Comprehensive Program Review

A. Department Information

Mission

Please enter your department's mission statement here.

The mission of the Environmental Science Department is to provide students with a diverse offering of classes that meet the transfer needs of students, prepare students through enhancement of the college's institutional core competencies for careers in industry, and make them aware, knowledgeable, and strong stewards of the planet and the environment. We engage students in the study of climate change, energy management, resource management, pollution prevention, and biodiversity with a focus on integrity, equity, advocacy and innovation. Our goal is to create and grow awareness and advocacy for protecting the environment and the health of the ecosystems that support life on earth while developing the human capacity of our students.

How does your program mission statement relate to the mission, vision and values of the college? (https://www.deanza.edu/about-us/mission-and-values.html)?

The Environmental Science mission statement is in alignment with the College's mission, vision, and values of the college. The institutional core competencies connect to the discipline content naturally because they are the foundation of understanding environmental sciences. Civic capacity for environmental justice is a core competency and an important part of the program content. Students will learn to recognize from the glut of information they are being bombarded with and critically evaluate important environmental issues that they may be able to impact either through community engagement or through the power of the ballot box. Environmental science teaches empowerment with a sustainability mindset, which overlaps with De Anza's values and visions of student success.

Program Goals

Enter 1-3 goals for your department to be achieved by spring 2027. Each annual reflection will ask your department to report on progress in meeting your goals. Each goal should be aligned to your department's mission and the college mission. All resource requests and personnel requests should be aligned with your program's mission and goals.

Goal title	Goal description	Responsible parties	Collaboration with	Guided Pathways engagement	What evidence will be used to monitor progress?	How will you assess achievement of the goal?
Certificates and Degrees	Create ADT for Environmental Science.	Faculty	Curriculum and Articulation	Health and Life Science	Progress on curriculum timeline.	Establishment of the ADT in ESCI.
Stewardship Network	Empower our students to become strong civic leaders, advocates and activists on environmental justice, sustainability, climate change and environmental equity through student placement in internships at local environmental organizations, and jurisdictions (city, county, state). Through connections, placement, faculty support, and students will explore the organizational and practical applications of environmental work.	Faculty, Dean	FHDA and College level environmental committees and department, as well as external environmental organizations and jurisdictions.	This goal aligns with the guided pathways mission of the college because it allows students to explore careers while students continue along their educational journey.	Re-creation of the program that existed prior to the pandemic. Measured by student interest and engagement.	We will assess this goal by number of students served and organizational collaborations.
Environmental Projects	Train students to complete creative and unique projects focused on sustainability, fieldwork and conservation. These projects include: the monarch butterfly garden, camera trapping and field studies, compost and waste management studies.	Classified Professional staff, Faculty and Dean	Campus facilities	This goal aligns with the guided pathways mission of the college because it allows students to explore careers while students continue along their educational journey.	Program development over time. Creation of timeline for projects.	Evaluation of progress according to timeline.

Changes Imposed by Internal/External Regulations or Factors

Are there factors unique to your program that may affect your enrollment, success rates or staffing that RAPP should be aware of? (e.g., curriculum changes, program reorganization, noncredit curriculum, loss of personnel, legislative mandates, etc.)

N/A

B. Enrollment Trends

Enrollment Variables and Trends

Enrollment Trends

Biol, Health, Env Sc, Wrkfr Ed - Environmental Science-DA

	2018-19	2019-20	2020-21	2021-22	2022-23	5-yr %Inc
Unduplicated Headcount	1,732	1,908	1,766	1,413	1,406	-18.8%
Enrollment	2,211	2,352	2,212	1,827	1,668	-24.6%
Sections	79	75	63	52	50	-36.7%
WSCH	2,968	3,172	2,955	2,433	2,209	-25.6%
FTES (end of term)	202	215	201	166	147	-27.2%
FTEF (end of term)	5.3	5.4	5.3	4.3	4.1	-23.3%
Productivity (WSCH/FTEF)	555	583	562	560	539	-2.9%

In the data table above, what does the Enrollment trend indicate? For definitions of enrollment terms, please see the glossary (https://www.deanza.edu/ir/documents/Glossary.pdf).

- ☐ the data trend shows an increase in Enrollment
- ☑ the data trend shows a decrease in Enrollment
- ☐ the data trend shows no change and/or flat in Enrollment

Reflect on Enrollment Trends

Discuss the factors that would help the college understand your programs' enrollment trends. How may these trends align with your program mission and goals?

