

Fall 2021 Comprehensive Program and Area Review (PAR):

Earth and Environmental Sciences

Background Information:

- What organizational unit does your program/area belong to?

 x Academic Services

- Name of your Program, Discipline, Area or Service:

Earth and Environmental Sciences

- Name(s) of the person or people who contributed to this review: **Jennifer Lange, Scott Hildreth**

- What division does your Program/Area reside in?

 x Science and Mathematics

Status of Program Goals from Prior Comprehensive PAR Cycle

Goal from Previous Cycle	Status of Goal	Outputs or measures (e.g students served, program change made, etc.) Please explain.
1. Hire a FT faculty member for this program	<p><u> x </u> Not achieved but still relevant</p> <p>We started a collaborative process involving colleagues from across the campus prior to COVID 19, and then were stalled because of budget. The justification then was that a new full-time faculty colleague would be needed to launch - and lead- an Earth-sciences related curriculum.</p> <p>That justification is even more valid today, coming as we are out of an environmental pandemic.</p>	<p>FT faculty is needed to continue to expand the course offers and increase student interest in this field and help fulfill GE requirements for AA/AS degrees as well as help students interested in transfer across a variety of related fields, including environmental science, ecology, biology, geography, physics, environmental engineering, political science, sociology, and more.</p>

Learning Outcomes Assessment Results

SLO:

Student Learning Outcomes (SLOs): SLOs are the outcomes that instructors aim for students to successfully reach by the end of a course. SLOs should be established for each course, listed in CurricUNET, displayed on all course syllabi, and assessed in CurricUNET on a 5-Year cycle. The following questions are about SLO assessment.

- How many courses in your discipline have SLOs developed and listed in CurricUNET?
 x **All courses** _____
- How many courses in your discipline have rubrics (or some other form of assessment) developed to measure SLOs?
 x **A few courses**

If any courses do not have rubrics to measure SLOs, please explain why.

There is no full-time faculty in the program to develop and assess SLOs.

- How many courses in your discipline had their SLOs assessed and recorded in CurricUNET in the 5-year cycle?
 x **About half of the courses**

If any courses were not assessed in the five-year cycle, please explain why.

Courses that have not been assessed have not been offered or were cancelled in the semester they were scheduled to be assessed. _____

- Assessing SLOs has led to improvements in my area.
 X **N/A as we haven't been able to run the classes yet.**

PLOs:

Certificate and Degree programs also establish and assess **Program Learning Outcomes (PLOs)**. PLOs are the outcomes students should successfully reach when they complete all the requirements for a certificate or degree program. PLOs are also assessed in CurricUNET on a 5-year cycle.

- Were all Program Learning Outcomes (PLOs) assessed in the 5-year cycle in CurricUNET?
 X **No, many PLOs were not assessed in the 5-year cycle.**

If any PLOs were not assessed in the five-year cycle, please explain why.

Not all courses for the Program have been offered, so the program cannot be currently completed. _____

- Assessing PLOs has led to improvements in my area.
 X **N/A as we haven't been able to run the classes yet.**
-

Institutional Supports and Barriers

- What institutional-level supports or practices were particularly helpful to **your program or area** in reaching its PAR Goals, SLOs, PLOs, SAOs, and/or the college mission?

President Sperling's ability to prioritize faculty hiring for Environmental Sciences based upon supporting the college sustainability goals in our college mission statement was a huge positive step that led to the possibility of hiring a full-time colleague before COVID 19 hit.

The support of the Science & Math division and of FIT in including spaces for an Environmental Sciences lab in Phase I construction and a geology lab in Phase II construction.

The collaborative workgroup, headed by Tom deWit but including colleagues from almost every division, and across a range of disciplines, that came together to discuss the future of an Earth Science/Environmental Studies curriculum for Chabot, was also very important.

Energy, enthusiasm, and leadership from student groups and the Climate Action workgroup has also been an important positive factor in helping to crystalize the need for an interdisciplinary program.

- What institutional-level barrier or challenges prevented or hindered **your program or area** from reaching its PAR Goals, SLOs, PLOs, SAOs, and/or the college mission?

COVID 19 and the resulting hiring freeze was the main culprit to preventing our progress.

