

This document presents the Organizational Charter for the GE Minor in Sustainability (GEM-S), which describes the nature of the GE Minor, its justification, benefits to students, and its curriculum. Of note, because the GEM-S is constructed of existing courses that are already part of the GE program, there is no anticipated budgetary impact.

GENERAL EDUCATION MINOR IN SUSTAINABILITY ORGANIZATIONAL CHARTER (REVISED FOR 2021)

OVERVIEW

A sustainable society meets the needs of the present generation without compromising the ability of future generations to meet their own needs. Rapidly escalating and intertwined environmental and social challenges (e.g., climate disruption, pollution, over-consumption, resource depletion, extreme poverty, and inequality) underscore the urgent necessity for sustainability education that empowers students to become visionaries and change agents. The General Education (GE) program at Cal State East Bay offers an opportunity for its students to engage with and address these pressing issues by opting into a GE Minor in Sustainability.

A structured GE Pathway Minors provides a more coherent and intentional GE program that deliver more depth and meaning to the GE experience for students than the traditional distribution (“cafeteria style”) model of GE. GE minors focusing on sustainability issues have been developed at other universities similar to Cal State East Bay. For example, Chico State offers 10 [GE Minors](#), one of which is in their [Sustainability Studies Pathway](#); and Virginia Tech offers 18 GE [Pathway Minors](#), one of which is their [Pathways to Sustainability Minor](#). This GE Minor in Sustainability substantiates CSUEB’s institutional commitments to sustainability education ([06-07 BEC 9 Sustainability Resolution](#)) and to climate neutrality education ([CSUEB’s Carbon Commitment](#)), as well as supporting the CSU’s system-wide [Sustainability Policy](#).

This document describes the goals, curriculum, and administrative structure of the GE Minor in Sustainability (GEM-S), as adapted by the Committee on Sustainability (CS) in collaboration with the Director of General Education.

PROGRAM GOALS

Environmental sustainability covers a broad range of issues (e.g., climate change, resource depletion, and environmental pollution) that may be studied using multiple disciplinary lenses (e.g., scientific, social, political, and economic). The GEM-S prepares students to integrate sustainability principles and practices into their lives and professions through exposure to the magnitude and multi-dimensionality of the sustainability problem and exploration of potential solutions. By completing a significant portion of their GE requirements through this pathway, students will earn a Minor in Sustainability.

The GEM-S is designed to:

- Strengthen sustainability education at CSUEB by providing students of all majors with opportunities to deepen their understanding of sustainability from multiple disciplinary perspectives and apply sustainable thinking/practices far beyond the current one-course overlay requirement, without increasing the units taken toward graduation;
- Leverage existing sustainability courses and institutional structures (both academic and administrative) within GE;
- Provide an initial step toward CSUEB's commitment to educate all students on the issue of climate neutrality;¹
- Promote collaboration and ongoing discussion of best pedagogical strategies, thereby expanding faculty's expertise in the area of sustainability; and
- Facilitate the ILO assessment of Sustainability through the evaluation of student work in the capstone course.

THE CURRICULUM

The GEM-S requires a completion of a minimum of 15 units within GE, which includes a Climate Neutrality Overlay requirement and an Applied Sustainability Overlay requirement (Table 1). These Overlays are only required for completion of the GEM-S. The GEM-S includes the following course categories and requirements:

- At least two courses (min. 6 units) from Course Category I, Lower-division GE Breadth Areas B1, B2, C1-2, D1-2, and/or F;
- One course (min. 3 units) from Course Category II, GE Area B6 (UD-B) Upper-division Science Inquiry and Quantitative Reasoning;
- One course (min. 3 units) from Course Category III, GE Area C4 (UD-C) Upper-division Arts or Humanities;
- One course (min. 3 units) from Course Category IV, GE Area D4 (UD-D) Upper-division Social Sciences;
- One course from any Category I – IV that fulfills the Climate Neutrality (C-Neutral) Overlay, which is only required for the GEM-S and is different from the course used to satisfy the Applied Sustainability Overlay requirement;
- One upper-division GE course from any Category II – IV that fulfills the Applied Sustainability Overlay, which is only required for the GEM-S and is different from the course used to satisfy the Carbon Neutrality Overlay requirement;
- While certain courses from Categories I-IV may be listed as fulfilling both the Applied Sustainability and Climate Neutrality Overlays, students must fulfill these GEM-S Overlays with two separate courses;
- Students must complete the remaining GE breadth and graduation requirements (including the University Overlays) not completed within the minor in order to graduate.

