to the Chemistry Graduate Program that were approved at the Departmental meeting held on June 5, 2013.

As itemized below, the Chemistry DGSC proposes several changes to the M. Sc. program that should help in decreasing the time required for degree completion. Most notably, the DGSC proposes that all M. Sc. students will be required to complete their degree requirements in 9 semesters and enroll in both Chem 801 and Chem 802 at the first opportunity. Chem 801 is a regularly scheduled course that is offered in the fall semester every year and Chem 802 will be offered in the Spring semester every year. Chem 802 will be a 3 credit seminar course in which M. Sc. students prepare a 20-page (approximate) research proposal and defend this proposal in front of their supervisory committee and one additional examiner selected from the Chemistry DGSC. The defense of their research proposal may serve as their first committee meeting and the written proposal may also serve as the foundation for introductory chapter(s) of their thesis. This course will ensure that students have a solid grasp of their proposed research and have identified a research topic that is reasonable for a M. Sc. degree. Chem 802 is distinct



FACULTY OF SCIENCE

from Chem 801, which is an introduction to scientific writing, research methods, development of hypotheses, and presentation of research not relating to the students intended area of study. Chem 802 will require a small contribution of time (approx. 6 hours each) from the members of the Chemistry DGSC, no additional teaching resources, and minimal additional organization from the Graduate Secretary.

1. Degree Completion Time

The Department of Chemistry proposes the following changes to the M. Sc. program (effective Sept. 1, 2014)

Present Calendar Language (not specific to Chemistry): "Students in per term fee programs (see 1.4 Enrolment) shall complete all of the requirements for a master's degree within 12 terms of equivalent enrolment."

Proposed Calendar Language: "**Students enrolled in the M. Sc. program in Chemistry shall complete all requirements for a master's degree within 9 terms of equivalent enrolment. Failure to successfully defend a M. Sc. thesis within 9 terms of equivalent enrollment will be judged as unsatisfactory progress (see section 1.8.2 General Graduate Regulations). Following assessment of the case, the DGSC will impose a timeline within which the thesis must be defended or require the student to withdraw from the program.**"

2. Chem 801: Mandatory Course for M. Sc. Students in Chemistry

The Department of Chemistry proposes that all students enrolled in the M. Sc. program be required to enroll in Chem 801 (effective Sept. 1, 2014). Chem 801 is an existing course offered in the Fall semester every year. This will not effect the course outline or teaching resources in the Department.

Proposed Calendar Language: "**M. Sc. students are required to enroll in Chem 801 at the first possible offering**"

3. Chem 802: A New Mandatory Course for M. Sc. Students in Chemistry

The Department of Chemistry proposes that all students enrolled in the M. Sc. program be required to enroll in Chem 802 (effective Sept. 1, 2014). Chem 802 will be a new course (course outline below).



FACULTY OF SCIENCE

Proposed Calendar Language: "M. Sc. students are required to enroll in Chem 802 at the first offering following successful completion of Chem 801"

4. Mandatory attendance at Departmental Seminars

There is presently no reference to attendance at Departmental Seminars in the Calendar. The monitoring of attendance will be the responsibility of the Departmental Seminar Chair, who will inform the Graduate Secretary at the end of each semester of the names of students that did not attend 75% of seminars.

Proposed Calendar Language: "All students are required to attend 75% of weekly seminars each semester unless recognized conflicts exist. Failure to meet this basic requirement will result in a judgment of Unsatisfactory Progress at the students next committee meeting (see section 1.8.2 General Graduate Regulations)."

A handwritten signature in black ink, appearing to be "Robert Britton", written over a horizontal line.

Robert Britton
Chair, Department of Chemistry Graduate Studies Committee

A handwritten signature in black ink, appearing to be "Zuo Ye", written over a horizontal line.

Zuo Ye
Chair, Department of Chemistry



FACULTY OF SCIENCE

Chem 802 Course Outline

Chem 802 is a 3-credit course intended only for M. Sc. students (Chem 802 cannot count towards a Ph. D. degree). M. Sc. students will enroll in this course in the semester immediately following their successful completion of Chem 801. The grade will be determined by a committee comprised of the students Supervisory Committee and one additional member from the Department of Chemistry Graduate Studies Committee. Two weeks in advance of the meeting, Chem 802 students are required to submit a document (approximate document length: 20 pages) describing their motivation for carrying out the proposed research, all essential background information relevant to the proposed research, and a detailed research proposal. In addition, all Chem 802 students are required to give a 30 min presentation on their proposed research and address questions on the topics of their research proposal as well as questions of fundamental nature relating to their area of research. Unless prevented by teaching assistant responsibilities, Chem 802 students are required to attend all of the Chem 802 presentations.

