

For Academic Programs Office Use Only
 R. E. _____ Catalog _____ File _____

PROGRAM CHANGE PROPOSAL - Form P-2

COLLEGE CHABSS CoBA CoEHHS CSM

TITLE OF PROGRAM B.S. Chemistry Discipline Chemistry & Biochemistry

Check one: Change to Program Program Deletion

TITLE OF DEGREE PROGRAM: B.S. Chemistry – Chemistry Education Option

This form is the signature sheet for a change to, or deletion of, an existing program.
 Note that the addition of a new option/concentration/emphasis/track is a new "program," and requires the use of Form P.

For a change to a program,

1. Attach a page (or pages) giving a brief summary of the purpose of this proposal, and its connection to the mission and student learning outcomes of the program.
2. Attach catalog copy showing exactly how the program should appear in the catalog if the changes are approved.

For a program deletion, attach a statement explaining the impact on students: how will the program be "taught-out" for declared majors?

Does this proposal impact other disciplines or units? Yes ___ X ___ No If yes, obtain signature(s).
 Any objections or concerns should be stated in writing and attached to this form. Please check the box to indicate whether a memo has been attached.

| | | | | | |
|------------------------|------------------|-------------------------------------|---------------|---|---------------------------------|
| <u>School of Educ.</u> | <u>see email</u> | <input checked="" type="checkbox"/> | <u>7/8/15</u> | <input checked="" type="checkbox"/> Support | <input type="checkbox"/> Oppose |
| Discipline/Unit | Signature | | Date | | |
| _____ | _____ | <input type="checkbox"/> | _____ | <input type="checkbox"/> Support | <input type="checkbox"/> Oppose |
| Discipline/Unit | Signature | | Date | | |
| _____ | _____ | <input type="checkbox"/> | _____ | <input type="checkbox"/> Support | <input type="checkbox"/> Oppose |
| Discipline/Unit | Signature | | Date | | |
| _____ | _____ | <input type="checkbox"/> | _____ | <input type="checkbox"/> Support | <input type="checkbox"/> Oppose |
| Discipline/Unit | Signature | | Date | | |

1. Paul G. Jasien 3/6/15
 Originator (Please Print) Date

2. Merry 3/10/15
 Program/ Department - Director/Chair Date

3. [Signature] 5/4/2015
 College Curriculum Committee^ Date

APPROVAL PROCESS
 4. [Signature] 5/4/15
 College Dean (or Designee)* Date

5a. _____ _____
 University Curriculum Committee^ Date

5b. _____ _____
 Budget and Long-Range Planning Committee (if applicable)^ Date

6. _____ Date
 Academic Senate

7. _____ Date
 Provost (or Designee)

8. _____ Date
 President

9. _____
 Date to Chancellor's Office (if applicable)

* Where appropriate, attach a memo on program impact on the unit and the ability of the unit to support it. Check the box next to the signature line to indicate whether a memo has been attached.

^ Where appropriate, attach a memo summarizing the curricular and/or resource deliberations. Check the box next to the signature line to indicate whether a memo has been attached.



Virginia Mann

From: Manuel Vargas
Sent: Wednesday, July 08, 2015 7:38 AM
To: Virginia Mann
Cc: Denise Garcia; Regina Eisenbach
Subject: Re: CHEM Education Option changes

Virginia:
We have review the document and program faculty endorse the changes.
Thanks!

Sent from my iPhone

On Jul 7, 2015, at 2:12 PM, Virginia Mann <vmann@csusm.edu> wrote:

Good morning Manuel,

Attached is a P-2 form submitted by Chemistry requesting changes to the Chemistry Education Option. Would you please review these changes and let us know if the School of Education has any comments or concerns regarding these changes.

Thanks so much,
Virginia

Virginia Peters Mann
Curriculum Specialist
Academic Programs
CRA 5201-B
(760) 750-8887

<4555_001.pdf>

Changes Affecting B.S. Chemistry (Chemistry Education Option)

1. Drop the **ASTR 101** course as a choice from the *Non-Chemistry Supporting Courses*. This leaves **ASTR 342** as a requirement. The **ASTR 101** course has not been offered in more than 8 years and will probably not be offered in the foreseeable future. – (*No change in units*)
2. Remove the **CHEM 395** course from the list of *Upper-Division Chemistry Requirements*. This course has never been offered, since the Department does not have sufficient numbers of students in this option to devote the resources to this course. – (*Decrease of 1 unit*).
3. Change the number of units of Science Electives from 2 to 6. An increase of 1 unit is being made to compensate for dropping **CHEM 395** from the required course list. The other additional 3 units are being added to encourage students to broaden their science background to better prepare them for a teaching career. This addition is facilitated by change #1. Since **ASTR 342** is a BB course, this frees up 3 units for students to easily fit another science course in their schedule. Science Electives are chosen in consultation with the faculty advisor and courses in BIOL, CHEM, CS, MATH, or PHYS will be approved. – (*Net increase of 3 units in Science Electives, but zero units for degree*).

B.S. in Chemistry – Education Option

This option is for students who wish to seek training in chemistry as well as pursue a career as a high school science instructor.

| | |
|--|----|
| General Education [^] | 51 |
| Preparation for the Major [^] | 56 |
| Option Requirements | 27 |

The minimum number of units required for this degree is 120

[^] Nine (9) lower-division General Education units in Area B (Math and Science) and three (3) upper-division General Education units in Area BB are automatically satisfied by courses taken in Preparation for the Major.

Preparation for the Science Education Option

Non-Chemistry Supporting Courses (34 units)

| | |
|------------------------|---|
| ASTR 342 | 3 |
| BIOL 210 | 4 |
| BIOL 211 ^{^^} | 4 |
| EDUC 350 | 3 |
| ES 100 | 3 |
| MATH 160 ^{^^} | 5 |
| MATH 162 ^{^^} | 4 |
| PHYS 201 | 4 |
| PHYS 202 | 4 |

Lower-Division Chemistry (22 units)

| | |
|---|---|
| CHEM 150 ^{^^} and 150L ^{^^} | 5 |
| CHEM 160 | 3 |
| CHEM 201 and 202 | 6 |
| CHEM 201L and 202L | 4 |
| CHEM 275 | 4 |

^{^^}Some courses supporting the preparation in the major may satisfy the Mathematics and Physical Science requirements of General Education. The courses fulfilling this double requirement are denoted by ^{^^}.

Proficiency in Spanish is strongly encouraged for the Science Education option and can be included as part of the Humanities Requirement of the General Education Requirement.

Option Requirements**Upper-Division Chemistry (27 units)**

| | |
|--------------------|---|
| CHEM 300 | 3 |
| CHEM 308 | 3 |
| CHEM 341 | 3 |
| CHEM 397 | 1 |
| CHEM 401 | 3 |
| CHEM 404 | 3 |
| CHEM 404L | 1 |
| CHEM 499+ | 4 |
| Science Electives* | 6 |

+Course must be taken twice, for a total of four (4) units.

** Science major courses in the natural or mathematical sciences, chosen in consultation with the academic advisor, will be used to meet this requirement. A suitable set of electives may meet the certification requirements of the American Chemical Society.*