- What institutional-level supports or practices do employees in your program/area believe are particularly helpful **to students** in reaching their educational milestones and/or goals? (i.e., from your vantage point, what does Chabot do for students that we should **keep** doing?)

While we cannot answer this yet, as no students are officially in the program, we fully expect that student clubs and collaborative workgroups will continue to be helpful for our shared students. In addition, we'll clearly need the assistance of our Counseling Faculty to help guide students through a large variety of classes that might be available, and the assistance of our Library Faculty as well to help ensure that we offer our students a great and convenient variety of resources to use as they learn about the issues related environmental science and policy.

- What institutional-level barriers or challenges do employees in your program/area believe are a hindrance **to students** in reaching their educational milestones and/or goals? (i.e., from your vantage point, what does Chabot do that we should **stop** doing or **change** to better support our students?)

To be successful with a comprehensive and effective Earth Sciences/Environmental Studies program,, we'll need to think outside of our traditional discipline boxes and division silos. Much of the science curriculum we will start with was developed by Deborah Howell, who has retired. We need to actively look across the division of science and math to create new ties and reinforce math and science skills needed. Our colleague in Geography, Suzanne Maher, has created strong curriculum offerings in Environmental Studies that already includes climate science. We need to complement that work, not replace it. We have colleagues at Las Positas College (including Ruth Hanna) who have created tremendous offerings in Geology that Chabot students might also enjoy. We have new "Climate Fellows" joining Chabot and LPC to help us explore issues holistically. We do not lack for talent and energy and opportunity!

Academic Programs/Disciplines Data

FTES and Enrollment

- Over the past 3 years, in comparison to the overall FTES trends of the college, FTES in your discipline have:
 x **Decreased in comparison to the overall college trends**

Please provide a brief explanation that would help the college understand these trends (e.g., tangible reasons for the increase or decrease).

Over the past three years, the number of sections offered has decreased because we have had to remove them from the schedule due to not having any FT or PT instructors. Debra Caldwell was continuing to teach our online classes part-time, but since faculty now have to reside in the state of CA she is unable to continue doing this.

As noted above, enrollments impact our funding. Please review the courses in your discipline in the [Chabot College Enrollment Management Data Dashboard](#): are there specific courses/sections that, on average, across the past three years did not fill to capacity? Why might this be?

The non-lab based courses tend not to fill, which is why we stopped offering them.

Enrollment Disaggregations:

- The representation of traditionally underrepresented race/ethnicity/gender student groups in our **discipline/major** compared to our industry/field:
 x is just right.
- DI Groups in our **general education** classes:
 x have **similar representation** in comparison to their representation in the student body.

Please provide a brief explanation that would help the college understand these trends (e.g., tangible reasons to understand the representation of DI groups in your general education classes at Chabot).

Many Chabot students - and faculty - are clearly interested in environmental issues, as evidenced by participation in clubs and attendance at webinars focusing on Climate Change and environmental justice. Re-launching the environmental science program offers the possibility of encouraging students across the campus to fulfill AA/AS and transfer requirements while learning about key issues in our current world, issues that they can take an active role in addressing.

A robust, interdisciplinary approach to the program, combining environmental science to be led by faculty in the Science & Math division with environmental policy, politics, economics, and social issues to be led by faculty in the Social Science division - and also including colleagues in Language Arts, Arts/Media/Communications, Business & Applied Technology - will give us a great chance to support the diversity of Chabot's student body. ____

Non-Credit

- Does your program/area offer non-credit classes?
 x No
- Over the next 3 years, non-credit course offerings in our program/area are planned to:
 x Stay the same as they are now

This could be an area we look at in the future, since many interdisciplinary lecture topics could be of interest to the general public, to people in the community who already have degrees, and to local middle and high-school students.

Course success rates

Refer to the [Chabot College Course Enrollments and Success Rates Dashboard](#).

- Over the past three years, how have course success rates in your discipline changed? Course success rates have:

 x Increased

(Comment/Explain) Please provide a brief explanation that would help the college understand the trends in overall course success rates or disproportionate impacts in course success rates for any student group:

Success rates for existing Environmental Science courses have varied wildly - with different courses and different instructors each semester. Leading courses online only through COVID also affects student success.

