

CALIFORNIA STATE UNIVERSITY, BAKERSFIELD
ACADEMIC SENATE

NEW CONCENTRATION: OCCUPATIONAL SAFETY
RES 1213016

AAC/BPC

RESOLVED: that the Academic Senate recommends that the President approve the proposed B.S. in Chemistry with Concentration in Occupational Safety and Health Management.

Rationale: Both of the Academic Affairs and Budget and Planning Committees have reviewed the proposal and find it both academically and fiscally responsible.

Distribution List: President, Provost, NSM&E Dean, Chemistry Chair, AVP Academic Programs

Approved by the Academic Senate on January 31, 2013

Sent to the President for approval on February 12, 2013

Approved by the President on April 4, 2013



CSU Bakersfield

Office of the Provost and
Vice President for Academic Affairs


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Memorandum

DATE: January 11, 2013

TO: Jacquelyn Kegley, Chair, Academic Senate
c: Carl Kemnitz, Associate Vice President, Academic Programs
Julio Blanco, Dean, School of Natural Sciences, Mathematics & Engineering
Andreas Gebauer, Chair, Department of Chemistry
Roy LaFever, Chair, School of Natural Sciences, Mathematics & Engineering
Curriculum Committee

FROM: Soraya M. Coley, Provost and Vice President for Academic Affairs 

RE: Proposal for Occupational Safety and Health Management Concentration in Chemistry

Please find attached the proposal to add the new concentration of Occupational Safety and Health Management Concentration in Chemistry for review and consideration by the Academic Senate. This proposal has been approved by the Department Chair, School Dean, Curriculum Committee and the Associate Vice President for Academic Programs. I also support this new concentration and appreciate the Academic Senate's consideration. Please feel free to contact Dr. Andreas Gebauer or Dean Julio Blanco for questions or clarification.

PROPOSAL FOR A NEW MINOR, CONCENTRATION or EMPHASIS

Proposals to add a new minor, concentration or emphasis must receive appropriate campus approval prior to implementation. In addition, the Chancellor's Office must be notified of the campus approval prior to implementation. All attachments are to be added to this cover sheet and remain with the proposal through the required steps of evaluation. Please consult with the Associate Vice President of Academic Programs for questions or assistance.

This new proposal is a (check one):

Minor - Is this minor available to all undergraduate students? Yes No, only in _____

Concentration Emphasis within the degree of B.S. in Chemistry

Title Occupational Safety and Health Management effective (term): _____


Use the following degree code 40.0501 instead of the major degree code for reporting (note the [necessary criteria](#) and [degree codes](#))

Originating Department or Individual: Chemistry and ERM

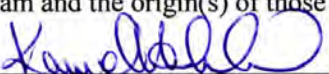
If a department formally approved the attached proposal, attach the appropriate memorandum and approval date.

Signature:  date: 10/26/12

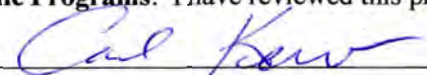
Curriculum Committee(s): Interschool programs should attach comments or approval from relevant school or department curriculum committees before being submitted to the Academic Affairs Committee, acting as the University Curriculum Committee. A memorandum and approval date from the curriculum committee must be attached. If any revisions were required or agreed to, a revised copy of the proposal must be attached.

Chair Signature:  date: 1/4/13

School Dean(s): I have reviewed this proposal and send it forward for university-wide review with my comments attached. These comments include my analysis of the resource commitments that must be made to support the program and the origin(s) of those resources.

Dean Signature:  date: 1/2/13

AVP of Academic Programs: I have reviewed this proposal and send it forward to the Provost.

AVP Signature:  date: 1/8/13

Date of Senate Approval: _____ Date of President Approval: _____

Please attach the final Academic Senate Resolution, as signed by the President and return to the Office of Academic Programs, which will notify the Chancellor's Office and the appropriate campus departments. A copy of this form and final electronic catalog copy must be sent to the Director of Academic Operations and Support.



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School of Natural Sciences, Mathematics, and Engineering

Department of Chemistry

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January 4, 2013

TO: Dr. Andreas Gebauer, Chair, Department of Chemistry

FROM: Roy LaFever, Chair, Curriculum Committee, NSM&E *RL*

SUBJECT: Department of Chemistry Proposal for Occupational Safety Concentration

The NSM&E Curriculum Committee considered the new concentration in Occupational Safety and Health Management. This new concentration proposal was unanimously approved by the committee and will be forwarded for additional review..



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MEMORANDUM

TO: Dr. Roy LaFever, Chair, NSM&E Curriculum Committee

FROM: Dr. Andreas Gebauer, Chair *AG*
Department of Chemistry

SUBJECT: Department of Chemistry Proposal for B.S. in Chemistry with a Concentration in Occupational Safety and Health Management

DATE: October 26, 2012

During its meeting on October 26, 2012, the faculty of the Department of Chemistry unanimously approved the attached proposal to add a concentration in Occupational Safety and Health Management to the B.S. in Chemistry degree.

NSM&E and BPA Curriculum Committees

PROPOSAL FOR NEW CONCENTRATION

1. **Approval.** Include a memo from the Department Chair(s) indicating approval by department(s) offering the course.
See above.
2. **Description.** Provide a complete catalog description, including prerequisites.