Evaluation of the Chem 802 student by each member of the committee will take into consideration the following questions, for which the student will be graded on a scale of 1 to 4 (1 = unsatisfactory, 2 = satisfactory with concerns, 3 = satisfactory, and 4 = exceptional). If a student receives a grade of 2 by any examiner for any question, the student will be required to prepare a written document (acceptable length to be determined by the committee) that addresses the specific area of concern or weakness. This document will be evaluated by the entire examining committee and the student's grade changed accordingly. Grades of 3 or 4 require no further action. If a student receives a grade of 1 for any question, this result will be considered as a failure of the course and the progress in the Graduate Program will be judged as Unsatisfactory (see section 1.8.2 General Graduate Regulations). The student will be provided one opportunity to retake this course within the following semester. If, at the subsequent examination, the student receives a grade of 1 for any of the listed questions or they fail to schedule the re-examination in the following semester, the student will be required to withdraw from the graduate program.

Assessment questions for Chem 802 students:

1. Does the student understand the fundamental aspects of the proposed research?
2. Does the student have a clear understanding of the objectives of the proposed research?
3. Does the student have a sufficient understanding of the scientific methodology required to undertake the proposed research?
4. Does the student appropriately summarize the current state of the field?



FACULTY OF SCIENCE

5. Does the student recognize the potential challenges of the proposed research?
6. Does the student demonstrate oral communication skills appropriate for a M. Sc. student?
7. Does the student demonstrate written communication skills appropriate for a M. Sc. student?
8. Does the report provide sufficient background and rationale for the project?

New Graduate Course Proposal Form

PROPOSED COURSE

Subject (eg. MAPH) Chemistry	Number (eg. 810) 802	Units (eg. 4) 3
Course Title (max 80 characters) M.Sc. Research Proposal and Examination		
Short Title (appears on transcripts, max 25 characters) CHEM 802		
Course Description for SFU Calendar ☐ see attached document ☐ Learning outcomes identified All M.Sc. students are required to enroll in this course during their first year in the Chemistry graduate program. Each student will present a written report on his/her research, make an oral presentation, and answer questions relating to their proposed research at the examination. Students will be evaluated on their written report, oral presentation, and response to questions.		
Available Course Components: ☐ Lecture ☒ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐ _____		
Grading Basis ☒ Letter grades ☐ Satisfactory/Unsatisfactory ☐ In Progress/Complete		This is a capstone course ☐ Yes ☐ No
Prerequisites (if any) ☐ see attached document (if more space is required) CHEM 801		
☐ This proposed course is combined with an undergrad course: Course number and units: _____		
Additional course requirements for graduate students ☐ See attached document (if this space is insufficient)		
Campus at which course will be offered (check all that apply) ☒ Burnaby ☐ Vancouver ☐ Surrey ☐ GNW ☐ _____		
Estimated enrolment 12-15	Date of initial offering 2014-7 (fall)	Course delivery (eg. 3 hrs/week for 13 weeks) 2 hrs/week for 13 weeks
☐ Yes ☒ No Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students will require criminal record checks)		
Justification ☒ See attached document (if more space is required)		

RESOURCES

If additional resources are required to offer this course, the department proposing the course should be prepared to provide information on the source(s) of those additional resources.

Faculty member(s) who will normally teach this course ☐ information about their competency to teach the course is appended All faculty will normally take part in teaching this course.
Number of additional faculty members required in order to offer this course zero.
Additional space required in order to offer this course ☐ see attached document one lecture room (20-30 seats) booked for 12-15 two-hour sessions.
Additional specialized equipment required in order to offer this course ☐ see attached document none.
Additional Library resources required (append details) ☐ Annually \$_____ ☐ One-time \$_____ none.

PROPOSED COURSE from first page

Program (eg. MAPH) Chemistry	Number (eg. 810) 802	Units (eg. 4) 3
Course title (max 80 characters) M.Sc. Research Proposal and Examination		

APPROVAL SIGNATURES

When a department proposes a new course it must first be sent to the chairs of each faculty graduate program committee where there might be an overlap in course content. The chairs will indicate that overlap concerns have been dealt with by signing the appropriate space or via a separate memo or e-mail (attached to this form).

The new course proposal must also be sent to the Library for a report on library resources.

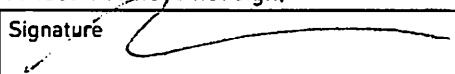
Once overlap concerns have been dealt with, signatures indicate approval by the department, home faculty and Senate Graduate Studies Committee.

Other Faculties

The signature(s) below indicate that the Dean(s) or designate of other Faculties affected by the proposed new course support(s) the approval of the new course.

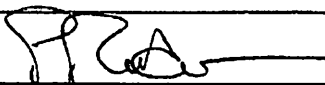
Name of Faculty	Signature of Dean or Designate	Date

Departmental Approval (non-departmentalized faculties need not sign)

Department Graduate Program Committee Robert A. Britton	Signature 	Date Sept 8/13
Department Chair Zuo-Guang Ye	Signature 	Date Sept. 10, 13

Faculty Approval

Faculty approval indicates that all the necessary course content and overlap concerns have been resolved, and that the Faculty/Department commits to providing the required Library funds and any other necessary resources.