Program completion (AD-Ts, AA/AS, Chancellor-approved Certificates)

Take a look at the IR report on [Degrees by Discipline](#).

- Over the past 3 years, what is the trend in Degrees awarded (AD-Ts and AA/AS) in your program(s)?

 x Stayed roughly the same

- Over the past 3 years, what is the trend in **Chancellor-Approved** certificates awarded in your program(s)?

 X Stayed roughly the same

- Please provide a brief explanation that would help the college understand these trends in degree and certificate completion. (e.g., tangible reasons for the increase or decrease).

None earned across this time period because not all courses required have been offered._____

- What barriers make it difficult for students to complete your program? Are there any barriers that could be disproportionately experienced by students from a particular demographic group (e.g., racial/ethnic, age, disability status, parents, etc.)

Not all courses required have been offered_____

Staffing Analysis

In this section you will analyze trends in staffing, technology, and facilities.

Staffing	Current # (Fall 2021)	How has staffing for this group changed in the last 3 years (decrease, flat, increase)
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Full-time Faculty	0	<u> x </u> Stayed roughly the same
Part-time Faculty	0	<u> x </u> Decreased

Academic Disciplines Only: Compare changes over the past three years in the FTES/enrollment in your area with changes in staffing in this same time period. What do you notice?

Enrollments are dependent upon being able to offer the courses - not having any FT or PT faculty has resulted in some semesters having no courses offered in either ENSC or GEOL._____

Compare the representation of DI populations in your program's/area's staffing (faculty, classified professionals, and administrators) to the representation of DI populations in the students you serve. What do you notice?_____

The ENSC rubric has had two part-time faculty, at some point, over the last three years. Both were white females._____

Technology

- The **technology** in our program/area is sufficient to support student learning and/or carry out our program/area outcomes and goals.

 x Neither agree nor disagree

While this was true for the past offerings, looking ahead to a more robust interdisciplinary program could require more investment in technology to support students, both in current and possibly future labs across a larger campus, and through networking with colleagues at LPC and in the greater community._____

Facilities

- The **facilities** in our program/area are sufficient to support student learning and/or carry out our program/area outcomes and goals.

 * Somewhat agree

We need to see how the new Bio Phase II/Faculty Office building proceeds to know whether additional facilities will be needed for the program.

Professional Development - *not applicable - no classified or FT faculty; can't ask former PT faculty*

Program Maps and Equity in Scheduling

- Have you completed all program maps for your discipline?

 x No, because one or more of our program(s) cannot currently be completed because not all classes have been offered recently or will be offered in the next 3 years

*** Mapping for this program was put on hold until a FT faculty member was hired and could update the curriculum and staff the required courses.**

- Are there any classes in your discipline that you do not offer every semester or every year that are required for any of your degrees or programs? In an *ideal* world, with perfect coordination and infrastructure, how would you want to communicate which **required courses** are **not** offered in all semesters to: 1) counselors, 2) other faculty, and 3) students? (If you offer all classes required for degrees/certificates in all semesters, then you can write NA.)

We would like to offer all of the required courses in each semester, but we do not have the staffing to consistently do this.

