

# SUBJECT MATTER PROGRAM (BIOLOGY)

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## In Workflow

1. BIO Committee Chair (kneitel@csus.edu)
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3. NSM College Committee Chair (tsk@csus.edu)
4. NSM Dean (datwyler@csus.edu)
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7. Council on the Preparation of School Personnel Chair (mae.chaplin@csus.edu)
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12. President (cely.smart@csus.edu)
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14. Graduate Studies (jdsmall@csus.edu)

## Approval Path

1. Fri, 20 Sep 2019 17:54:10 GMT  
Jamie Kneitel (kneitel): Approved for BIO Committee Chair
2. Fri, 20 Sep 2019 17:57:40 GMT  
Jamie Kneitel (kneitel): Approved for BIO Chair
3. Fri, 20 Sep 2019 19:29:32 GMT  
Thomas Krabacher (tsk): Approved for NSM College Committee Chair
4. Fri, 20 Sep 2019 21:40:17 GMT  
Shannon Datwyler (datwyler): Approved for NSM Dean

## History

1. May 4, 2018 by clmig-jwehrheim
2. May 11, 2018 by 212408496
3. May 11, 2018 by 212408496
4. Oct 2, 2018 by 212408496

Date Submitted: Tue, 17 Sep 2019 16:12:52 GMT

## Viewing: Subject Matter Program (Biology)

**Last approved: Tue, 02 Oct 2018 21:11:12 GMT**

**Last edit: Wed, 18 Sep 2019 23:01:10 GMT**

Changes proposed by: Shannon Datwyler (102041314)

### Academic Group: (College)

Natural Sciences & Mathematics

### Academic Organization: (Department)

Natural Sciences and Mathematics

### Catalog Year Effective:

2020-2021 Catalog

### Individual(s) primarily responsible for drafting the proposed degree major program:

Name (First Last)	Email	Phone 999-999-9999
Shannon Datwyler	datwyler@csus.edu	916-278-4655

### Type of Program Proposal:

Credential

### Program Change Type:

Substantive

**Title of the Program:**

Subject Matter Program (Biology)

**Designation: (degree terminology)**

Credential

**Briefly describe the program proposal (new or change) and provide a justification:**

The Science Subject Matter Program (in biology, chemistry, physics, or foundational level general science) is designed to meet the Commission on Teacher Credentialing (CTC) subject matter requirement for students to enter a California Single Subject teaching credential program in the area of emphasis (biology, chemistry, physics, or foundational level general science). Meeting the subject matter requirement is a credential program admission requirement, and can be met either through a subject matter program (such as those being proposed here) or by taking a state approved content exam (currently the California Subject Exam for Teachers, the CSET).

Subject matter programs are not degrees or concentrations; instead they are a series of courses that allow a student to meet the requirements for admission to a teaching credential program.

In summer 2018, faculty from the College of Natural Sciences and Mathematics worked with the College of Education on recertification of the science subject matter programs through CTC. In order to ensure the individual programs met the new California K-12 content standards for science (Next Generation Science Standards), changes to the list of courses required to meet the standards were necessary. The Science Subject Matter Programs in biology, chemistry, physics, and foundational science were approved by CTC in fall 2018. This Form B is submitted for the purpose of updating catalog copy and providing accurate information to the campus community through normal approval channels (including CPSP, the Council on the Preparation of School Personnel).

**Objectives of the degree program:**

N/A

**University Learning Goals**

**Undergraduate Learning Goals:**

Competence in the disciplines  
Knowledge of human cultures and the physical and natural world  
Integrative learning  
Personal and social responsibility  
Intellectual and practical skills

**Graduate (Masters) Learning Goals:**

Disciplinary knowledge

**Will this program be required as part of a teaching credential program, a single subject, or multiple subject waiver program (e.g., Liberal Studies, Biology) or other school personnel preparation program (e.g., School of Nursing)?**

Yes

**For the Council for the Preparation of School Personnel (to be filled out with assistance of your department chair):**

**Does this program change impact your department's currently written Program Standards Document?**

No

**Common Standards: In what way does this course or program change impact the currently written Common Standards document? Please include any suggested language changes.**