Faculty Graduate Program Committee PETER RUBEN	Signature 	Date 12 Dec 13
--	--	-----------------------

Senate Graduate Studies Committee Approval

SGSC approval indicates that the Library report has been seen, and all resource issues dealt with. Once approved, new course proposals are sent to Senate for information.

Senate Graduate Studies Committee	Signature 	Date Jan 8/14
-----------------------------------	--	----------------------

CONTACT

Upon approval of the course, the Office of the Dean of Graduate Studies will consult with the department or school regarding other course attributes that may be required to enable the proper entry of the new course in the student record system.

Department / School / Program Chemistry	Contact name Rob Britton	Contact email rbritton@sfu.ca
---	------------------------------------	---

JUSTIFICATION:

For the past several years, the average degree completion time for M. Sc. students in the department of Chemistry has been well over 3 years. Reasons for this include a lack of relevant course offerings, unreasonable expectations for a M. Sc. thesis, and often students have not fully familiarized themselves with background literature before they initiate their thesis research. This course will help reduce the M. Sc. degree completion time by serving as one of the required 3-credit courses, and by ensuring that M. Sc. students have a solid understanding of the proposed research prior to initiating their research and appropriate scientific writing and presentation skills to prepare and defend a M. Sc. thesis. The defense of their research proposal will serve as their first committee meeting and the written proposal may also serve as the foundation for introductory chapter(s) of their thesis. This course will also help students identify research topics that are reasonable for a M. Sc. degree.

Chem 802 Course Outline

Chem 802 is a 3-credit course intended only for M. Sc. students (Chem 802 cannot count towards a Ph. D. degree). M. Sc. students will enroll in this course in the semester immediately following their successful completion of Chem 801. The grade will be determined by a committee comprised of the students Supervisory Committee and one additional member from the Department of Chemistry Graduate Studies Committee. Two weeks in advance of the meeting, Chem 802 students are required to submit a document (approximate document length: 20 pages) describing their motivation for carrying out the proposed research, all essential background information relevant to the proposed research, and a detailed research proposal. In addition, all Chem 802 students are required to give a 30 min presentation on their proposed research and address questions on the topics of their research proposal as well as questions of fundamental nature relating to their area of research. Unless prevented by teaching assistant responsibilities, Chem 802 students are required to attend all of the Chem 802 presentations.

Evaluation of the Chem 802 student by each member of the committee will take into consideration the following questions, for which the student will be graded on a scale of 1 to 4 (1 = unsatisfactory, 2 = satisfactory with concerns, 3 = satisfactory, and 4 = exceptional). If a student receives a grade of 2 by any examiner for any question, the student will be required to prepare a written document (acceptable length to be determined by the committee) that addresses the specific area of concern or weakness. This document will be evaluated by the entire examining committee and the student's grade changed accordingly. Grades of 3 or 4 require no further action. If a student receives a grade of 1 for any question, this result will be considered as a failure of the course and the progress in the Graduate Program will be judged as Unsatisfactory (see section 1.8.2 General Graduate Regulations). The student will be provided one opportunity to retake this course within the following semester. If, at the subsequent examination, the student receives a grade of 1 for any of the listed questions or they fail to schedule the re-examination in the following semester, the student will be required to withdraw from the graduate program.

Assessment questions for Chem 802 students:

1. Does the student understand the fundamental aspects of the proposed research?
2. Does the student have a clear understanding of the objectives of the proposed research?
3. Does the student have a sufficient understanding of the scientific methodology required to undertake the proposed research?
4. Does the student appropriately summarize the current state of the field?
5. Does the student recognize the potential challenges of the proposed research?
6. Does the student demonstrate oral communication skills appropriate for a M. Sc. student?
7. Does the student demonstrate written communication skills appropriate for a M. Sc. student?
8. Does the report provide sufficient background and rationale for the project?

From:	To:
Program Requirements The minimum requirement is 12 units in graduate courses. Thesis A major part of this program is original research. A thesis describing this is submitted and defended. See Graduate Regulation 1.10, Examinations within graduate studies general regulations.	Program Requirements The minimum requirement is 12 units of graduate coursework, including Chem 801, which students are required to take as early in their program as possible; and CHEM 802, which students are required to take in the earliest semester possible, following the completion of Chem 801. All students are required to attend 75% of weekly seminars each semester unless recognized conflicts exist. Failure to meet this requirement will result in an assessment of 'unsatisfactory progress' at the student's next committee meeting (see Graduate General Regulation 1.8.2) Thesis A major part of this program is original research. A thesis describing this is submitted and defended. See Graduate General Regulation 1.10, Examinations within graduate studies general regulations. Time Limit Students enrolled in the MSc program in Chemistry shall complete all requirements for a master's degree within 9 terms of full-time enrollment. Failure to successfully defend a master's thesis within 9 terms will be considered unsatisfactory progress (see Graduate General Regulation 1.8.2) Following assessment of the

	case, the department Graduate Studies Committees will impose a timeline within which the thesis must be defended or require the student to withdraw from the program.