Requirements for the Bachelor of Science Degree in Chemistry with a Concentration in Occupational Safety and Health Management

Major Requirements		103 units
Chemistry Courses	55*	
Cognates	25	
Concentration	23	
Minor Requirement		0 units
Other University Requirements		72 – 77 units
CSUB 101	2	
American Institutions	5	
Area A	15	
Area B	5*	
Area C	15	
Area D	15	
Theme I	0*	
Theme 2	5	
Theme 3	5	
GRE	5	
GWAR (Test) or Class		0 – 5
A minor is not required		0
*satisfied in major or cognate		
Additional Units		0 - 5 units
Total Units Required in Major		180 units

Requirements for the Major in Chemistry with a Concentration in Occupational Safety and Health Management (105 Units)

Lower Division [15 units]*

CHEM 211, 212, 213 [Satisfies Areas B1 and B3]

Prerequisite for CHEM 211: CHEM 101 or satisfactory score on Chemistry Placement Test.

Upper Division [40 units]*

1. CHEM 331, 332, 340, 350, 361, 362, 390, and 490. [33 units]

2. One course out of CHEM 421, 422 [4 units]

3. One course out of CHEM 451, 452, 453 [3 units]

Cognates [25 units]*

1. MATH 211 and 212 or MATH 201, 202, and 222 [10 units] [Satisfies Area B4]

2. PHYS 201, 202, 203

Concentration in Occupational Safety and Health Management [23 units]*

Required Classes:

1. ERM 301, 302, 310, and 320 (18 units)
2. PPA 475

3. **Place in the Curriculum.** Indicate where/how the proposed concentration fits into the curriculum.

Table 1. Required Units in Chemistry (55 Units).

Topic	Course #	B.S. Chem.
General Chemistry	211	5 units
	212	5 units
	213	5 units
Inorganic Chemistry	421	1 of 2
	422	4 units
Organic Chemistry	331	5 units
	332	5 units
Biochemistry	340	5 units
Analytical Chemistry	350	5 units
	NMR (3)	1 out of 3 3 units
	Separations (3)	
	Spectroscopy (3)	
Physical Chemistry	361	4 units
	362	3 units
Chemical Literature	390	3 units
Senior Seminar	490	3 units
Total Units		55 units

Required Units in Cognates, 25 Units

Math = 10 units; Physics = 15

Table 3. Required Units in General Education (72 Units)

Area A	Area B & Theme I	Area C & Theme II	Area D & Theme III	GRE	AI – H & AI – G	CSUB 101	GWAR	Total
15	5*	20	20	5	5	2	0**	72

*Area B2 not covered through major and cognate

**Can be tested out of.

Units in Occupational Safety and Health Management: 23 Units

Required Classes (15):

ERM 301 – Introduction to Occupational Safety and Health Management (4)

ERM 302 – Advanced Occupational Safety and Health Management (4)

ERM 310 – Hazardous Materials Management (5)

ERM 320 – Industrial Hygiene Fundamentals (5)

PPA 475 – Introduction to Emergency Management & Homeland Security (5)

This concentration will provide students with a solid foundation in the chemical sciences as well as a strong background in occupational safety and health management that will provide excellent employment opportunities.

4. **Rationale.** Identify the intended audience and explain why the concentration is needed. Also indicate to what degree, if any, the proposed offering duplicates current curriculum.

This degree program provides a solid foundation in chemistry while also educating the future graduate in important aspects of Occupational Safety and Health Management. This concentration does not duplicate any portion of the current curriculum. In fact, it provides a unique option of an interdisciplinary program that will make a graduate highly competitive in the job market. The degree program will also expand the pool of high quality graduates available for local employers in this lucrative profession, provide additional internship and career opportunities for chemistry majors, and expand enrollment and involvement in the Occupational Safety and Health Management curriculum that is externally funded by Aera.

5. **Resource/Curriculum Implications.** Explain whether or not the department has sufficient resources (faculty time, library holdings, space, supplies and services, and so on) to offer the course; how often and when (quarter, time of day, etc.) the department plans to offer the course, and what changes (e.g., other courses offered less frequently) the department will need to make in its schedule to include the new course).

There are no resource implications as all courses in the B.S. degree and the concentration are already offered regularly on campus. However, it will make the existing courses more efficient as more students are attracted to the major with this new interdisciplinary option. No courses will be offered more frequently.

The current library holdings that support both chemistry and occupational safety and health management are sufficient to operate this program.

6. **Rationale for Concentration (rather than minor)**

B.S. degrees do not require a minor. In fact, a minor with a B.S. degree is usually not feasible as it would require course work in excess of the mandated 180 units for graduation.

The current B.S. in Chemistry includes 170 units of required course work (major, cognates, general education, and university wide requirements), leaving only 10 units of electives. All other chemistry degree options require even more units. A minor requires at least 20 units of course work, 10 of which have to be upper division. While students would always have the option to minor in occupational safety and health management, no student chooses to do so as this would increase the units required for graduation to 190. By designing a course sequence in chemistry and cognate coursework specifically for this concentration, the required course work for the B.S. in Chemistry **with** a Concentration in Occupational Safety and Health Management stands at 175 units. This design provides students with a solid foundation in the chemical sciences and leaves 23 units (15% more than a minor) for course work in management and marketing. Thus, this combination will provide students with a much better foundation in management and marketing. Furthermore, a minor does not specify the course work students need to complete. Any combination of course work would be acceptable as long as it amounts to 20 units and contains 10 units of upper division course work. This would provide students pursuing this minor with very

different learning outcomes and leave potential employers at a loss when judging the skills such an applicant brings to the table.