

BS IN ENVIRONMENTAL STUDIES



SACRAMENTO STATE

In Workflow

1. ENVS Committee Chair (wayne.linklater@csus.edu)
2. ENVS Chair (wayne.linklater@csus.edu)
3. SSIS College Committee Chair (wickelgr@csus.edu)
4. SSIS Dean (mendriga@csus.edu)
5. Academic Services (catalog@csus.edu)
6. Senate Curriculum Subcommittee Chair (curriculum@csus.edu)
7. Faculty Senate Executive Committee Chair (kathy.honeychurch@csus.edu)
8. Faculty Senate Chair (kathy.honeychurch@csus.edu)
9. Dean of Undergraduate (gardner@csus.edu)
10. Dean of Graduate (cnewsome@skymail.csus.edu)
11. President (khtudor@csus.edu)
12. Catalog Editor (catalog@csus.edu)
13. Registrar's Office (k.mcfarland@csus.edu)

Approval Path

1. Tue, 27 Aug 2024 18:42:38 GMT
Wayne Linklater (wayne.linklater): Rollback to Initiator
2. Tue, 27 Aug 2024 18:46:14 GMT
Wayne Linklater (wayne.linklater): Rollback to Initiator
3. Tue, 27 Aug 2024 18:50:12 GMT
Wayne Linklater (wayne.linklater): Approved for ENVS Committee Chair
4. Tue, 27 Aug 2024 18:50:33 GMT
Wayne Linklater (wayne.linklater): Approved for ENVS Chair
5. Tue, 01 Oct 2024 23:03:48 GMT
Emily Wickelgren (wickelgr): Rollback to ENVS Chair for SSIS College Committee Chair
6. Fri, 11 Oct 2024 23:00:08 GMT
Wayne Linklater (wayne.linklater): Approved for ENVS Chair
7. Mon, 14 Oct 2024 17:31:21 GMT
Emily Wickelgren (wickelgr): Approved for SSIS College Committee Chair
8. Mon, 14 Oct 2024 19:58:34 GMT
Marya Endriga (mendriga): Approved for SSIS Dean

History

1. May 3, 2018 by clmig-jwehrheim
2. Aug 8, 2018 by 212408496
3. Dec 6, 2018 by 216279922
4. Apr 28, 2020 by 220267334
5. Apr 23, 2021 by Katie Hawke (katiedickson)
6. Feb 23, 2022 by Wayne Linklater (wayne.linklater)
7. Aug 5, 2022 by 302822325
8. Aug 10, 2022 by 302822325

Date Submitted: Tue, 27 Aug 2024 18:47:07 GMT

Viewing: BS in Environmental Studies**Last approved: Wed, 10 Aug 2022 19:41:34 GMT****Last edit: Fri, 11 Oct 2024 23:00:04 GMT**

Changes proposed by: Wayne Linklater (223005380)

Academic Group: (College)

Social Sciences & Interdisciplinary Studies

Academic Organization: (Department)

Environmental Studies

Catalog Year Effective:

2025-2026 Catalog

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

Name (First Last)	Email	Phone 999-999-9999
Wayne Linklater	wayne.linklater@csus.edu	916-278-6671

Type of Program Proposal:

Major

Program Change Type:

Substantive

Delivery Format:

Fully Face to Face

Title of the Program:

BS in Environmental Studies

Designation: (degree terminology)

Bachelor of Science

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

Context: Over the last 3 years the Dept. of Environmental Studies has reviewed and revised its BA to become distinct from our BS degree (a Form B for changes to our BA program is also submitted). Inevitably, as a consequence of that revision, faculty also identified improvements that should be made to the BS, less substantial changes but helpful nonetheless.

What is new and why?

