

PROGRAM CHANGES
WEBER STATE UNIVERSITY

Submission Date:

College: College of Science

Department: Chemistry

Program Title: Chemistry Major / Teaching Major; Physical Science Composite Teaching Major; Chemistry Departmental Honors; Chemistry Teaching Minor; Chemical Technician (AAS and Institutional Certificate)

PROGRAM DESCRIPTION:

All Chemistry available degrees and programs are impacted.

Check all that apply:

- New course(s) required for major, minor, emphasis, or concentration.
- Modified course(s) required for major, minor, emphasis, or concentration.
- Credit hour change(s) required for major, minor, emphasis, or concentration.
- Credit hour change(s) for a course which is required for the major, minor, emphasis, or concentration.
- Attribute change(s) for any course.
- Program name change.
- Deletion of required course(s).
- Other changes (specify) _____

If multiple changes are being proposed, please provide a summary. Use ~~strikeout~~ (strikeout) when deleting items in the program and highlight (highlight) when adding items.

Submit the original to the Faculty Senate Office, MC 1033, and an electronic copy to kbrown4@weber.edu

JUSTIFICATION:

Weber State Chemistry Department is one of few institutions that has integrated laboratory exercises incorporated into most chemistry courses, where laboratory scores are currently figured into an overall lecture/lab grade. Laboratory is usually a separate course at other universities (U of U and USU, for examples) and students earn a separate laboratory grade. After much discussion, the WSU Chemistry Department voted to separate organic laboratory courses from lectures (chem 2310 and 2320). Laboratory courses would then be chem 2315 and 2325, the same as at other in-state chemistry departments. Chem 2315 and 2325 (1 credit hour each) are already on our books, but are currently used only for transfer students who have had a lecture only course elsewhere. We propose to change Chem

2310 and 2320 courses from 5 to 4 credit hours each. Chem 2310L and 2320L (0 credit hours) course numbers would be eliminated. Chem 2315 and 2325 would become co-requisites to chem 2310 and 2320, respectively, for all students. No net credit hour change results. Advantages:

- Simplifies most (but not all) transfer articulations. Better alignment with other (especially USHE) institutions.
- Students with good lab grades but poor lecture grades would not have to repeat lab. Saves laboratory space and lab grading.
- Students could transfer or repeat lecture or lab only and try for a better grade -- greater flexibility for students.
- Lab grade would indicate experimental aptitude separate from lecture (theoretical) ability.
- Might allow online lecture or lab only course offerings -- could reach more remote students.
- Would accommodate lecture only transfer students who are currently turned away.

INFORMATION PAGE

Attach a copy of the present program from the current catalog and a revised version (exactly as you wish it to appear in the catalog).

Did this program change receive unanimous approval within the Department? Yes If not, what are the major concerns raised by the opponents?

Explain any effects this program change will have on program requirements or enrollments in other departments including the Bachelor of Integrated Studies Program. In the case of similar offerings or affected programs, **you should include letters from the departments in question stating their support or opposition to the proposed program.**

No apparent effects on other departments.

Indicate the number of credit hours for course work within the program. (Do not include credit hours for General Education, SI, Diversity, or other courses unless those courses fulfill requirements within the proposed program.)

^
No change.

Indicate the number of credit hours for course work within the current program. (Do not include credit hours for General Education, SI, Diversity, or other courses unless those courses fulfill requirements within the current program.) _____

No change.

APPROVAL PAGE

for: _____

(Program Title)

Approval Sequence:

Department Chair/Date (& BIS Director if applicable)

College Curriculum Committee/Date

Program Director or ATE Director (if applicable)/Date

Dean of College/Date

Courses required in programs leading to secondary undergraduate teacher certification must be approved by the University Council on Teacher Education before being submitted to the Curriculum Committee.

Master=s program changes must be reviewed by the University Graduate Council before being submitted to the Curriculum Committee.

I have read the proposal and discussed it with the program director.

University Graduate Council Representative/Date

University Curriculum Committee/Date

Passed by Faculty Senate _____ Date

Effective Date (As per PPM 4-2a) _____

Appendix (Catalogue Changes)

Course Requirements for BS

Chemistry Core Courses Required (25 credit hours)

- CHEM PS/SI1210/SI1220 Principles of Chemistry (10)
- CHEM 2310/2320 Organic Chemistry (~~4~~) (8)
- CHEM 2315/2325 Organic Chemistry Laboratories (2)
- CHEM 3000 Quantitative Analysis (4)
- CHEM 3020 Computer Applications in Chemistry (1)

Sophomore Fall	Sophomore Spring		
CHEM 2310	5 4	CHEM 2320	5 4
CHEM 2315	1	CHEM 2325	1
CHEM 3000	4	CHEM 3050	4
CHEM 3020	1	General Education	6
General Education	5		

Course Requirements for Teaching Minor

Courses Required (23 credit hours)

- CHEM PS/SH1210 Principles of Chemistry I (5)
- CHEM SH1220 Principles of Chemistry II (5)
- CHEM 2310 Organic Chemistry I (~~5~~ 4)
- CHEM 2315 Organic Chemistry I Laboratory (1)
- CHEM 2320 Organic Chemistry II (~~5~~ 4)
- CHEM 2325 Organic Chemistry II Laboratory (1)
- Approved chemistry elective, 3000 or above (3)

