

Cover/Signature Page - Abbreviated Template/Abbreviated Template with Curriculum

Institution Submitting Request: *University of Utah*

Proposed Title: *BS/MS Combined Program in Chemistry*

Currently Approved Title:

School or Division or Location: *College of Science*

Department(s) or Area(s) Location: *Department of Chemistry*

Recommended Classification of Instructional Programs (CIP) Code (for new programs):

Current Classification of Instructional Programs (CIP) Code (for existing programs): *40.0501*

Proposed Beginning Date (for new programs):

Institutional Board of Trustees' Approval Date:

Proposal Type (check all that apply):

Regents' General Consent Calendar Items		
<i>R401-5 OCHE Review and Recommendation; Approval on General Consent Calendar</i>		
SECTION NO.		ITEM
5.1.1	<input type="checkbox"/>	Minor*
5.1.2	<input type="checkbox"/>	Emphasis*
5.2.1	<input type="checkbox"/>	(CER P) Certificate of Proficiency*
5.2.3	<input type="checkbox"/>	(GCR) Graduate Certificate*
5.4.1	<input type="checkbox"/>	New Administrative Unit
	<input type="checkbox"/>	Administrative Unit Transfer
	<input type="checkbox"/>	Administrative Unit Restructure
	<input type="checkbox"/>	Administrative Unit Consolidation
5.4.2	<input type="checkbox"/>	Conditional Three-Year Approval for New Centers, Institutes, or Bureaus
5.4.3	<input type="checkbox"/>	New Center
	<input type="checkbox"/>	New Institute
	<input type="checkbox"/>	New Bureau
5.5.1	<input type="checkbox"/>	Out-of-Service Area Delivery of Programs
5.5.2	<input type="checkbox"/>	Program Transfer
	<input type="checkbox"/>	Program Restructure
	<input type="checkbox"/>	Program Consolidation
5.5.3	<input type="checkbox"/>	Name Change of Existing Programs
5.5.4	<input type="checkbox"/>	Program Discontinuation
	<input type="checkbox"/>	Program Suspension
5.5.5	<input type="checkbox"/>	Reinstatement of Previously Suspended Program
	<input type="checkbox"/>	Reinstatement of Previously Suspended Administrative Unit

**Requires "Section V: Program Curriculum" of Abbreviated Template*

Chief Academic Officer (or Designee) Signature:

I certify that all required institutional approvals have been obtained prior to submitting this request to the Office of the Commissioner.

Signature

Date: *MM/DD/YEAR*

Printed Name: *Name of CAO or Designee*

Department of Chemistry
Combined B.S./M.S. Program

Section I: Request

The Department of Chemistry in the College of Science at the University of Utah requests permission to establish a combined BS/MS degree program in Chemistry. The faculty in the Department of Chemistry discussed and developed this proposal over the course of several meetings that initially involved a subgroup of faculty and finally the full faculty. All tenured and tenure track faculty were given the opportunity to vote on the adoption of this program at a faculty meeting held on October 8, 2013. The final vote for adoption of a BS/MS program in Chemistry was 25 in favor, 0 not in favor with 2 abstentions.

Section II: Need

Recent studies have shown that the most successful undergraduate educational experience usually includes a component of original research. By becoming involved in undergraduate research, students not only develop creatively but they also hone critical thinking, problem solving and communication skills. Along these lines, as one of the premier public institutions in the Western United States, the University of Utah offers a number of unique research opportunities to undergraduate students. While many of our undergraduates take advantage of these opportunities, with their heavy work and class load, more do not. This is unfortunate and in our current, highly competitive environment, no longer good enough. Thus, through the program outlined below, we propose to provide students with enhanced educational opportunities through an accelerated BS/MS degree program in Chemistry. This program will provide an opportunity and mechanism for students to receive a more in-depth and focused chemical education than they would receive over the course of obtaining their BS degree and will better prepare our students for careers in industry, for entry into professional schools or Ph.D. programs. The central role that Chemistry plays in all areas of science and technology makes this proposal timely.

The proposed degree program is intended to attract qualified undergraduate students into the graduate program early, decrease the time required to obtain an MS degree, and to involve students in research early in their careers. The proposed combined degree program is designed to be completed by students in five years and to culminate with simultaneous conferral of the Bachelor of Science and Master of Science degrees.