The loss of a FT faculty due to relocation in Spring 2020 has seriously affected our ability to offer enough sections to grow or even maintain the program. We continue to see a demand for classes but do not have enough PT faculty to offer the sections needed and do the groundwork for establishing a robust environmental sciences program.

De Anza College's Environmental Science department has continually tried to increase our student enrollment with the handicap of limited FT faculty. Students from all disciplines on campus enroll in our general education courses – where we see our fastest growing student enrollment. We have tried to continue to increase enrollment in all Environmental Science courses even with limited full-time faculty to guide students as well as mentor new PT faculty. Many of our students have a growing concern and awareness of the increasing environmental issues worldwide and want to be active participants in the ongoing conversations. We wish to further serve De Anza College's goals as a whole to increase student enrollment. We have a high student success rate in the sciences especially for underserved student populations.

The Environmental Science Department is committed to meeting student demand for high quality curriculum and closing the equity gap in retention and success within a fast growing science field. The department is committed to creating and fostering the interest of students and we are specifically dedicated to developing student's skills in problem-solving and community and civic engagement. We believe that the hiring of this replacement full-time faculty position is vital to promoting our students' awareness, discussion, and action on current and future environmental issues. The FT faculty member will assist in the mentoring of our part-time instructors, establishing and growing community partners and assisting needed curriculum updates and with our new and improved online classes.

CTE Programs - Statewide and Regional Labor Market Trends

CTE Programs Only
1. Review and summarize the Lightcast Analyst Occupational Outlook data for your CTE program (https://foothilldeanza.sharepoint.com/:f:/s/dactedepartments/EiRTueQ8GrNLqltlQw2twpsBMFCs7X5djTVeo6Jss3W0Jg?e=1ybpmY).

2. Cite current industry trends.

3. Provide an overview of your program advisory committee's recommendations relating to existing and new course and certificate/degree offerings. Cite additional data when applicable.

N/A

D. Course Success

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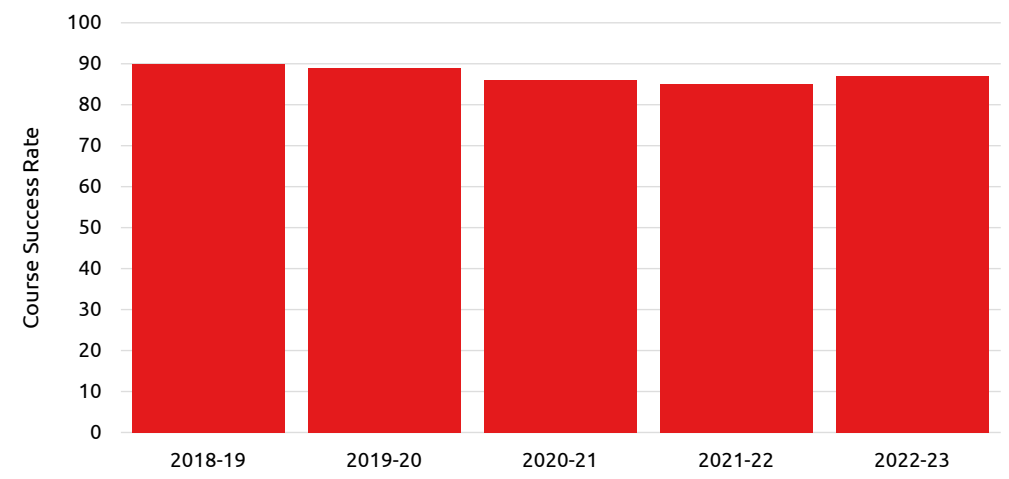
Course Success

Environmental Science-DA

Who uses this report:
All users who want to further explore their enrollment or course success data.

What is this report:
This report is an extension of the Program Review Data Sheet. It has additional student characteristics and users can compare two groups of students at the same time.

Limits:



Limits:

Measures: Enrollments and Course Success Rate and Success Count

	2018-19			2019-20			2020-21			2021-22			2022-23		
	Enrollments	Course Success Rate	Success Count	Enrollments	Course Success Rate	Success Count	Enrollments	Course Success Rate	Success Count	Enrollments	Course Success Rate	Success Count	Enrollments	Course Success Rate	Success Count
Measures	2,211	90%	1,988	2,352	89%	2,090	2,212	86%	1,899	1,827	85%	1,561	1,668	87%	1,444

Data loaded 17-Aug-2023

In the data table above, what overall trends are you seeing in Course Success?

