



Instructional Annual Program Review and Planning Update Form Fall 2023

BACKGROUND:

Program review is an integral part of the campus planning process. As programs and areas monitor their progress on the current comprehensive four-year program review, changes in need and scope can be expected. This Annual PR Update form is designed to outline and request modifications to the current program review that occur between comprehensive four-year review cycles, as needed.

Examples of a requested change include new information such as action plans, outcomes modifications, personnel changes, technology needs, and capital expenditures requirements. As programs and areas monitor their progress on the previous comprehensive four-year program review, the form provides the basis to suggest a change in plans and processes to improve student success and institutional effectiveness.

DIRECTIONS:

This form shall be completed annually by **all** instructional programs.

- Instructional programs must submit their Annual Program Review Update form to their dean by 5pm on Monday, November 27, 2023.
- Deans will forward the completed form to the Program Review and Planning Committee Chairs by 5pm on Monday, December 4, 2023.
- Questions or concerns?
 - Committee contacts:
 - Co-chairs Mary Bogan (mbogan@fullcoll.edu) and Bridget Kominek (bkominek@fullcoll.edu)
 - Division representatives on the [Program Review and Planning Committee](#)
 - [Office of Institutional Effectiveness](#)

SUBMISSION:

Program: Environmental Sciences (ENVS) Division: Natural Sciences Date: 10/19/23

We have reviewed our most recent self-study and **have not identified** any significant changes that necessitate resource requests for the upcoming academic year. *(Complete part 1 only)*

We have reviewed our most recent self-study and **have identified** significant changes that necessitate additional resource requests, which are attached in our submission. *(Complete parts 1 and 2)*

Principal Author Signature: *Royden J. Hobbs*

Printed Name: Royden J. Hobbs

Date: 10/19/23

Dean Signature: *Bridget Salzameda*

Printed Name: Bridget Salzameda

Date: 11/27/2023

Part 1: Review of Data

Institution Set Standards (ISS)

1. Use the data provided by the Office of Institutional Effectiveness (OIE) to review your course completion and success rates and provide a comparison to the Institution Set Standards for course completion and success rates.

The Environmental Sciences program (ENVS) exceeds institutional set standards and aspirational goals in both course completion and course success for each course and for the program overall. See table below:

<u>Course</u>	<u>Completion</u>	<u>Success</u>	<u>N</u>
Institutional Set Standard	74.1%	62.0%	
Aspirational Goal	86.7%	78.3%	
ENVS 105F	88.0%	80.5%	508
ENVS 105LF	96.4%	95.3%	192
ENVS 142F	100.0%	90.0%	10
Program Overall	90.4%	84.6%	710

2. If your program meets or exceeds the standard for completion and success, to what do you attribute your success? If your program does not meet this standard, please examine the possible reasons, and note any actions that should be taken, if appropriate.

Our program exceeds the standards because of its excellent faculty, all of which are full time. Students benefit from the breadth of knowledge and experience that these fulltime faculty bring to the department. One of our faculty, largely on his personal time over many years, has written and published his own textbook on planetary biology. Additionally, he has built extensive skills in virtual world building to illustrate course concepts and engage this generation of students who are so fluid in transitioning from real to virtual worlds and spend extensive time gaming. Our other faculty has spent over 13 months in tropical rainforests, temperate forests, savannas, grasslands, and deserts of 26 different countries. The knowledge, experience, photographs, and anecdotes from his travels bring to life and engage students in a way that a textbook never could. These skills and experiences are embedded into courses which our faculty have conscientiously developed and refined over many years. Rather than teaching with mass published textbooks and materials, we have tailored our courses specifically to our students and to exploit our unique skill sets. We, also, extensively supplement in class activities with hands on experiential learning in field settings. In the past, we have tried to use adjuncts, but they did not have adequate depth and breadth of subject matter, nor the extensive training and experience of our fulltime faculty.

Additionally, our department employ a number of equity minded strategies developed from a variety of institutional trainings. We offer both in person and online sections of our courses to accommodate different learning styles and the work and family commitments of our students. We provide materials in a variety of accessible forms including oral and written lessons, a

diversity of real world examples, visual enhancements in the form of graphs, diagrams, photographs, and video formats, and free reading materials.

Institutional Student Learning Outcomes (ISLOs)--Global Awareness ISLO.

1. Describe your program’s participation in assessment of Institutional Student Learning Outcomes (ISLO’s). Specifically, how does your CSLO attainment, for the courses that are mapped to the Global Awareness ISLO, compare to Fullerton College’s ISLO attainment?

