Submit originals and one copy and electronic copy to Governance/Faculty Senate Office (email electronic copy to fyosenat@uaf.edu)

PROGRAM/DEGREE REQUIREMENT CHANGE (MAJOR/MINOR)

SUBMITTED BY:

Department: Chemistry & Biochemistry
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See http://www.uaf.edu/uafgov/faculty/cd for a complete description of the rules governing curriculum & course changes.

PROGRAM IDENTIFICATION:

<table>
<thead>
<tr>
<th>Degree Program</th>
<th>Chemistry/Environmental Chemistry Concentration</th>
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<tbody>
<tr>
<td>Degree Level: (i.e., Certificate, A.A., A.A.S., B.A., B.S., M.A., M.S., Ph.D.)</td>
<td>B.S.</td>
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A. CHANGE IN DEGREE REQUIREMENTS: (Brief statement of program/degree changes and objectives)

Approved changes last were: Change Chem 212 to a 4-cr lec+lab format, and schedule the removal of Chem 313 after 2009-2010. Changes applied for this year are increasing credits of Chem 331 and 332 (Physical Chemistry) from 3 cr to 4 cr.

B. CURRENT REQUIREMENTS AS IT APPEARS IN THE CATALOG:

Environmental Chemistry

1. Complete the general university requirements. (As part of the core curriculum requirements, complete: MATH F200X; PHYS F103X and PHYS F104X, or PHYS F211X and PHYS F212X.)

2. Complete the B.S. degree requirements. (As part of the B.S. degree, complete: MATH F201X. Chemistry foundation courses may be used toward partial fulfillment of the natural science requirement.)

3. Complete the following:*  
   CHEM F105X—General Chemistry—4 credits  
   CHEM F106X—General Chemistry—4 credits  
   CHEM F202—Basic Inorganic Chemistry—3 credits  
   CHEM F212—Chemical Equilibrium and Analysis—3 credits  
   CHEM F313—Chemical Analysis of Dynamic Systems—2 credits  
   CHEM F321, F322—Organic Chemistry—6 credits  
   CHEM F324W—Organic Laboratory—4 credits  
   CHEM F331, F332—Physical Chemistry—6 credits  
   CHEM F412—Instrumental Analytical Methods—3 credits  
   CHEM F413W—Analytical Instrumental Laboratory—3 credits  
   CHEM F434W—Instrumental Methods in Physical Chemistry—3 credits  
   CHEM F450—General Biochemistry Macromolecules (3)  
   or CHEM F451—General Biochemistry Metabolism—3 credits  
   CHEM F481—Seminar—1 credit  
   CHEM F4820—Seminar—2 credits  
   CHEM F488—Undergraduate Chemistry and Biochemistry Research (Environmental Topic)—2 credits

4. Complete the following:
   MATH F202X—Calculus—4 credits  
   STAT F300—Statistics—3 credits
5. Complete two of the following courses:*
   BIOL F115X—Fundamentals of Biology I—4 credits
   BIOL F116X—Fundamentals of Biology II—4 credits
   GEOS F101X—The Dynamic Earth—4 credits
   GEOS F125X—Humans, Earth, and the Environment—4 credits
   ATM F101X—Weather and Climate of Alaska—4 credits

6. Complete one of the following advanced courses:*
   BIOL F271—Principles of Ecology—4 credits
   BIOL F342—Microbiology—4 credits
   BIOL F443W—Microbial Ecology—3 credits
   BIOL F483—Stream Ecology—3 credits
   ENVE F458—Energy and the Environment—3 credits
   NRM F380W—Soils and the Environment—3 credits
   ATM F401—Introduction to Atmospheric Science—3 credits
   CHEM F402—Advanced Inorganic Chemistry—3 credits

7. Complete one of the following advanced courses:*
   BIOL F442W,O/2—Advanced Microbiology—4 credits
   CHEM F406—Atmospheric Chemistry—3 credits
   CE F441—Environmental Engineering—4 credits
   GEOS F417—Introduction to Geochemistry—3 credits

8. Minimum credits required—130 credits

* Student must earn a C grade or better in each course.

C. PROPOSED REQUIREMENTS AS IT WILL APPEAR IN THE CATALOG WITH THESE CHANGES:
(Underline new wording strike-through-old-wording and use complete catalog format)

Environmental Chemistry

1. Complete the general university requirements. (As part of the core curriculum requirements, complete: MATH F200X; PHYS F103X and PHYS F104X, or PHYS F211X and PHYS F212X.)

2. Complete the B.S. degree requirements. (As part of the B.S. degree, complete: MATH F201X. Chemistry foundation courses may be used toward partial fulfillment of the natural science requirement.)

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   CHEM F434W—Instrumental Methods in Physical Chemistry—3 credits
   CHEM F450—General Biochemistry Macromolecules (3) or CHEM F451—General Biochemistry Metabolism—3 credits
   CHEM F481—Seminar—1 credit
   CHEM F482O—Seminar—2 credits
CHEM F488—Undergraduate Chemistry and Biochemistry Research (Environmental Topic)—2 credits

4. Complete the following:
   MATH F202X—Calculus—4 credits
   STAT F300—Statistics—3 credits

5. Complete two of the following courses:
   * BIOL F115X—Fundamentals of Biology I—4 credits
   * BIOL F116X—Fundamentals of Biology II—4 credits
   * GEOS F101X—The Dynamic Earth—4 credits
   * GEOS F125X—Humans, Earth, and the Environment—4 credits
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8. Minimum credits required—130 credits

* Student must earn a C grade or better in each course.

D. **ESTIMATED IMPACT**

WHAT IMPACT, IF ANY, WILL THIS HAVE ON BUDGET, FACILITIES/SPACE, FACULTY, ETC.

None

E. **IMPACTS ON PROGRAMS/DEPTS:**

What programs/departments will be affected by this proposed action?
Include information on the Programs/Departments contacted (e.g., email, memo)

Slight change in credit amounts will not affect other programs – the general topics covered remain essentially the same. No other departments have been consulted on these small changes.

F. **IF MAJOR CHANGE – ASSESSMENT OF THE PROGRAM:**

Description of the student learning outcomes assessment process.)

No assessment is planned.
JUSTIFICATION FOR ACTION REQUESTED

The purpose of the department and campus-wide curriculum committees is to scrutinize program/degree change applications to make sure that the quality of UAF education is not lowered as a result of the proposed change. Please address this in your response. This section needs to be self-explanatory. If you drop a course, is it because the material is covered elsewhere? Use as much space as needed to fully justify the proposed change and explain what has been done to ensure that the quality of the program is not compromised as a result.

This change in the program description in the catalog will reflect as accurately as possible the course offerings available to incoming student in the Fall 2009 semester. Chem 313 is removed from the list of course requirements, which has been approved by Faculty Senate. However, it will remain in the course descriptions section for one more year.

The net change for the B.S. in Chemistry/Enviromental program is +1 credit. The overall reorganization of analytical and physical chemistry courses will benefit students as already outlined in the respective course change forms. This form just summarizes the overall credit situation for this program.

APPROVALS:

Signature, Chair, Program/Department of: [Signature] Date 10-16-08

Chem E, biochem

Signature, Chair, College/School Curriculum Council for: [Signature] Date 10-16-08

CNSM

Signature, Dean, College/School of: [Signature] Date 10-17-08

CNSM

ALL SIGNATURES MUST BE OBTAINED PRIOR TO SUBMISSION TO THE GOVERNANCE OFFICE

Signature, Chair, UAF Faculty Senate Curriculum Review Committee Date

[Signature]