This is to align with the changes to the CTC standards

**Is this change in response to program or unit assessment activities?**

No

**Will this program introduce any new or changes to program assessments?**

No

**Catalog Description:**

Units required for Subject Matter Program: 55-61

**Program Description**

The Science Subject Matter Program (in biology, chemistry, physics, or foundational level general science) is designed to meet the California Commission on Teacher Credentialing (CTC) subject matter requirement for students to enter a California Single Subject teaching credential program. Meeting the subject matter requirement is a credential program admission requirement, and can be met either through a subject matter program (such as those described below) or by taking a state approved content exam (currently

the California Subject Exam for Teachers, the CSET). In order to meet the subject matter program requirement, all courses must be completed with a grade of "C-" or better. In order to teach public school in California, you must also complete a teaching credential program.

Subject matter programs are not degrees or concentrations; instead they are a series of courses that allow a student to meet the requirements for admission to a teaching credential program. Students must also complete a BA or BS degree (with any major) to fulfill the credential requirements.

Science majors who intend to pursue a teaching credential should see a faculty advisor or the department chair in the department of their academic major. It is recommended that they do so early as it is critical that their science coursework be carefully planned and coordinated to include the required subject matter program courses. In addition, students are encouraged to become involved with education related activities like grading, assisting in labs, tutoring K-12 students, and visiting schools; please speak with the subject matter advisors in your area for more information.

**Admission Requirements: Course prerequisites and other criteria for admission of students to the degree major program, and for their continuation in it.**

Not applicable

As defined by policy <http://www.csus.edu/umannual/acadaff/fsm00010.htm>, a change in units constitutes a substantive change to the program. If your changes constitute a substantive change, please refer back to the "Program Change Type" field above to ensure that "Substantive" is selected.

**Program Requirements: (If new courses are being created as part of a new program, it will be useful to propose courses first.)**

## Program Requirements

Code	Title	Units
ASTR 4A	Introduction to the Solar System	3
ASTR 4B	Introduction to Stars, Galaxies, and Cosmology	3
BIO 1 & BIO 2	Biodiversity, Evolution and Ecology Cells, Molecules and Genes <sup>1</sup>	10
CHEM 1A	General Chemistry I <sup>1</sup>	5
CHEM 1B	General Chemistry II	5
ENVS 10	Introduction to Environmental Science <sup>1</sup>	3
GEOL 10	Physical Geology <sup>1</sup>	3
Select one of the following:		4 - 10
PHYS 5A & PHYS 5B	General Physics: Mechanics, Heat, Sound General Physics: Light, Electricity and Magnetism, Modern Physics <sup>1</sup>	8
PHYS 11A & PHYS 11B	General Physics: Mechanics General Physics: Heat, Light, Sound, Modern Physics	12
PHYS 11C	General Physics: Electricity and Magnetism (and)	
<b>Required Upper Division Core Courses (21 Units)</b>		
BIO 121	Molecular Cell Biology	3
BIO 131	Systemic Physiology	4
BIO 139	General Microbiology	4
BIO 160	General Ecology	3
BIO 184	General Genetics	4
BIO 188	Evolution	3
Total Units		77-83

<sup>1</sup> Course also satisfies General Education (GE)/Graduation Requirement.

**Note:**

- BIO 195T is highly recommended for students interested in pursuing a biology credential in the CSU system; 45 hours of documented work with the target school age is required prior to admission in a credential program.

**For graduate programs, the number of declared undergraduate major and the degree production over the preceding years of the corresponding baccalaureate program:**

This is not a baccalaureate degree program.

## **Fiscal Impact to Change an Existing Program**

**Indicate programmatic or fiscal impact which this change will have on other academic units' programs, and describe the consultation that has occurred with affected units:**

We expect no fiscal impact due to the fact that these changes to the program reduce the number of units required for students who wish to pursue the subject matter waiver. In addition, the total number of students in the subject matter waiver program is low so we don't anticipate a change in demand for courses.

**Provide a fiscal analysis of the proposed changes:**

None

**How will the above changes be accommodated within the department/College existing fiscal resources?**

N/A

**Will the proposed changes require additional resources?**

No

**What additional space, equipment, operating expenses, library, computer, or media resources, clerical/technical support, or other resources will be needed?**

N/A

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