The ISLO assessment data from F22/S23 did not contain any data because the last time our department assessed SLO’s was Spring 2022. We ran the data for that semester and included it in the table below.

<u>Category</u>	<u>Meets Expectation</u>	<u>Does Not Meet Expectation</u>	<u>N</u>
FC’s ISLO Attainment	85.59%	14.24%	
Overall Spring 2022	77.03%	22.97%%	344
Ethnicity	73.03%	26.97%	152
Asian	70.0%	30.00%	20
Hispanic	70.83%	29.17%	96
White Non-Hispanic	79.17%	20.83%	24

Our program’s ISLO attainment is below FC’s ISLO Attainment as shown in the table above. This is interesting because data from the OIE indicates our program exceeds even FC aspirational goals in course completion and success. It may be that the complexity of assessments in our courses that map to specific ISLO’s such as that assessed this year are particularly challenging. Global Awareness related topics in our filed are scientifically complex and socially challenging. These include topics such as climate change, ocean acidification, and species extinction. Even so, overall, 77% of our students met expectations for this ISLO.

Campus wide the disaggregated data is very similar to the non-disaggregated data, so our program is below the campus wide attainment for the demographic groups we were able to distinguish, as well. This data is discussed further below.

2. Does the SLO data show significant achievement gaps among demographic groups in your program? If so, where are the gaps and what steps can your program take to shrink them? If not, to what do you attribute your success in minimizing the achievement gap?

The SLO data does show an achievement gap (see table above). 79.17% of White Non-Hispanic students met expectations for this ISLO, whereas only 73.03% of other ethnic groups met expectations. Disaggregating the data resulted in low sample size for many ethnic groups. Only the Asian, Hispanic, and White Non-Hispanic categories had more than 2 students. Approximately 70% of both Asians and Hispanics met expectations compared to 79.17% of White Non-Hispanics.

Our program has taken numerous steps to address achievement gaps as discussed in the ISS Question 2 of this document. We employ a number of equity minded strategies developed from

a variety of institutional trainings. We offer both in person and online sections of our courses to accommodate different learning styles and the work and family commitments of our students. We maintain flexibility in our due dates for assignments to accommodate students' complex lives. We provide materials in a variety of accessible forms including oral and written lessons, a diversity of real world examples, visual enhancements in the form of graphs, diagrams, photographs, and video formats, and free reading materials. We are working to increase representation within our course materials, such as videos, to help students see themselves within our courses.

In our most recent comprehensive program review, we suggested that building greater community within our department and offering more hands on/experiential learning opportunities for our students might help to reduce achievement gaps further, but developing these opportunities requires additional faculty. We have applied for an additional fulltime faculty member every year for the last 3 years, but have not received college permission to hire one.

Part 2: Additional Resource Request Reasoning and Support

Additional Resource Request #1

Step A: Briefly describe the request.

As discussed above, we need a new fulltime faculty member. This is the third year we have requested this. Our reasons were extensively outlined in each of the FTF Hiring Requests we have made and in our last comprehensive program review.

Step B: Answer the following questions:

1. Is it imperative that this resource request be processed now rather than during the next comprehensive program review? Why?

Our department lost the equivalent of a full-time faculty position over the last few years and one of our longtime faculty is retiring at the end of Spring 2024. Without a new hire our department will be about 1/3 the size it was in AY 16/17. Our need for additional faculty has been highlighted in both of our last 2 Comprehensive Program Reviews (2017 and 2023).

If we don't get a new hire this year, we will have to cut our current course offerings in half. We will only have one professor within our department. This will result in 466 students a year having a more difficult time meeting their GE requirements for transfer and will result in our majors having a more difficult time completing their guided pathways. The requirement for our sole professor to teach our GE courses may preclude him from teaching field courses which are required for our major. This would prevent our students from completing their A.S. in Environmental Sciences.

How will this additional resource allocation specifically enhance your program's services, activities, processes, etc. to continue or improve student learning and achievement?

- Is the resource request personnel-related? If so, please provide evidence to justify the requested positions such as retirements, program growth or curricular demands, full-time/adjunct ratios, etc.

This is a personnel-related request that is necessary to maintain our department's course offerings because one of our two faculty (Tom Morris) is retiring in Spring 2024. We have been trying to get a faculty to grow our program to meet some of our equity goals, expand our field course offerings, and develop a gateway course for our program as a way of assessing our PSLOs, but our need is now dire just to maintain current course offerings.