As envisioned, students in the BS/MS program will begin their required research project and complete a portion of their MS courses after their junior year. Minimum requirements will include:

- (1) That the student complete the normal course load for both the BS and MS degrees in Chemistry (122 and 30 credit hours, respectively).
- (2) That the students apply for admission into the program by April 1 of their junior year. Applications for entry into the program will be processed through the Graduate Admissions Office and requirements for the combined BS/MS program will be consistent with the requirements for the normal MS program. Notification of acceptance into the program will take place before May 1 of their junior year.
- (3) Upon acceptance into the program students will be expected to complete the program within 2 years.
- (4) A student will submit a detailed research plan to his/her Advisory Committee on or before May 1 of the 4th year.
- (5) Transfer of the student from undergraduate to graduate status occurs after the completion of 122 hours of qualified studies.

- (6) The BS and MS degree will be conferred simultaneously following the completion of the program. No student will be awarded a separate MS degree in Chemistry without satisfying all requirements for the BS degree.
- (7) Students wishing to exit the combined program can apply qualifying coursework toward the traditional BS requirement without penalty.

Procedures

1. Application for admission to BS/MS program will be submitted at the end of a student's junior year. This application will be processed and decisions made at the departmental level (this is consistent with current admission policies). Entering students must have at least a 3.0 cumulative GPA.
2. Students must be enrolled as Chemistry majors at the time of applying for the BS/MS degree option.
3. The student will apply for graduate status during the semester in which 122 credit hours are completed and will follow the regular University of Utah Graduate School application process. All university requirements for graduate admissions must be met except posting of undergraduate degree. (Note: On the referral sheet that the department returns to graduate admissions, the department will note that the student has been accepted to the combined BS/MS program. Graduate Admissions will then approve admission without the BS completed.)
4. No course can be counted toward both degrees.
5. Students will choose a research advisor before December 1 of their senior year or the semester after being admitted into the program.
6. Students will choose an Advisory Committee before February 1 of their senior year. The committee will consist of 2 faculty members in chemistry (1 of whom will be the student's advisor).
7. Students will write a short report detailing their project.
8. Students will present and defend their project at the end of their 5th year.
8. The Department will ensure that all requirements are met for each degree. Courses taken for the graduate degree will not be eligible for graduate credit until the requirements for both degrees are satisfied. Each degree will be awarded when all work is completed.

66% by 2020

This proposal promises to help meet the Governor's call that 66% of the citizens of Utah have a post secondary degree in several ways: First, engaging students in original research is now an established method of motivating them to complete their degree. Second, this proposal will expedite the time to advanced degrees. Third, we believe that this program will be attractive to students who might not otherwise come to the University of Utah. Once these students are here, there is strong likelihood that they will (a) graduate and (b) work in Utah employed in companies that need their technology skills.

Section III: Institutional Impact

We anticipate that a combined BS/MS degree will be attractive to students and will likely result in increased enrollment in the Chemistry program. As a combined BS/MS program is somewhat unique in a Chemistry program at a Research I institution, we believe that this program will attract well-qualified students who might otherwise go to other institutions. As other similar combined BS/MS programs exist at the University of Utah, procedures to institute this program will not necessitate changes in existing administration within the University. As no new courses or research programs will be needed to accommodate this program, no changes in faculty, staff, or physical facilities will be required. No student will be adversely affected by this change as students can complete his or her BS degree without penalty.

Section IV: Finances

No costs are anticipated to result from this program. In the event that the number of chemistry majors increases as a result of instituting this program, we anticipate that the cost per degree will decrease. In addition to this, we anticipate that this program will expedite the time to degree thus decreasing the overall cost.

Supplemental Information for Combined BS/MS Degree Program in Chemistry

Additional Information Explaining Program Need:

The current degree requirement for the BS degree in Chemistry provides a solid foundation for an MS degree student. While there is no reduction in credit hours associated with the combined degree program, the program will provide several notable benefits to Chemistry students.

- a. The combined degree program will encourage qualified students in the BS degree program to begin taking graduate level classes towards the MS degree while still enrolled in the BS degree program.
- b. The combined BS/MS degree program will provide undergraduate students with the opportunity to interact more closely with faculty and to be mentored by more senior graduate students.
- c. The proposed program will allow the Department to provide a structure to encourage high quality undergraduate students to get involved in research.
- d. The proposed program will be unique among Research 1 institutions in the Pac 12 and will provide us with a competitive advantage.