¹ Per the Academic Senate's 2007 Sustainability Resolution ([06-07 BEC 9](#)) and the Cal State East Bay's [Carbon Commitment](#).

TABLE 1. GEM-S Course Requirements and Associated GE Areas. The minor consists of a minimum of 15 units, 9 units of which are in upper-division GE. Students complete course(s) in each category from the approved list of GEM-S courses (see Appendix I).

Course Category	Description	GE Area	Min. Units
I	Lower-division Breadth	B1, B2, C1-2, D1-3, and/or F	6
II	Upper-division Arts or Humanities	C4	3
III	Upper-division Social Science	D4	3
IV	Upper-division Science Inquiry and Quantitative Reasoning	B6	3
C-Neutral	Climate Neutrality Overlay	Met by completing a course in Categories I-V that meets the Climate Neutrality course criteria; only required for the GEM-S; must be different from the course used to fulfill the Applied Sustainability Overlay.	N/A
Applied Sustainability	Applied Sustainability Overlay	Met by completing any one upper-division GE course from Categories II-IV that meets the Applied Sustainability course criteria; only required for the GEM-S; must be different from the course used to fulfill the C-Neutral Overlay.	N/A

Courses satisfying each GEM-S category will be selected by the CS in consultation with the Director of General Education. A list of these courses will be maintained in the University Catalog and accessed through the [GE website](#).

COURSE SELECTION CRITERIA

The CS applies the following criteria to determine which courses are included in the GEM-S:

- Course has current GE certification.
- Course has current Sustainability Overlay certification.
- GE course does not have Sustainability Overlay certification but addresses/integrates sustainability-related issues (e.g., courses certified for the Diversity or Social Justice Overlay).²

² Cal State East Bay has three required Overlay categories: one each in Sustainability, Social Justice, and Diversity. By most definitions (including Cal State East Bay's, as stated in the University's Institutional Learning Outcome for Sustainability), sustainability includes issues of social justice and diversity. However, a given course cannot be certified for more than one Overlay area. Therefore, relevant courses that properly integrate Sustainability outcomes may be certified for Diversity or Social Justice, or may not carry an Overlay certification at all.

- A GE course that specifically addresses the outcomes for the GEM-S Climate Neutrality (C-Neutral) overlay (see Appendix III Guidelines for Climate Neutrality Courses).
- An upper-division GE course that addresses sustainability experientially (e.g., through hands-on activities, project-based assignments, community service), builds on the principles and practices developed through Course Category II-IV coursework, and satisfies the Applied Sustainability Overlay criteria (see Appendix II Guidelines for Applied Sustainability Overlay Courses).

OVERSIGHT AND ADMINISTRATION

Ongoing oversight of the GEM-S will require active cooperation between the CS and the Office/Director of GE. In accordance with the goals outlined in the Background section above, the minor will *not* be housed in any individual department. Administrative functions will be the purview of the Director and Office of GE. The specific roles of each group are detailed below.

The primary duties of the Sustainability Committee are to work with the Director of GE to:

- Annually review and approve candidate courses for inclusion in the GEM-S, including non-Sustainability Overlay/GE courses;
- Review and revise the GEM-S Organizational Charter, as needed;
- Create and disseminate informational and “marketing” communications for potential and declared students in the GEM-S.

The primary duties of the Director/Office of General Education include:

- Report on the status of the GEM-S to the CS;
- Review courses eligible for the GEM-S, in consultation with the CS, and update the University Catalog, Curriculog, and the GE website, as needed;
- Work with colleges/departments to ensure that an adequate number of courses are available in all course categories for students to complete the GEM-S in a timely fashion;
- Develop and maintain roadmaps for the GEM-S and provide training and ongoing support for all academic advisors working with students in the GEM-S.