932 students a year take our introductory courses (ENVS 105F and ENVS 105LF) to meet their G.E. requirements for a life science, but next year we will only be able to teach half the number of sections that we have been regularly teaching for at least the last 19 years.

To earn an A.S. in Environmental Sciences our majors require our two introductory courses, as well as several field courses taught within our department. Because of our current lack of faculty, we have to teach our field courses as overtime, which means they do not get taught on a regular rotation. For instance, ENVS 142F has not been taught in at least 5 years. Because field courses are not taught predictably, students have difficulty following our guided pathways. This problem will be worse in coming years as our department shrinks to a single faculty member if we do not hire a new full time faculty member.

We cannot use adjuncts effectively within our department because they do not have the breadth of disciplinary knowledge required. Environmental Sciences is an interdisciplinary subject. It requires an advanced knowledge of ecology, evolutionary biology, and conservation biology, as well as a foundation in a variety of other subjects such as paleontology, demography, political science, and natural history. We have used adjuncts in the past and found they lack the breadth of subject matter knowledge and requisite teaching experience for our courses.

Adjuncts also present a safety problem and liability for the college in our field courses where they lack the situational knowledge and rigor to ensure the safety of our students. Students have complained about feeling unsafe when we have previously tried to use adjuncts for our field courses.

2. How will this additional resource allocation help you serve the college mission or strategic initiatives, and/or your program's goals for improvement, as stated in your last program review?

This has been discussed extensively in other sections of this program review. Our college's mission statement says it will develop flexible pathways for students to complete their associate degrees and transfer. This mission will be compromised if 466 students a year cannot get our courses to complete their G.E. requirements in life science. This mission will, also, be compromised if our program majors cannot complete their degrees because they cannot get the field courses they need for graduation.

College Goal#2 says it will increase the number of students earning associates degrees and transfer degrees, and increase the efficiency with which they do this. Making it harder to get classes to meet G.E. requirements for transfer and for completion of the requirements for an A.S. in Environmental Sciences will undermine this goal.

Lack of faculty will inhibit our program's goals of offering additional hands on/experiential courses, of developing a capstone course to assess PSLO's, of developing a greater sense of community and belonging for underrepresented students, and of increasing the number of our majors that successfully complete their degree and transfer. All of these goals were outlined in our most recent Comprehensive Program Review.

Step C: Complete this chart with details of the request:

Type of Resource	Requested Dollar Amount	Potential Funding Source It is only necessary to list potential funding forces if you are aware of specific grants/program funds appropriate to the request, such as Strong Workforce.
Personnel	Depends on the Qualifications and Experience of the Faculty Hired	
Facilities		
Equipment		
Supplies		
Computer Hardware		
Computer Software		
Training		
Other		
Total Requested Amount:	Depends on the Qualifications and Experience of the Faculty Hired	

Additional Resource Request #2

Step A: Briefly describe the request.

Our department needs to hire a professional expert for our weekend field courses. When we conduct a field course, two faculty members are needed for safety. If the primary instructor were to get injured or a student were to need to go to the hospital, the other students would be left alone in the field while on an FC course trip. There would be significant liability in this. Students left unattended could experience falls from height, venomous snake bites, dehydration, or heat exhaustion. These are risks faculty are constantly vigilant of when present.

The professional expert is also required to drive a van. Our field courses have up to 20 students, but we can only fit 11 students in a van. It is not practical to have students drive themselves to the distant and remote sites we visit. They may get lost, their cars may break

down stranding them in a remote location, and sufficient parking may not be available at some instructional locations.

This is not a substitute for a fulltime faculty hire. This person will not be responsible for teaching courses, developing curriculum, or serving on department and division committees. We will need this funding regardless of whether or not we hire a new fulltime faculty member.

Step B: Answer the following questions:

1. Is it imperative that this resource request be processed now rather than during the next comprehensive program review? Why?

This request needs to be processed now because we are resuming offering field courses now that covid protocols have been relaxed. We will be offering 3 field courses in the Spring 2024 semester. ENVS 140F, ENVS 141F, and ENVS 142F. These courses are important for students pursuing their A.S. in Environmental Sciences. They have not been offered since before the pandemic. If we wait until after the next comprehensive program review to teach these courses, it will put off student’s graduation times until after that review cycle.

2. How will this additional resource allocation help you serve the college mission or strategic initiatives, and/or your program’s goals for improvement, as stated in your last program review?

Our college’s mission statement says it will develop flexible pathways for students to complete their associate degrees and transfer. This mission will be compromised if our program majors cannot complete their degrees because they cannot get the field courses they need for graduation.