1. Program learning outcomes. The program learning outcomes have been modified to more fully align with a natural science focus (cf. the arts, humanities, and social science focus of the BA).
2. Rationalizing electives. Previously, the BS required three ENVS electives and three electives from other Departments (i.e., Inter-disciplinary electives). Part of the rationale for this heavy dependence on other Departments' courses was because the Environmental Studies Department was small - four or fewer faculty up to 2018 when our program was last revised. However, as a consequence of student demand for curriculum, tenure track faculty now number 7 and the number of ENVS electives has doubled. Thus, the Environmental Studies Department now has the capacity to support the BS without substantial recourse to other departments curriculum. Our proposal is to still allow students to substitute two courses in other Departments for our electives (where that aligns with their career goals) but the program will default to requiring 5-6 ENVS electives and no inter-disciplinary electives. We also propose retaining some of the inter-disciplinary electives from other Departments that have proved important to students learning and career opportunities, e.g., GEOG 109 - GIS, as electives. The change will allow us to implement more comprehensive learning in Environmental Studies than before.
3. Fewer units. Previously, the BS was among the largest programs in the university by unit load. We have taken this opportunity to reduce the unit load, from 67-69 to 63-64. That unit workload now also aligns with the workload in the new BA too (at 62-64).
4. We have modified the Program Description to emphasize career pathways consistent with our experience with graduates in recent years.
5. other minor changes:
 - we have retained HIST 165 and SOC 138 in the section of Environmental Studies Electives (moving them from the old Inter-disciplinary elective" section) because both classes are cross listed with our program and have ENVS codes i.e., ENVS 165 and ENVS 138. The faculty regard their sub-disciplinary topics as important to retain as electives to meet diverse student interest and career pathways.

Note that the lower-division requirements remain the same as those in our BA to preserve the ability of students to modify their program, switching easily between the BA and BS, should they discover their preference later in their degree.

University Learning Goals

Undergraduate Learning Goals:

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

Program Learning Outcomes

Program Learning Outcomes

Learning Outcome

1. Appraise environmental problems and solutions by critically applying natural science theory and methods [Baccalaureate Learning Goal (BLG) 1, 2, 3, 5].
2. Communicate clearly and persuasively about scientific investigation and environmental analysis [BLG 1, 3].
3. Clarify the diverse relationships between people, ways of knowing, and our environment [BLG 2, 4, 5].
4. Identify and evaluate empirical methods for solving environmental problems [BLG 1, 3].
5. Creatively synthesize information from complementary environmental disciplines [BLG 1, 2, 3, 5].

Learning Outcomes Display

Course Code	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5
BIO 1					
BIO 2					
BIO 10					
BIO 15L					
CHEM 1A					
CHEM 6A					
ECON 1B					
ENVS 10					
GEOG 1					
GEOL 10					
BIO 160					
ENVS 111					
ENVS 112					
ENVS 120					
ENVS 121					
ENVS 187					
ENVS 190					
ENVS 195					
ENVS 122					
ENVS 128					
ENVS 171					

ENVS 110					
ENVS 130					
ENVS 135					
ENVS 137					
ENVS 138					
ENVS 140					
ENVS 144					
ENVS 147					
ENVS 149					
ENVS 151					
ENVS 155					
ENVS 158					
ENVS 163					
ENVS 165					
ENVS 170					
ENVS 199					
GEOG 107					
GEOG 109					
GEOG 110					

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)?

No

Please attach a Comprehensive Program Assessment Plan (required)

Program-Assessment-Plan-Template - BS Environmental Studies.docx

Please attach a Curriculum Map Matrix (required)

CurriculumMapMatrixTemplate ENVS BS.docx

Please attach a five-year budget projection (required)

5-year-budget-template-BS ENVS.xls

Do these changes impact the Smart Planner roadmap?

Yes

Please attach the Smart Planner roadmap:

road-map-4-yer-envs-bs-rev-aug-26-2024.pdf

Briefly describe the change:

Where previously there were upper-division inter-disciplinary electives, they are replaced with ENVS upper-division electives.

Catalog Description:

Units required for Major: 63-64

Total units required for BS: 120

Program Description

Students will gain an interdisciplinary understanding of environmental challenges and their solutions. Environmental issues are taught as scientific problems within a political and social context. Alongside learning the disciplinary knowledge and practice, the degree emphasizes skills in communication, cooperation and service.

Graduates are typically employed as natural scientists, technicians, planners, or policy-makers, in government, community-based organizations, or industry working in food and agriculture, fish and wildlife, pollution and toxic substances, forestry and fire, air and water resources, recycling and recovery, and environmental consulting, communication, enforcement, and regulation.

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


Minimum Grade Requirement

A minimum grade of "C-" is required in all courses required for the Environmental Studies B.A. and B.S. majors.