APPENDIX I

List of Courses in the GE Minor in Sustainability

The list of appropriate courses may change as new or existing GE courses are reviewed and approved for certification or recertification by the GE, Overlay, and Code (GEOC) Subcommittee. Thus, GE courses eligible for the GEM-S will be finalized when the minor is approved and revised annually thereafter.

Course Category I. Lower-division GE Breadth

(Minimum 6 units)

GE Area/Overlay	Course ID	Course Title
B1, Sustainability	CHEM 106	Chemistry and Society
B1, Sustainability	ENSC 220	Warming Planet, Rising Seas, and Global Change
B1, Sustainability	ENSC 235	Disasters on Earth and in Hollywood
B1, Sustainability	ENSC 250	Oil, Water and Future Earth
B1, Sustainability	ENSC 280	Humans and the Environment in California
B1, B3, Sustainability	GEOL 100	Earth Systems Science
B1, Sustainability	GEOL 101	Introduction to the Earth Sciences
B1, Sustainability	GEOL 120	Introduction to Oceanography
B1, Sustainability	GEOL 230	Natural Disasters
B1, Sustainability	PHYS 106	Physics for Future Leaders
B1, Sustainability	PHYS 107	Science of Energy
B2, Sustainability	ENSC 240	Environmental Biology
C2	HIST 140	Humanity, Science and Nature in History
D1-2, Sustainability	ENVT 101	Environmental Challenges of the 21st Century
D1-2, Sustainability	HOS 230	Sustainability in Action: Physical and Recreational Activity
D1-2, Sustainability	KIN/REC 280	Sustainable Global Tourism Development
D1-2, US-1,3	POSC 102	Public Policy and California Politics
D1-2	GEOG 200	Sustainable Resource Management
D1-2, Social Justice	HOS 297	Food & Culture
F, Social Justice	ES 100	Introduction to Social Justice in Communities of Color

Course Category II. Upper-division Arts or Humanities (C4, UD-C)

(Minimum 3 units)

GE Area/Overlay	Course ID	Course Title
C4, Sustainability	ENGL 342	Environmental Literature
C4, Sustainability	ES 302	Eating The Landscape
C4, Sustainability	ES 307	God is Red: American Indian Worldview
C4, Social Justice	ES 365	Asian American and Pacific Islander Environmental Voices
C4, Sustainability	HIST 323	History of Sustainability
C4, Sustainability	HIST 333	Sustainability in the Ancient World
C4, Sustainability	HIST 351	Russia: Peter to the Present
C4	HIST 386	Food and Justice in US History
C4	HIST 388	US and California Environmental History
C4, Sustainability	PHIL 311	Environmental Ethics
C4, Social Justice	PHIL 354	Global Human Rights and Social Justice

Course Category III. Upper-division Social Science (D4, UD-D)

(Minimum 3 units)

GE Area/Overlay	Course ID	Course Title
D4, Sustainability	ENGL 344	Literatures of Environmental Justice
D4, Sustainability	ENVT 330	Environment, Sustainability, and Social Justice
D4, Sustainability	ENVT 465	Sustainable Communities and Development
D4, Sustainability	ES 327	Decolonize Your Diet
D4, Social Justice	GEOG 455	Sustainable Food Systems
D4, Sustainability	GEOG/ENVT 465	Sustainable Communities and Development
D4, Social Justice	HSC 340	Climate Change, Health, and Equity
D4	HSC 362	Environmental Health Policy
D4, Sustainability	INFO 310	Sustainability and Information Literacy

Course Category IV. Upper-division Scientific Inquiry & Quantitative Reasoning (B6, UD-B)

(Minimum 3 units)