- [x] the data trend shows an increase in Course Success
- [ ] the data trend shows a decrease in Course Success
- [ ] the data trend shows no change in Course Success

Exploring Course Success Rate Trends

1. What could be factors that influence success rates in your department?

2. What strategies does your department have in place to increase or maintain current success rates?

3. Are there other trends that you see when exploring different courses in the same department (How to access success rates by course: https://www.deanza.edu/ir/documents/How_to_Access_Your_Program_Review_Data.pdf)

4. How do course success rate trends align with your program goals?

The Environmental Sciences department's success rates continue to remain high over time ranging from 85-90% over the past five years of data provided, although they are seeing a small deciline (90% to 87%). The dedication of our faculty, the relevance of the topic matter to the world around them helps to make the course material more relatable. When the students see that have have a stake in the material being taught and their ability to make changes in policy their interest is piqued and learning the course material has it own incentive.

Faculty are engaged in the mission of the department and engage students through field trips and hands on activities. They will continue to fill online classes where there is the greatest demand while also exploring opportunities in returning to face-to-face teaching and learning. We will use innovation for future options to grow. We will reflect on the elements that have contributed to the success of our students and consider enhancement.

There are tutoring and field work opportunities, clubs and special project opportunities available to students as well as office hour interactions with their instructor. These would be affected by the failure to hire the FT faculty position. When students are at risk of failing, the full time faculty coordinate support activities for the students to facilitate their retention and success. Most part time faculty do not have the time to spend more than the required classroom and office hours with students

Course Success with Disproportionate Impact (credit and non-credit)

Limits: 2022-23

Who uses this report:
All users who want to explore student equity and disproportionate impact in course success.

What is this report:
This report highlights student groups with a negative percentage point gap and student groups experiencing disproportionate impact. Data reflects credit sections. Student groups with "N/A" enrollment denotes suppressed data.

How to interpret the data:
A negative percentage point gap means a student group has a lower success rate than the comparison group consisting of all students not in the student group being examined. When a student group is experiencing disproportionate impact, this means that (1) there is a negative percentage point gap and (2) this gap is unlikely to be due to chance. Programs are encouraged to prioritize discussions and address the student groups experiencing disproportionate impact.

New features:
To display only student groups with disproportionate impact, click on the link "Click here to show only groups with disproportionate impact." To add a comparison unit that is one level higher (e.g., course level compared to department level), **be sure to select a college, division, department or course,** then click on the link "Click here to show and compare disproportionate impact with [X]".

Success rate
The number of students receiving an A, B, C or P grade divided by the total number of students receiving a grade. Rate is rounded.

Comparison success rate
The success of all students except for the group being examined (e.g., the comparison success rate for Latinx students is the success rate of all students who are not Latinx). Rate is rounded.

Additional successes needed to erase percentage point
This value provides a way for practitioners to think of gaps in terms of student successes, and illustrates the number of additional successes needed to avoid a percentage point gap.

Legend:

Yellow: Student groups experiencing a negative percentage point gap that is not statistically significant
Orange: Student groups experiencing disproportionate impact according to the Percentage Point Gap Minus One (PPG-1) method[1]

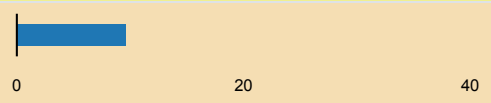
Currently showing all groups. Click here to show only groups with disproportionate impact.

Click here to show and compare disproportionate impact with .

Hide cells with fewer than 10 students

Biol, Health, Env Sc, Wrkfr Ed - Environmental Science-DA — 2022 Summer to 2023 Spring
Number of sections: 50

Student group	Enrollment at census	Student group success rate	Comparison success rate	Percentage point gap	Chart	Additional successes needed to erase percentage point gap
All Students (Environmental Science-DA, 50 sections)	1,668	87%	87%	0		
Asian	678	90%	84%	+5		
Black	84	81%	87%	-6		5
Filipinx	87	83%	87%	-4		4
Latinx	485	83%	88%	-5		27
Native American	N/A					
Pacific Islander	N/A					
Unknown ethnicity	91	93%	86%	+7		
White	231	87%	87%	+0		
Female	777	87%	86%	+1		
Male	866	86%	87%	-1		6
Non-Binary	0					
Unknown gender	25	88%	87%	+1		
Foster youth	N/A					
Individuals with disabilities	57	86%	87%	-1		1
Low Income	713	81%	91%	-10		69
Not Low Income	955	91%	81%	+10		
Veterans	30	80%	87%	-7		3



[1]The PPG-1 method follows the CCCCO method for calculating disproportionate impact. Disproportionate impact is when (1) a student group's PPG value is less than -2 (e.g., -3, -4, -5, etc.) and (2) the absolute PPG value is greater than the calculated margin of error. PPG is calculated by comparing a student group's success rate against the success rates of all students except for the group being examined (e.g., Latinx PPG is Latinx success minus the success of all students except for Latinx students).