Additional Information Explaining Procedures for Application and Admission:

- a. Application for admission to BS/MS program will be submitted at the end of a student's junior year.
- b. Application process, requirements and evaluation will be consistent with the criteria for the tradition MS Chemistry as follows:
 - Minimum 3.0 cumulative GPA
 - Three letters of recommendation
 - Essay explaining why the student is applying for BS/MS degree program
 - CV
 - Graduate School online application with fee

Other Admission Requirements:

- a. All application processing and recommendations for admission will be made in the Department of Chemistry under the authority of the Program Director responsible for the BS/MS degree program.
- b. Students must be enrolled as a Chemistry major at the time of applying for the BS/MS degree option.
- c. All university requirements for graduate admissions must be met except posting of undergraduate degree.
- d. Recommendations for admission will be made by the Department of Chemistry to the Graduate School by May 1st of each year.

Section V: Program Curriculum

Note: there are no proposed changes in the undergraduate or graduate curriculum to complete the BS/MS degree

1. Bachelor of Science in Chemistry Requirements

University Requirements: 122 Hours (at least 40 upper division), DV, IR, WRTG, GEN ED

A. Chemistry Core Courses (required of all majors):

CHEM 1210, 1220 General Chemistry I, II (4, 4) both SF (or 1211/1221 honors versions)

CHEM 1215, 1225 General Chemistry Lab I, II (1, 1) (or 1240/1241 honors versions)

CHEM 2310, 2320 Organic Chemistry I, II (4, 4) (or 2311/2321 honors versions)

CHEM 2315, 2325 Organic Chemistry Lab I, II (2, 2)

CHEM 3000 Quantitative Analysis (4) QI, CW

CHEM 3060 Quantum Chemistry and Spectroscopy (4) QI
CHEM 3100 Inorganic Chemistry (5)
Math and Physics Core (required of all majors):
MATH 1210, 1220 Calculus I, II (4, 4) or MATH 1250 AP Calculus I (4) all QR
MATH 2210 Calculus III (3) or MATH 1260 AP Calculus II (4) both QR
PHYS 2210, 2220 Physics for Scientists and Engineers I, II (4, 4) (or 3210/3220 honors versions)
PHYS 2215, 2225 Physics Laboratory for Scientists and Engineers I, II (1, 1)

A. Chemistry, Professional Emphasis (*Certified by the American Chemical Society*)

Core courses, plus:

MATH 2250 Differential Equations and Linear Algebra (4) (or 2270 and 2280)
MATH 3150 Partial Differential Equations for Engineering Students (2)
CHEM 3070 Thermodynamics and Chemical Kinetics (4) QI
BIOL/CHEM 3510 Biological Chemistry I (3)
Ten hours of laboratory courses selected from the following:
CHEM 5700 Advanced Analytical Chemistry Lab (2) CW
CHEM 5710 Advanced Organic Chemistry Lab (2)
CHEM 5720 Advanced Physical Chemistry Lab (2)
CHEM 5730 Advanced Inorganic Chemistry Lab (2)
BIOL/CHEM 3515 Biological Chemistry Lab (3) or 3525 Molecular Biology of DNA Lab (3)
CHEM 4800 Undergraduate Research (max. 2 counted) or CHEM 4999 Honors Thesis/Project (3)

B. Chemistry, Biological Emphasis (*Certified by the American Chemical Society*)

Core courses, plus:

BIOL 2020 Principles of Cell Biology (3) or BIOL 2021 Principles of Cell Science (4)
BIOL 2030 Genetics (3)
BIOL/CHEM 3510 Biological Chemistry I (3)
BIOL/CHEM 3515 Biological Chemistry Laboratory (3) or 3525 Molecular Biology of DNA Lab (3)
BIOL/CHEM 3520 Biological Chemistry II (3)
CHEM 3070 Thermodynamics & Chem. Kinetics (4) QI or CHEM 3090 Phys. Chem. Life Sci. (4) QI
Complete Five (5) or more additional semester units selected from approved Biology courses numbered 3000 or higher (see the General Catalog or advisor). Selected chemistry graduate level courses, and courses from other bio-related departments, may be used to fulfill this requirement with the prior approval of the chemistry advisor.