Planning

Goal	Briefly describe the expected <i>outputs</i> (e.g., direct short-term results like # of students served, workshops held, etc) or <i>outcomes</i> (e.g., longer-term results like course success rates or degrees earned) for your goal.	EMP Alignment	Equity DI Group Alignment	SCFF Metric Alignment
1.	Hire a FT faculty member for Earth & Environmental Sciences	<input type="checkbox"/> Equity <input checked="" type="checkbox"/> Access <input type="checkbox"/> Pedagogy and Praxis <input checked="" type="checkbox"/> Academic and Career Success <input checked="" type="checkbox"/> Community and Partnerships	<input type="checkbox"/> African American/Black <input type="checkbox"/> Latinx <input type="checkbox"/> Native American/Alaska Native <input type="checkbox"/> Pacific Islander/Hawaiian <input type="checkbox"/> Disabled <input type="checkbox"/> Foster Youth <input type="checkbox"/> LGBT <input type="checkbox"/> DI Gender <input type="checkbox"/> Other _____	<input checked="" type="checkbox"/> Enrollment/FTES <input type="checkbox"/> Transfer level English, math or ESL achievement <input checked="" type="checkbox"/> Degree or certificate completion <input checked="" type="checkbox"/> Transfer <input type="checkbox"/> CTE Units <input type="checkbox"/> Attainment of a Living Wage <input type="checkbox"/> Supplemental Metric (Financial aid or AB 540) <input type="checkbox"/> Other _____
2.	Work with colleagues across the campus, in Science & Math, as well as Geography, Political Science, Sociology, Counseling, Library- everyone - to develop shared curriculum and drive enrollment in a larger Earth-Science Program	<input type="checkbox"/> Equity <input checked="" type="checkbox"/> Access <input checked="" type="checkbox"/> Pedagogy and Praxis <input checked="" type="checkbox"/> Academic and Career Success <input checked="" type="checkbox"/> Community and Partnerships	<input type="checkbox"/> African American/Black <input type="checkbox"/> Latinx <input type="checkbox"/> Native American/Alaska Native <input type="checkbox"/> Pacific Islander/Hawaiian <input type="checkbox"/> Disabled <input type="checkbox"/> Foster Youth <input type="checkbox"/> LGBT <input type="checkbox"/> DI Gender <input type="checkbox"/> Other _____	<input checked="" type="checkbox"/> Enrollment/FTES <input type="checkbox"/> Transfer level English, math or ESL achievement <input checked="" type="checkbox"/> Degree or certificate completion <input checked="" type="checkbox"/> Transfer <input type="checkbox"/> CTE Units <input type="checkbox"/> Attainment of a Living Wage <input type="checkbox"/> Supplemental Metric (Financial aid or AB 540) <input checked="" type="checkbox"/> Other _____

Resource Requests

Equipment Requests

	Rank (1, 2, 3, etc. after all requests have been entered)	Project Name Use the same project name for all requests related to a large project or put 'individual request'	New, Updated, or Repeat Request	Vendor Name	Brief Item Description	Justification BRIEFLY justify how this spending relates to the EMP, College's Annual Planning Priorities and/or President's Planning Initiatives (2-3 sentences).	Quantity (1, 2, 10, 12, etc.)	Year(s) Needed	Estimated Cost Per Year (Total \$)
Item 1	1	Support for Geology Lab	<u>X</u> New	Cenco or other Science lab Supplier	Geology Models, Rock Samples, and additional equipment that can be used for many years (not supplies)	We cannot add Geology to the curriculum without supporting additional lab equipment	Various	<u>X</u> Annual	\$1500

Human Resource Requests (e.g., Faculty, Classified, Administrative, Student Workers, etc.)

Criterion for distributing funding vary by committee (check out the [Resource Allocation Rubrics](#) available on PAR’s website), but are consistently based on the [Educational Master Plan](#), the [College’s Planning Priorities](#), and the [President’s College Planning Initiatives](#).

*Note: In the project name column, if your request is part of a larger project, please name the project and use the same project name for all requests related to the project. We don’t currently have a good system for different shared governance committees to come together and see the total cost of projects across resource requests that go to different committees. Adding this column to Program and Area Review is the *start* to figuring out a good process for this.

	Rank (1, 2, 3, etc. after all requests have been entered)	Project Name Use the same project name for all requests related to a large project or put ‘individual request’	New, Updated, or Repeat Request	Classification	Position Title	Avg. hours per week (5, 20, 40, etc.)	Justification BRIEFLY justify how this spending relates to the EMP, College's Annual Planning Priorities and/or President’s Planning Initiatives (2-3 sentences).	Year(s) Needed	Estimated Cost Per Year (Total \$)
Position 1	1	Earth/Enviro Sci program development	<input type="checkbox"/> New <input type="checkbox"/> Updated <input checked="" type="checkbox"/> Repeat	<input type="checkbox"/> Admin FT <input type="checkbox"/> Classified FT <input type="checkbox"/> Classified Hourly <input type="checkbox"/> Classified PT <input checked="" type="checkbox"/> Faculty FT <input type="checkbox"/> Faculty PT <input type="checkbox"/> Faculty F-hour <input type="checkbox"/> Faculty Reassign <input type="checkbox"/> Student Hourly <input type="checkbox"/> Other <hr/>	Environmental Science and Geology FT faculty	40	<p>CRITICAL PEDAGOGY AND PRAXIS - Strategic Planning Cluster 1 — Making meaningful connections between academic programs, local economic needs and opportunities, and complex social and <i>environmental problems</i>.</p> <p>Our mission statement directly states that our students will lead towards a “sustainable world”, yet we do not have a program that focuses directly on the interactions between the biological and physical environments and how</p>	<input checked="" type="checkbox"/> Annual <input type="checkbox"/> 2022-23 <input type="checkbox"/> 2023-24 <input type="checkbox"/> 2024-25	