In the data table above, what does the data indicate about the Success rate of various ethnic groups within your department compared to the comparison group for the most recent academic year? (i.e., as displayed in the Percentage point gap column)

The Percentage point gap between Asian students and all other students shows:

- [ ] there is no gap (e.g., 0)
- [ ] there is a negative gap of 5-percentage points or less (e.g., -5)
- [ ] there is a negative gap greater than 6 percentage points (e.g., -6)
- [x] there is a positive percentage point gap (e.g., +2)

The Percentage point gap between Black students and all other students is:

- [ ] there is no gap
- [ ] there is a negative gap of 5-percentage points or less
- [x] there is a negative gap greater than 6 percentage points
- [ ] there is a positive percentage point gap

The Percentage point gap between Filipinx students and all other students is:

- [ ] there is no gap
- [x] there is a negative gap of 5-percentage points or less
- [ ] there is a negative gap greater than 6 percentage points
- [ ] there is a positive percentage point gap

The Percentage point gap between Latinx students and all other students is:

- [ ] there is no gap
- [x] there is a negative gap of 5-percentage points or less
- [ ] there is a negative gap greater than 6 percentage points
- [ ] there is a positive percentage point gap

The Percentage point gap between White students and all other students is:

- [x] there is no gap
- [ ] there is a negative gap of 5-percentage points or less
- [ ] there is a negative gap greater than 6 percentage points
- [ ] there is a positive percentage point gap

The Percentage point gap of one additional group of your choice:

- [ ] there is no gap
- [ ] there is a negative gap of 5-percentage points or less
- [x] there is a negative gap greater than 6 percentage points
- [ ] there is a positive percentage point gap
- [ ] not applicable

Exploring Gaps in Successful Course Completion by Ethnicity

1. What differences do you see in successful course completion rates by ethnicity?

2. What are your thoughts on these differences?

3. Are there other trends that you see when drilling into the data that may be important for your department to explore (e.g., foster youth, individuals with disabilities, low income, veterans)?

4. Which additional student group did you choose to explore and why?

5. How do these trends align with your program's mission and goals?

The Environmental Science data indicates that black students are disproportionately impacted the most (-6%) while Latinx (-5%) and Filipinx (-4%) students are affected to a lesser extent. It is important that we continue our work to address these gaps . To do so we have started working with co-hort groups on campus including UMOJA and FYE to expose students to environmental issues in a safe environment where they are supported by a co-hort group of students. We recognize that more work needs to be done but failure to hire at least one additional position makes this work more difficult to accomplish. When students are at risk of failing, the full time faculty coordinate support activities for the students to facilitate their retention and success. Most part time faculty do not have

Yes, we also have a disproportionate impact on low-income students, which is in alignment with the college. We chose low income because it was the other statistically significant group with the largest success gap. Full time faculty are needed in the Environmental Science Department to address the problems of student retention, success and equity within this student groiup as well as others. These gaps in success cannot be met by the single full time faculty serving more than 2200 students at the height of our enrollment growth. At this time as are just above 1600 students and we do not want to see a further drop in enrollment

Teaching and Learning Strategies

1. What teaching and learning strategies might be helpful in narrowing any gaps in successful course completion?

2. How do the listed teaching and learning strategies align with your program's mission and goals?

The Environmental Science department faculty are exploring culturally inclusive pedagogies and other empowerment strategies provided by the Office of Professional Development which may help narrow the gaps. Again the limitation of having only one FT faculty is seriously hampering this work. PT faculty are not able to attend these workshops and conferences due to their commitments to other jobs and professional responsibilities. The department needs to hire a FT faculty to immerse themselves in this work to improve on our student success and retention.

Closing the equity gaps for our under-served, veterans and low-income students aligns with the mission of our program because of the connection to environmental justice. Under-served groups suffer the most from environmental disasters and burdens and therefore environmental education, personal empowerment and community advocacy are needed.