Course Requirements for AAS Degree

Courses Required (21 credit hours)

- CHEM PS/SH1210 Principles of Chemistry I (5)
- CHEM SH1220 Principles of Chemistry II (5)
- CHEM 2600 Laboratory Safety (1)
- CHEM 2990 Chemical Technician Seminar (1)
- CHEM 3000 Quantitative Analysis (4)
- CHEM 3020 Computer Applications in Chemistry (1)
- CHEM 3050 Instrumental Analysis (4)

Support Course Required (4 credit hours)

- *minimum* MATH 1010 Intermediate Algebra (4) *or equivalent*

Elective Courses (Select at least 10 credit hours; at least 4 credit hours must be 2000-level or higher)

- CHEM 2310 Organic Chemistry I (5 4)
- CHEM 2315 Organic Chemistry I Laboratory (1)
- CHEM 2320 Organic Chemistry II (5 4)
- CHEM 2325 Organic Chemistry II Laboratory (1)
- CHEM 2890 Cooperative Work Experience (1-6)
- CHEM 3070 Biochemistry I (4)
- CHEM 3080 Biochemistry II (3)

INSTITUTIONAL CERTIFICATE (Certificate of Proficiency)

» **Grade Requirements:** Minimum overall GPA of 2.00 or "C".

» **Credit Hour Requirements:** A total of 41 credit hours is required.

Course Requirements for Institutional Certificate

Courses Required (21 credit hours)

- CHEM PS/SH1210-1220 Principles of Chemistry (10)
- CHEM 2600 Laboratory Safety (1)
- CHEM 2990 Chemical Technician Seminar (1)
- CHEM 3000 Quantitative Analysis (4)
- CHEM 3020 Computer Applications in Chemistry (1)
- CHEM 3050 Instrumental Analysis (4)

Support Courses Required (10 credit hours)

- ENGL EN1010 Introductory College Writing (3)
- One additional course in oral or written communications (3)
- *Minimum* MATH 1010 Intermediate Algebra (4) *or equivalent*

Elective Courses (Select 10 credit hours; at least 4 credit hours must be 2000-level or higher)

- CHEM 2310 Organic Chemistry I (5 4)
- CHEM 2315 Organic Chemistry I Laboratory (1)
- CHEM 2320 Organic Chemistry II (5 4)
- CHEM 2325 Organic Chemistry II Laboratory (1)
- CHEM 2890 Cooperative Work Experience (1-6)
- CHEM 3070 Biochemistry I (4)
- CHEM 3080 Biochemistry II (3)

CHEM 2310. Organic Chemistry I (5 4) Su, F, S

Fundamental principles of organic chemistry, including structure and reactivity of carbon based molecules. Detailed study of mechanisms, synthesis, and reactions. Alkane, alkyl halide, alkyne, alcohol, and ether families are covered. : Four hours of lecture and one 3-hour lab per week.

Prerequisite: CHEM SH1220.

CHEM 2315. Organic Chemistry I Lab (1)

~~CHEM 2315 is a stand-alone Laboratory course designed to be taken with CHEM 2310. Includes organic laboratory techniques, synthesis, product isolation, spectroscopy and analysis. accommodate transfer students from other Universities. CHEM 2315 registration will be allowed only by special permission from the Chair of Chemistry. Transfer students who have taken the CHEM 2310 lecture without the lab should petition the Chair of the Chemistry Department for permission to take this course. Prerequisites: CHEM 1220. Co-requisite: Must have completed or currently be enrolled in CHEM 2310 lecture.~~

CHEM 2320. Organic Chemistry II (5 4) Su, F, S

~~Second semester of Principles of organic chemistry, second semester. A continuation of structure and reactivity analysis, along with structure elucidation techniques, spectroscopy and synthetic reactions. Coverage includes aromatics, carbonyls, carboxylic acid derivatives, and sugars. Four hours of lecture and one 3-hour lab per week. Prerequisites: CHEM 2310 and 2315.~~

CHEM 2325. Organic Chemistry II Lab (1)

~~CHEM 2325 is a stand-alone Laboratory course designed to be taken with CHEM 2320. Includes organic laboratory techniques, synthesis, product isolation, spectroscopy and analysis. accommodate transfer students from other Universities. CHEM 2325 registration will be allowed only by special permission from the Chair of Chemistry. Transfer students who have taken the CHEM 2320 lecture without the lab should petition the Chair of the Chemistry Department for permission to take this course. Prerequisites: CHEM 2310 and 2315. Co-requisite: Must have completed or currently be enrolled in CHEM 2320 lecture.~~

CHEM 3075. Biochemistry I Lab (1)

~~Stand-alone biochemistry laboratory course course designed to accommodate transfer students from other universities that have taken the equivalent of CHEM 3070, Biochemistry, without the laboratory component. CHEM 3075 registration will be allowed only by special permission from the Chair of Chemistry. Prerequisites: CHEM 2310, CHEM 2315, and CHEM 3070 without laboratory.~~