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
Required Lower Division Courses (23-24 Units)		
BIO 1	Biodiversity, Evolution and Ecology ¹	5
BIO 2	Cells, Molecules and Genes	4 - 5
or BIO 10 & BIO 15L	Basic Biological Concepts Laboratory Investigations in Biology	
CHEM 1A	General Chemistry I ¹	5
or CHEM 6A	Introduction to General Chemistry	
ECON 1B	Introduction to Microeconomic Analysis ¹	3
ENVS 10	Introduction to Environmental Science	3
GEOG 1	Physical Geography: The Distribution of Natural Phenomena ¹	3
or GEOL 10	Physical Geology	
Required Upper Division Courses (21 Units)		
BIO 160	General Ecology	3
ENVS 111	Environmental Ethics ¹	3
ENVS 112	International Environmental Problems  ¹	3
ENVS 120	Quantitative Methods for Environmental Science	3
ENVS 121	Field Methods in Environmental Science	2
ENVS 187	Environmental Studies Seminar	1
ENVS 190	Senior Thesis	3
ENVS 195	Environmental Studies Internship	3
Policy Electives (3 Units)		
Select one of the following courses:		3
ENVS 122	Environmental Impact Analysis: CEQA and NEPA	
ENVS/POLS 128	Environment and the Law	
ENVS/POLS 171	Environmental Politics and Policy	
Environmental Science Electives (15 Units) ²		
Select five of the following courses:		15
ENVS 110	Contemporary Environmental Issues	
ENVS 130	Environmental Toxicology	
ENVS 135	California Water and Society	
ENVS 137	Conservation and Society	
ENVS/SOC 138	Introduction to Environmental Sociology	
ENVS 140	Energy, Society, and the Environment	
ENVS 144	Sustainability Science & Policy	
ENVS 147	Urban Agriculture and Aquaponics	
ENVS 149	Agroecology	
ENVS 151	Restoration Ecology	
ENVS 155	Environmental Management and Decision-Making	
ENVS 158	Wetlands Ecology	
ENVS 163	Ethnoecology ¹	
ENVS/HIST 165	American Environmental History ¹	

ENVS 170	Environmental Justice	
ENVS 199	Special Problems	
GEOG 107	Remote Sensing	
GEOG 109	Geographic Information Systems	
GEOG 110	Advanced Geographic Information Systems	
Total Units		62-63

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

² A student may substitute up to 6 units of ENVS electives with courses from other programs if the substitute course aligns with their career aspirations. Most commonly those courses are taught by Biology, Geography, Geology, History or RPTA but any courses aligned with the student's interests will be considered. Contact your major advisor for approval of a substitute course.

General Education Requirements ¹

Code	Title	Units
Area A: Basic Subjects (9 Units)		
A1	Oral Communication	3
A2	Written Communication	3
A3	Critical Thinking ²	3
Area B: Physical Universe and Its Life Forms (6 Units)		
B1	Physical Science ³	0
B2	Life Forms ³	0
B3	Lab (Note: Lab experience to be taken with one of the following: B1, B2 or B5) ³	0
B4	Math Concepts ⁴	3
B5	Additional Course (Any B to reach 12 units) - Take upper-division course to complete Area & upper division requirements. ⁵	3
Area C: Arts and Humanities (9 Units)		
C1	Arts	3
C2	Humanities	3
C1/C2	Area C Course ³	0
C1/C2	Area C Course - Take upper-division course to complete Area & upper division requirements.	3
Area D: The Individual and Society (9 Units)		
	Area D Course	3
	Area D Course ⁶	3
	Area D Course - Take upper-division course to complete Area & upper division requirements.	3
Area E: Understanding Personal Development (3 Units)		
	Area E Course	3
Area F: Ethnic Studies		
	Area F Course (3 units)	
Total Units		36

¹ To help you complete your degree in a timely manner and not take more units than absolutely necessary, there are ways to use single courses to meet more than one requirement (overlap). For further information, please visit the General Education page (<http://catalog.csus.edu/colleges/academic-affairs/general-education/>).

Note: There is no way to list all possible overlaps so please consult with a professional advisor. The Academic Advising Center can be visited online (<http://www.csus.edu/acad/>), by phone (916) 278-1000, or email (advising@csus.edu).

² ENVS 11 - Environmental Issues and Critical Thinking - is recommended for Environmental Study majors to meet the GE A3 requirement.