Our lab classes offer free field trips and hands on lab activities, our hybrid and online classes help to educate while reducing the carbon footprint and faculty and staff work hard to create an environment that supports activie learning and classroom participation.

Trends in Awards

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Degrees and Certificates by Ethnicity

Environmental Science-DA

Who uses this report:

All users who need degree and certificate data.

What is this report:
This report provides the degree and certificate counts by college, division and department. Additionally, all users could explore degree and certificate awarded by ethnicity and gender.

Data loaded 24-Oct-2023

No data returned for the criteria selected

In the data table above, what are the trends in regard to the number of awards within your program?

Trends in Associate Degrees awarded show:

- ☐ an increase in the number of Associate Degrees awarded
- ☐ a decrease in the number of Associate Degrees awarded
- ☐ no change in the number of Associate Degrees awarded
- ☑ Not applicable

Trends in Associate Degrees for Transfer awarded show;

- ☐ an increase in the number of Associate Degrees for Transfer awarded
- ☐ a decrease in the number of Associate Degrees for Transfer awarded
- ☐ no change in the number of Associate Degrees for Transfer awarded
- ☑ Not applicable

Trends in Credit Certificates awarded show:

- ☐ an increase in the number of Credit Certificates awarded
- ☐ a decrease in the number of Credit Certificates awarded
- ☐ no change in the number of Credit Certificates awarded
- ☑ Not applicable

Trends in Non Credit Certificates awarded show:

- ☐ an increase in the number of Noncredit Certificates awarded
- ☐ a decrease in the number of Noncredit Certificates awarded
- ☐ no change in the number of Noncredit Certificates awarded
- ☑ Not applicable

Reflecting on Trends in Awards

1. What trends do you see across awards in your department?

2. How do the trends in awards align with your program's mission and goals?

We do not currently offer any Environmental Science degrees.

Reflecting on Award Offerings

1. For each program leading to an award, identify any courses that have not been offered in the last two years. Briefly explain why the courses have not been offered. For courses that will not be offered, how does your program plan to update the program so that students can complete the requirements?

2. Based on a review of course offerings and the number of awards offered and conferred, is your department planning on removing any degrees or certificates from the college catalog? If so, please list those being removed and a short explanation as to why.

3. Does your department have any plans to offer new degrees or certificates? If so, please list and provide a short explanation as to why.

We do not currently offer any Environmental Science degrees, but are working towards an ADT. This will involve a significant amount of work between the department, counseling, curriculum and articulation offices. Again this work falls on the shoulders of one full time faculty. This has seriously impacted the ability of this degree to come to fruition and unfortunately affects students' educational goals and career options.

In our community and beyond there is high student demand for De Anza’s Environmental Science classes due to the highly favorable reputation of instructors and their teaching styles.The creation of the degree would align with the program's mission of preparing students for transfer to university.

The high number of part time faculty fragments the goals of the Department due to lack of participation in the business side of the Environmental Sciences Department.

Staffing Trends

Faculty Workload

Faculty Workload
Biol, Health, Env Sc, Wrkfr Ed - Environmental Science-DA

	2018-19	2019-20	2020-21	2021-22	2022-23	5-yr %Inc
Full Time Load	1.3	1.4	0.7	0.5	0.5	-61%
Full Time %	24.7%	25.3%	13.1%	11.3%	12.5%	-49%
Overload	0.3	0.5	0.4	0.1	0.2	-47%
Overload %	6.3%	8.8%	8.5%	2.0%	4.3%	-31%
Part Time Load	3.7	3.6	4.1	3.8	3.4	-8%
Part Time %	69.0%	65.9%	78.4%	86.7%	83.2%	20%
Total FTEF	5.3	5.4	5.3	4.3	4.1	-23%

What trends do you see in the last five years in regard to the Full Time %? (i.e., percentage of classes being taught by full time faculty, not including overload or summer)

- [x] the data trend shows an increase in Full Time %
- [ ] the data trend shows a decrease in Full Time %
- [ ] the data trend shows no change in Full Time %

Staffing Needs

Provide a brief overview of your department's staffing needs. Personnel requests are to be submitted on a separate form.

1. What are full time faculty needs to ensure the program's health, growth or vitality?

2. What are classified staffing needs to ensure the program's health, growth or vitality?

3. What strategies does your program have in place to ensure students are being successful when faced with the current staffing ratios?