College Goal#2 says it will increase the number of students earning associates degrees and transfer degrees, and increase the efficiency with which they do this. To meet this goal within our department, we need to regularly offer required field courses. This was identified as a priority in our last comprehensive program review. An additional faculty is required on overnight field trips to drive a van used to get students to and from the field sites and to assist with field safety.

In the last comprehensive program review document (Section 5.3.1), the college expressed interest in efforts to “make learning active and applied.” Our departments field courses are both active and applied.

Step C: Complete this chart with details of the request:

Type of Resource	Requested Dollar Amount	Potential Funding Source It is only necessary to list potential funding forces if you are aware of specific grants/program funds appropriate to the request, such as Strong Workforce.
Personnel	2 x 2-day field courses per year (16 hours per course) 2 x 3-day field courses per year (24 hours per course)	

	80 hrs x \$55 per hr = \$4400	
Facilities		
Equipment		
Supplies		
Computer Hardware		
Computer Software		
Training		
Other	Benefits 8.65%	
Total Requested Amount:	\$4780.60 per year	

Additional Resource Request #3

Step A: Briefly describe the request.

Reimbursement for field course associated expenses. As discussed above, our department is resuming field courses that were temporarily suspended during the pandemic. Some field courses have transportation, facilities, and tour costs that professors must be required to pay to participate in the course with their students. For instance, our ENV5 142F course requires round trip ferry service to the Wrigley Environmental Institute on Catalina Island, shore boat shuttle service, housing, and food while on the island, and tours that are led by the institute staff. Professors for ENV5 105LF must pay for parking and/or entrance fees for themselves at numerous locations, such as the Fullerton Arboretum, Orange County Zoo, Santa Ana Zoo, and the Aquarium of the Pacific. The reimbursements costs for ENV5 142F and 105LF are currently incurred costs, but we may need additional reimbursement funds associated with other field courses in the future as we expand our field course offerings.

Step B: Answer the following questions:

1. Is it imperative that this resource request be processed now rather than during the next comprehensive program review? Why?

ENV5 142F is scheduled to be taught in both Fall and Spring semesters in the 2023/2024 academic year. 6 sections of ENV5 105LF are being taught this academic year. Professors will need to be reimbursed for their personal costs associated with teaching these courses as outlined above. If professors do not pay these costs, they cannot take students to these locations which are essential to meeting the course requirements within our department.

2. How will this additional resource allocation help you serve the college mission or strategic initiatives, and/or your program's goals for improvement, as stated in your last program review?

Our college's mission statement says it will develop flexible pathways for students to complete their associate degrees and transfer. This mission will be compromised if our program majors cannot complete their degrees because they cannot get the field courses they need for graduation.

College Goal#2 says it will increase the number of students earning associates degrees and transfer degrees, and increase the efficiency with which they do this. To meet this goal within our department, we need to regularly offer required field courses. This was identified as a priority in our last comprehensive program review. Unfortunately, the cost of offering these courses may become prohibitive if course related costs are not reimbursed for professors.

This funding will enhance equity as our department and division seek to attract and retain minoritized students within the sciences. It will supplement our division's efforts to secure funding for Racial Equity in STEM Education. Data from the OIE, as cited in our CPRD 2021, indicates that the plurality of our students are Low-Income (79%), Female (56%), Latinx (62.8%) and that we serve slightly more (7% verses 6%) DSS students and approximately 30% more (13% verses 9%) LGBT students than the average for all other programs combined. Many of these students take our general education courses, but may not choose to pursue careers in STEM where they are traditionally underrepresented. Our field courses engage students, promote their interest in the sciences, and encourage them to continue with a career in STEM. Our division has numerous students who have chosen careers in Biology or the Environmental Sciences as a result of their experiences within ENVS field courses. The natural sciences recently received a grant that will in part help to offset field trip costs for minority student, but cannot be spent on faculty expenses. Funding this request will allow faculty to continue offering these experiences to students.

Step C: Complete this chart with details of the request:

Type of Resource	Requested Dollar Amount	Potential Funding Source It is only necessary to list potential funding forces if you are aware of specific grants/program funds appropriate to the request, such as Strong Workforce.
Personnel		
Facilities		
Equipment		
Supplies		
Computer Hardware		
Computer Software		

Training		
Other	<p>2 Sections of ENVS 142F Each Academic Year: 2 professors per course X \$569.68</p> <p>12 Sections of ENVS 105F Each Academic Year: 1 professor per course x \$63.50</p>	
Total Requested Amount:	\$3041.44 per year	