Complete two of the following half-semester lab courses:

CHEM 5700 Advanced Analytical Chemistry Lab (2) CW
CHEM 5710 Advanced Organic Chemistry Lab (2)
CHEM 5720 Advanced Physical Chemistry Lab (2)
CHEM 5730 Advanced Inorganic Chemistry Lab (2)

C. Chemistry, Business Emphasis

Core courses, plus:

CHEM 3070 Thermodynamics and Chemical Kinetics (4) QI
or CHEM 3090 Physical Chemistry for Life Sciences (4) QI
Complete two of the following lab courses:
CHEM 3200 Advanced Radiochemistry with Lab I (3)

CHEM 5700 Advanced Analytical Chemistry Lab (2) CW

CHEM 5710 Advanced Organic Chemistry Lab (2)

CHEM 5720 Advanced Physical Chemistry Lab (2)

CHEM 5730 Advanced Inorganic Chemistry Lab (2)

Twelve or more units selected from the College of Business (other classes may be allowed with prior approval of the chemistry advisor).

ACCTG 2600: Survey of Accounting (3)

MGT 3000: Principles of Management (3) or MGT 3680: Human Behavior in Organizations (3)

FINAN 3000: Fundamentals of Investing (3) or FINAN 3040: Financial Management (3)

MKTG 3000: Marketing Vision (3) or MKTG 3010: Principles of Marketing (3)

D. Chemistry, Chemical Physics Emphasis

Core courses, plus:

CHEM 3070 Thermodynamics and Chemical Kinetics (4) QI

MATH 2250 Differential Equations and Linear Algebra (4) (or 2270 and 2280)

MATH 3150 Partial Differential Equations for Engineers (2)

MATH 3160 Complex Variables for Engineers (2)

MATH Elective: *3 or more units selected from the following:*

MATH 3070 Applied Statistics I (4)

MATH 4500 Intro. to Applied Analysis (3)

MATH 3300 Lab in Computational Science (3)

MATH 4510 Intro. to Topology and Geometry (3)

MATH 4200 Intro. to Complex Variables (3)

MATH 4600 Math. in Physiology and Medicine (4)

Complete two of the following lab courses:

CHEM 3200 Advanced Radiochemistry with Lab I (3)

CHEM 5700 Advanced Analytical Chemistry Lab (2) CW

CHEM 5710 Advanced Organic Chemistry Lab (2)

CHEM 5720 Advanced Physical Chemistry Lab (2)

CHEM 5730 Advanced Inorganic Chemistry Lab (2)

Six or more units selected from the following half-semester classes:

CHEM 7000 Introduction to Quantum Mechanics I (2)

CHEM 7040 Statistical Thermodynamics (2)

CHEM 7010 Introduction to Quantum Mechanics II (2)

CHEM 7050 Classical Thermodynamics (2)

CHEM 7020 Introduction to Spectroscopy I (2)

CHEM 7070 Chemical Kinetics (2)

CHEM 7030 Introduction to Spectroscopy II (2)

CHEM 7080 Chemical Dynamics (2)

E. Chemistry, Geology Emphasis

F. Core courses, plus:

G. CHEM 3070 Thermodynamics and Chemical Kinetics (4) QI

Complete two of the following half-semester lab courses:

CHEM 5700 Advanced Analytical Chemistry Lab (2) CW

CHEM 5710 Advanced Organic Chemistry Lab (2)

CHEM 5720 Advanced Physical Chemistry Lab (2)
CHEM 5730 Advanced Inorganic Chemistry Lab (2)
Sixteen or more units selected from the following:
GEO 1110 Introduction to Earth Systems (3)
GEO 1115 Laboratory for Introduction to Earth Systems (1)
GEO 3060 Structural Geology and Tectonics (3)
GEO 3080 Earth Materials I (4)
GEO 3090 Earth Materials II (4)
GEO 4100 Petrography and Petrogenesis (3)
GEO 5450 Ore Genesis and Mineral Exploration (3)
GEO 5660 Geochemistry (3)
GEO 5670 Isotope Tracers in Earth Science (3)
Selected chemistry courses may be substituted with prior approval of the chemistry advisor.

F. Chemistry, Materials Science and Engineering Emphasis

G. *Core courses, plus:*

H. MATH 2250 Differential Equations and Linear Algebra (4) (or 2270 and 2280)

I. CHEM 3070 Thermodynamics and Chemical Kinetics (4) QI

Complete two of the following lab courses:

CHEM 3200 Advanced Radiochemistry with Lab I (3)

CHEM 5700 Advanced Analytical Chemistry Lab (2) CW

CHEM 5710 Advanced Organic Chemistry Lab (2)

CHEM 5720 Advanced Physical Chemistry Lab (2)

CHEM 5730 Advanced Inorganic Chemistry Lab (2)

Fifteen or more units selected from the following:

MSE 2010 Introduction to Materials Science and Engineering (4)