4. What strategies does your program have in place to retain new faculty, if applicable?

The Environmental Science Department has only one full time faculty to serve over 1600 students. The one other FT faculty resigned at the end of 2020 due to relocation and this has seriously affected our ability to offer an adequate number of sections. Our PT faculty have valiantly attempted to assist us recuperate some enrollment but this has not been sufficient and despite demand, due to load restrictions we are not able to offer as many sections as we could. The academic and department workload falls on one full-time faculty and should that individual take PDL it would devastate our ability to offer classes and or have a cohesive department. This is an important part of her professional growth and is supported by the Dean.

At this time we do not have additional classified professional staffing needs for environmental studies.

Giving students individualized attention, finding innovative ways to collaborate and address student success and retention and address attrition and non-success requires dedicated faculty. Unfortunately our PT faculty teach at multiple colleges and are not able to dedicate the time and effort it needs to grow student enrollment and success. It is vital for the program and its overarching goal of educating students about the dire condition of our planet and the solutions that need to be put on place that we hire a FT faculty as soon as possible.

Assessment Cycle

Student Learning Outcomes Assessment Cycle

Navigate to https://www.deanza.edu/slo/#post which will take you to an accordion listing of SLO assessments under “Student Learning Outcomes and Assessments Summaries by Division”

1. Summarize the dialogue that has resulted from SLO and/ or PLO assessments.

2. What specific strategies has your department implemented, or plan to implement, based on the results of the SLO/PLO assessments conducted?

3. How do these strategies align with the program's mission and goals.

SLO and/or PLO assessment have been impacted by the lack of FT faculty and the sustained work to do the deep dive needed . With the help of PT faculty we continue to review SLO's and processes for SLOAC and creation of a timeline to support faculty.This will help us to ensure that our SLOs, PLOs, and Course Outline of Records are in alignment and that we are measuring the intent of our mission.

Environmental Science is a subject that easily lends itself to serious conversation, peer collaboration and self reflection. The one FT faculty member has attempted to do this work with her PT peers, but recognizes that more time and effort is needed than what they are able to provide, given their other professional and personal commitments. Having that peer FT faculty colleague would go a long way to enriching the dialogue and getting serious commitments that need time and effort. If we were not to get this position it would continue to impact what would otherwise be robust Student Learning Outcomes and Program Assessment conversations.

Dean/Manager Comments

The Environmental Science department is doing great work with very little support in terms of full time faculty. They have engaged with learning communities on campus including First Year Experience and Umoja to support students as they navigate college for the first time. They engage with DASG and the FHDA foundation to fund student led campus projects such as the restoration of the Cheeseman ESA, the Monarch garden, the Stewardship Resource Center and the Kirsch Community garden. We have engaged with the Study Abroad program to give students the opportunity to earn credit and visit Ecuador and the Galapagos Islands. These projects not only educate students, expose them to experiences they might not otherwise have but also provides employment opportunities for student workers.

If we were to hire a FT faculty the scope of engagement could increase beyond the department to the campus, district and community around us. At one time this department had 3 FT faculty and now we only have one which is seriously impacting our ability to serve students and maintain our enrollment numbers.

In order to maintain and more importantly continue to grow the retention and success of the students, the Environmental Science Department uses a variety of interactive tools to enage students including the offering of online, hybrid classes, and on campus classes. They offer a health schedule of field trips and hands-on activities in lab classes. There are tutoring opportunities, employment opportunities, clubs and special project courses available to students. These would continue to be severely impacted by the failure to replace the FT faculty position. In the past 3 years (since the loss of the FT faculty) the student enrollment in Environmental Science has fallen from just over 2200 students to just over 1650 students. This trend will continue as our one remaining FT faculty is planning to go on PDL to spend some time to learn about the current environmental issues and how to bring them to the classroom and make them relevant. This is an important part of her professional growth and I support it. At the same time I see the urgency of replacing the FT faculty we lost in Spring 2020. When students are at risk of failing, it is the full time faculty who help to coordinate support activities for the students to facilitate their retention and success. Most part time faculty do not have the time to spend more than the required classroom and office hours with students.

Failure to fill this position would result in: the equity gap remaining open and affect further growth of students served by the department i.e. enrollment, which would be seriously impacted. Full time faculty are needed in the Environmental Science Department to address the problems of student retention, success and equity and cannot be met by the reduction in a full time faculty position.

STOP. Do not submit form. Please inform your dean/manager when the form is complete. They will submit the form when they have added their comments above.

This form is completed and ready for acceptance.