GE Area/Overlay	Course ID	Course Title
B6, Sustainability	BIOL 334	Humans and the Living Planet
B6, Sustainability	ECON 380	Managerial Economics and Business Strategy
B6, Sustainability	ENSC 320	The Science of Global Change
B6, Sustainability	ENSC 330	Weather and Atmosphere
B6, Sustainability	ENVT/GEOG 340	Climate Change
B6, Sustainability	ENSC 350	Environmental Hydrology
B6, Sustainability	ENVT/GEOG 447	Energy, Climate and Society
B6, Sustainability	ES 308	Cultures of Habitat
B6, Sustainability	HSC 300	Environmental Health
B6, Sustainability	ENVT/PHYS 307	Social Impact Through Sustainable Solar Design
B6, Sustainability	PHYS 308	Sustainable Energy Systems

Climate Neutrality (C-Neutral) Overlay Course

(0 unit requirement) This course double counts with any Category I – IV course that meets the C-Neutral criteria. Must be different from the course used to fulfill the Applied Sustainability Overlay.

GE Area/Overlay	Course ID	Course Title
B1, Sustainability	ENSC 220	Warming Planet, Rising Seas, and Global Change
Sustainability*	ENSC 420	Global Change
D1-3, Sustainability	ENVT 101	Environmental Challenges of the 21 st Century
B6, Sustainability	ENVT/GEOG 340	Climate Change
B6, Sustainability	ENVT/GEOG 447	Energy, Climate and Society
B6, Sustainability	PHYS 307	Social Impact Through Sustainable Solar Design
B6, Sustainability	PHYS 308	Sustainable Energy Systems

* Not a GE course.

Applied Sustainability Overlay Course

(0 unit requirement) This course double counts with any Category II– IV upper-division GE course that meets the Applied Sustainability criteria. Must be different from the course used to fulfill the C-Neutral Overlay.

GE Area/Overlay	Course ID	Course Title
UD-B, Sustainability	ENVT/GEOG 340	Climate Change
UD-B, Sustainability	ENVT/GEOG 447	Energy, Climate and Society
UD-B, Sustainability	ENVT/PHYS 307	Social Impact Through Sustainable Solar Design
UD-B, Sustainability	PHYS 308	Sustainable Energy Systems
UC-C, Sustainability	HIST 323	History of Sustainability

APPENDIX II

Guidelines for GEM-S Climate Neutrality Overlay Courses

Climate Neutrality courses discuss, investigate, analyze, and interpret questions regarding the actions, strategies, and mechanisms necessary to achieve climate neutrality. Courses eligible for the GEM-S Climate Neutrality (C-Neutral) Overlay requirement must address the following student learning outcomes.

Student Learning Outcomes

Upon completion of a Climate Neutrality course, students will be able to:

1. Identify the causes of anthropogenic climate disruption including the historic and current sources of greenhouse gas emissions, and energy's contribution thereto;
2. Explain the meaning of climate neutrality, the magnitude of greenhouse gas emissions reductions needed, and the timeframe in which it needs to be achieved;
3. Analyze factors that determine the relative credibility of different sources of information on climate science;
4. Describe the process of modeling future climates and incorporating scientific uncertainty into decision making;
5. Evaluate the risks of continued anthropogenic climate change to the global biosphere and human populations;
6. Identify the diverse interests of different stakeholders in the context of achieving climate neutrality;
7. Describe solutions discussed and implemented by the international community to address anthropogenic climate disruption, including energy-related solutions;
8. Prioritize actions that individuals can take (both as individuals and as part of a collective) in addressing anthropogenic climate change.

APPENDIX III

Guidelines for GEM-S Applied Sustainability Overlay Courses

Applied Sustainability Overlay courses emphasize the application of students' sustainability education toward a solution for an actual sustainability problem. These must be upper-division GE courses. Courses eligible for the GEM-S Applied Sustainability Overlay requirement must address the following student learning outcomes.

Upon completion of the Applied Sustainability Overlay course, students will be able to:

1. Apply their sustainability education to an experiential- or problem-based learning project that addresses a solution for an actual sustainability problem.
2. Produce a substantial written analysis or synthesis of the project addressing its sustainability impact (e.g., a written report, a website, a script for a documentary film, an analysis or contextualization of a creative/interpretative art project).