MSE 3010 Materials Processing Lab (3)

MSE 3210 Electronic Properties of Solids (3)

MSE 3310 Introduction to Ceramics (3)

MSE 3410 Introduction to Polymers (3)

MSE 5011 Adv Mtrls Tech: Experiment, Theory & Characterization (2)

MSE 5032 Advanced Thermodynamics (3)

MSE 5034 Kinetics of Solid-state Processes (3)

MSE 5040 Introduction to Modern Biomaterials (4)

MSE 5470 Polymer & Organic Materials for Renewable Energy Application I (3)

G. Chemistry, Mathematics Emphasis

Core courses, plus:

CHEM 3070 Thermodynamics and Chemical Kinetics (4) QI

MATH 2250 Differential Equations and Linear Algebra (4) (or 2270 and 2280)

MATH 3150 Partial Differential Equations for Engineers (2)

MATH 3160 Applied Complex Variables (2)

MATH Elective: *Three or more units selected from the following:*

MATH 3070 Applied Statistics I (4)

MATH 4500 Intro. to Applied Analysis (3)

MATH 3300 Lab in Computational Science (3)

MATH 4510 Intro. to Topology and Geometry (3)
MATH 4200 Intro. to Complex Variables (3)
MATH 4600 Math. in Physiology and Medicine (4)
Complete two of the following lab courses:
CHEM 3200 Advanced Radiochemistry with Lab I (3)
CHEM 5700 Advanced Analytical Chemistry Lab (2) CW
CHEM 5710 Advanced Organic Chemistry Lab (2)
CHEM 5720 Advanced Physical Chemistry Lab (2)
CHEM 5730 Advanced Inorganic Chemistry Lab (2)
Six or more units selected from the following:
MATH 5010 Introduction to Probability (3)
MATH 5600 Survey of Numerical Analysis (4)
MATH 5080 Statistical Inference I (3)
MATH 5610 Introduction to Numerical Analysis I (4)
MATH 5090 Statistical Inference II (3)
MATH 5620 Introduction to Numerical Analysis II (4)
MATH 5210 Introduction to Real Analysis (4)

H. Chemistry, Teaching Emphasis

Core courses, plus:

CHEM 3070 Thermodynamics and Chemical Kinetics (4) QI
or CHEM 3090 Physical Chemistry for Life Sciences (4) QI

Complete two of the following lab courses:

CHEM 3200 Advanced Radiochemistry with Lab I (3)
CHEM 5700 Advanced Analytical Chemistry Lab (2) CW
CHEM 5710 Advanced Organic Chemistry Lab (2)
CHEM 5720 Advanced Physical Chemistry Lab (2)
CHEM 5730 Advanced Inorganic Chemistry Lab (2)

EDU 1010 Introduction to Teaching (3)

ETHNC 2550 – 2590 (3) Ethnic American Experiences (Choose one; some are HF or BF, all DV)

ECS 3150 Multicultural Education (3) DV

ELP 3410 Education Law (3) or ED PS 3030 Research & Inquiry (3)

PSY 1230 Psychology of Adolescents (3) BF or PSY 3220 Childhood and Adolescent Development or FCS 5230 (3) Adolescent Development in the Family or ED PS 5050 Life Span

Development (3) EDU 5170 Secondary Science Methods (3) or 5375 Science Methods (3) CHEM 5380 Special Topics in Modern Chemical Education (TA service via Distance Education, 2) or PHYS 3949 Special Lab Topics (1) or an elective having prior approval from the chemistry advisor.

2. Master of Science in Chemistry Requirements

Research (12 credit hours)

- Thesis Research (12)

Courses (18 credit hours from the following list)

Research Ethics

- Phil. 7570 Case Studies in Research Ethics (1)

Graduate Seminar

- Chem 7800, 7810, 7820, 7840 or 7870 Graduate Seminar (2)

Laboratory Classes (maximum of 4 credits)

- Chem 5700 Advanced Analytical Chemistry Lab (2)
- Chem 5710 Advanced Organic Chemistry Lab (2)
- Chem 5720 Advanced Physical Chemistry Lab (2)
- Chem 5730 Advanced Inorganic Chemistry Lab (2)