³ Course required by the Environmental Studies Major; also satisfies this GE requirement.

⁴ STAT 1 is recommended for Environmental Studies majors because it is also a prerequisite for a required course in the major.

ENVS 120 - Quantitative Methods.

⁵ The elective, ENVS 163 also satisfies this GE requirement.

⁶ Elective ENVS 165 also satisfies this GE requirement.

Graduation Requirements ¹

Code	Title	Units
Graduation Requirements (required by CSU) (6 Units)		
	American Institutions: U.S. History	3
	American Institutions: U.S. Constitution & CA Government	3

Writing Intensive (WI) ²	0
Graduation Requirements (required by Sacramento State) (12 Units)	
English Composition II	3
Race and Ethnicity in American Society (RE)	3
Foreign Language Proficiency Requirement ³	6

¹ To help you complete your degree in a timely manner and not take more units than absolutely necessary, there are ways to use single courses to meet more than one requirement (overlap). For further information, please visit the General Education page (<http://catalog.csus.edu/colleges/academic-affairs/general-education/>).

Note: There is no way to list all possible overlaps so please consult with a professional advisor. The Academic Advising Center can be visited online (<http://www.csus.edu/acad/>), by phone (916) 278-1000, or email (advising@csus.edu).

² ENVS 112 - International Environmental Problems - is required by the Major and also satisfies this Graduation Requirement.

³ If not satisfied before entering Sacramento State, it may be satisfied in General Education Area C2 (Humanities). "C- or better required." The alternative methods for satisfying the Foreign Language Proficiency Requirement are described here: <https://www.csus.edu/college/arts-letters/world-languages-literatures/foreign-language-requirement.html> (<https://www.csus.edu/college/arts-letters/world-languages-literatures/foreign-language-requirement.html>)

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:

Being a small Department (four or fewer permanent, full-time faculty), the ENVS BS relied on 12 upper-division units (of 65-66 total) from other Departments, particularly from the College of Natural Sciences and Mathematics. Nine of those units were electives for the major, and described as "Inter-disciplinary Electives" (the other 3 units came from majors being required to take BIO 160 - General Ecology). The number of majors enrolled in any year of the last 5 years has ranged from a peak in 2019 of 229 to 173 in the last academic year.

The Department of Environmental Studies now includes seven full-time, permanent faculty spanning a wide variety of disciplinary topics. We no longer need to depend quite so much on other Departments for our program's inter-disciplinarity. Nonetheless, this proposal is not to prevent students from taking other courses in other Departments where those are useful to their career aspirations. Rather, the proposal is only to make ENVS courses the default electives in the major, still allowing students to substitute up to 6 units of other Department's class for ENVS electives. We anticipate providing students a list of alternative, substitution classes from other Departments that have proved useful to students in the past.

While we are reducing the number of units required of other Departments, in other ways we are increasing ENVS majors demand on other classes. Under this proposal, BIO 160 will continue to be required, and SOC 138, HIST 165, and GEOG 107, 109 and 110 will be retained as ENVS electives because they have proved popular and important to many student's employ-ability or are already cross-listed.

Given the opportunity for students to still take 6 units of other Departments' courses in our program, and the retention of the five most commonly taken courses in other Departments (SOC, HIST, and GEOG) among our electives, we expect the impact on other programs to be small.

We have alerted the other Departments of this change and invited comment. Our correspondence with them is attached.

Attach a copy of correspondence with these units:

CONSULTATION - BS change to inter-disciplinary electives.docx

Provide a fiscal analysis of the proposed changes:

The proposed change is a small change in the allocation of units among electives. We do not expect it to have major fiscal consequences.

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

The proposed change is a small change in the allocation of units among electives. We do not expect it to have major fiscal consequences.

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?

No

Estimate the cost and indicate how these resource needs will be accommodated:

NA

Reviewer Comments:

Wayne Linklater (wayne.linklater) (Tue, 27 Aug 2024 18:42:38 GMT): Rollback: .

Wayne Linklater (wayne.linklater) (Tue, 27 Aug 2024 18:46:14 GMT): Rollback: .

Emily Wickelgren (wickelgr) (Tue, 01 Oct 2024 23:03:48 GMT): Rollback: See email on 10/1/24

Key: 235