							<p>humans are impacting them.</p> <p>COMMUNITY AND PARTNERSHIPS - This faculty member will be able to work directly with our local cities and Alameda County on environmental sustainability measures and educational opportunities these will create.</p>		
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Professional Development, Travel, and Conferences

Criterion for distributing funding vary by committee (check out the [Resource Allocation Rubrics](#) available on PAR's website), but are consistently based on the [Educational Master Plan](#), the [College's Planning Priorities](#), and the [President's College Planning Initiatives](#).

*Note: In the project name column, if your request is part of a larger project, please name the project and use the same project name for all requests related to the project. We don't currently have a good system for different shared governance committees to come together and see the total cost of projects across resource requests that go to different committees. Adding this column to Program and Area Review is the *start* to figuring out a good process for this.

	Rank (1, 2, 3, etc. after all requests have been entered)	Project Name Use the same project name for all requests related to a large project or put 'individual request'	New, Updated, or Repeat Request	Brief Description (1-2 sentences)	What Type of PD Request?	Justification BRIEFLY justify how this spending relates to the EMP, College's Annual Planning Priorities and/or President's Planning Initiatives (2-3 sentences).	Number of Attendees (1, 5, 10, etc.)	Year(s) Needed	Estimated Cost Per Year (Total \$)
Request 1	1	Earth/EnviroSci program development	<input type="checkbox"/> New <input type="checkbox"/> Updated <input type="checkbox"/> Repeat	North American Association for Environmental Education Annual Conference	<input checked="" type="checkbox"/> In-person conference with travel <input type="checkbox"/> Online conference/webinar <input type="checkbox"/> On-Campus Training <input type="checkbox"/> On-Campus Speaker <input type="checkbox"/> Other _____	Building connections in the field and exploring ways to develop the Earth and Environmental Sciences program		<input type="checkbox"/> Annual <input checked="" type="checkbox"/> 2022-23 <input checked="" type="checkbox"/> 2023-24 <input type="checkbox"/> 2024-25	\$3000

Supplies Requests

Criterion for distributing funding vary by committee (check out the [Resource Allocation Rubrics](#) available on PAR's website), but are consistently based on the [Educational Master Plan](#), the [College's Planning Priorities](#), and the [President's College Planning Initiatives](#).

*Note: In the project name column, if your request is part of a larger project, please name the project and use the same project name for all requests related to the project. We don't currently have a good system for different shared governance committees to come together and see the total cost of projects across resource requests that go to different committees. Adding this column to Program and Area Review is the *start* to figuring out a good process for this.

	Rank (1, 2, 3, etc. after all requests have been entered)	Project Name Use the same project name for all requests related to a large project or put 'individual request'	New, Updated, or Repeat Request	Brief Item Description (1-2 sentences)	Justification BRIEFLY justify how this spending relates to the EMP, College's Annual Planning Priorities and/or President's Planning Initiatives (2-3 sentences).	Quantity (1, 2, 10, 12, etc.)	Year(s) Needed	Estimated Cost Per Year (Total \$)
Item 1	1	Geology lab Supplies	<input checked="" type="checkbox"/> New <input type="checkbox"/> Updated <input type="checkbox"/> Repeat	Consumable supplies to support Geology Labs	We cannot offer labs without supporting some materials that will be used each class and term.	Variout	<input checked="" type="checkbox"/> Annual <input type="checkbox"/> 2022-23 <input type="checkbox"/> 2023-24 <input type="checkbox"/> 2024-25	\$500