Physical Chemistry

- Chem 6810 Nanoscience: Where Biology, Chemistry and Physics Intersect (2)
- Chem 7000 Quantum Chemistry I (2)
- Chem 7010 Quantum Chemistry II (2)
- Chem 7020 Introduction to Spectroscopy I (2)
- Chem 7030 Introduction to Spectroscopy II (2)
- Chem 7040 Statistical Thermodynamics (2)
- Chem 7050 Classical Thermodynamics (2)
- Chem 7060 Statistical Mechanics (2)
- Chem 7070 Chemical Kinetics (2)
- Chem 7080 Chemical Dynamics (2)

Inorganic Chemistry

- Chem 7100 Principles of Inorganic Chemistry (2)
- Chem 7110 Inorganic Mechanisms (2)
- Chem 7120 Physical Inorganic Chemistry (2)
- Chem 7130 Solid-State Chemistry (2)
- Chem 7150 Bioinorganic Chemistry (2)
- Chem 7160 Organometallic Chemistry (2)

Organic Chemistry

- Chem 7200 Contemporary Organic Synthesis I (2)
- Chem 7240 Physical Organic Chemistry I (2)
- Chem 7250 Physical Organic Chemistry II (2)
- Chem 7270 Organic Spectroscopy I (2)
- Chem 7280 Organic Spectroscopy II (2)
- Chem 7290 Organic Chemistry of Materials (2)

Biological Chemistry

- Chem 7430 Chemical Biology of Proteins and Nucleic Acids (2)
- Chem 7450 Biophysical Chemistry (2)
- Chem 7460 Protein Chemistry (2)
- Chem 7470 Nucleic Acid Chemistry (2)

Analytical Chemistry

- Chem 7500 Angular Momentum Theory and Applications in Chemistry and Physics (2)
- Chem 7520 Computational Chemistry (Quantum) (2)
- Chem 7530 Molecular Simulations (2)
- Chem 7700 Analytical and Chemical Measurements I (2)
- Chem 7710 Analytical and Chemical Measurements II (2)
- Chem 7720 Separations (2)
- Chem 7730 – Electrochemistry (2)
- Chem 7750 Information Processing in Analytical Chemistry (2)
- Chem 7760 Instrumentation Electronics (2)
- Chem 7770 Optical Spectroscopy (2)
- Chem 7780 Surface Chemistry (2)



December 9, 2013

Dr. David B. Kieda
Dean of the Graduate School
302 PARK
Salt Lake City, UT 84112

Dear Dean Kieda:

I strongly support the institution of a new accelerated BS/MS degree program in Chemistry, as described in the enclosed proposal. This program would support the changing educational profile of the Department of Chemistry, emphasizing a more in-depth chemical education and satisfying our students' increased desire to participate in hands-on, impactful research projects at earlier stages in their education.

The Department of Chemistry's unanimous support for this program indicates that the program will be valuable from both an educational and research perspective. Students of the program would graduate with higher degrees, be better prepared for industry positions and Ph.D. programs, and, while at the University of Utah, would contribute to ongoing research projects in the Department of Chemistry.

You will also be pleased to know that the proposed degree would leverage existing resources, and would not require any new investment from the Department, College, or University. Additionally, as this degree is simply an integration of existing BS and MS programs, it would require no changes in class offerings, faculty, or curricula.

If approved, this program would be the only combination Chemistry BS/MS degree in the PAC-12, granting a significant competitive advantage to the University of Utah. If implemented, this program would no doubt attract more and better qualified students to the Department of Chemistry.

For these reasons, the Department of Chemistry's proposal has my support and the support of the College of Science. If you have any questions about this proposal, please let us know.

Sincerely,

Pierre V. Sokolsky
Dean, College of Science, and
Distinguished Professor of Physics & Astronomy

MEMORANDUM

To: COS Admissions, Standards and Degree Committee

From: Cynthia J. Burrows, Chair 

Date: November 21, 2013

Subject: Proposal for a BS/MS Degree in Chemistry

I enthusiastically endorse the proposed accelerated BS/MS Chemistry degree program. With this program I believe that we have an opportunity to both attract new students and to better educate our current undergraduates. Anecdotally, a survey of one of our 3000 level chemistry classes indicated that a majority of the students would be interested in this program.

The proposed program would not be difficult to adopt. The proposed program will utilize resources that are already at our disposal and will not require the development of a new curriculum or the hiring of faculty or administration. While a BS/MS would be unique for a Chemistry department at a major research institution, there is precedent for a BS/MS program at the University of Utah, for example in the College of Engineering.

Finally, I anticipate that there will be a need for the well-trained scientists that graduate from this program as the technology sector in the state continues to grow and generate high paying jobs.