Program Review and Planning

OVERVIEW OF PROGRAM REVIEW AND PLANNING FOR INSTRUCTIONAL PROGRAMS

Program Review is about documenting the plans you have for improving student success in your program and sharing that information with the community. Through the review of and reflection on key program elements, program review and planning identifies program strengths as well as strategies necessary to improve the academic discipline, program, or service to support student success. With our new Guided Pathways plan, this review becomes even more crucial for the success of our students and college.

We are using the Strengths, Opportunities, Aspirations, Results (SOAR) strategic planning technique to help us focus on our current strengths and opportunities, create a vision of future aspirations, and consider the results of this approach.

BASIC PROGRAM INFORMATION

Academic Year
2018-2019

Are you completing a comprehensive or annual PRP?
Comprehensive

Department Name
Earth, Space, and Environmental Sciences

Discipline Name
Earth Sciences (ES)

Department Chair Name
Wing Cheung

Division Name
Mathematics, Science and Engineering

Website address for your discipline
https://www2.palomar.edu/pages/earthscience/

Discipline Mission statement
The Earth Science Program at Palomar College functions as a multiple mission program. Through our ES 100 and ES 115
courses, we promote earth science literacy and fulfill the general education natural and physical science requirements for degree or transfer. Specifically, the ES 100 course is an approved course for transfer into the CSU San Marcos Liberal Studies Elementary Subject Matter (ESM) option. Producing well-educated science students who pursue teaching careers will ultimately improve K-12 science instruction. Additionally, the ES 100 lecture and lab courses may also be used to satisfy course requirements for the A.A. in
Anthropology for Transfer (A.A.-T).

The Earth Science curriculum is designed to provide the fundamental knowledge and skills to students interested in increasing
their understanding of the complex interactions among Earth's geosphere, hydrosphere, atmosphere, and biosphere. The
curriculum also includes the connection of humans to Earth for natural resources and the impact of Earth processes (such as
earthquakes, volcanic activity, and other natural hazards) on the distribution and development of human

populations. The
influence of human activities on Earth's surface processes is also addressed. The overall mission of the program is to develop
an Earth-science-literate community that is aware of current and accurate scientific understanding of our planet. Such a
population is critical to the promotion of Earth stewardship, sound public policy, and expanded international cooperation.

(click here for information on how to create a mission statement)

Does your discipline have at least one degree or certificate associated with it?
No

Are any of your programs vocational (CTE/CE)?
No

Please list the names and positions of everyone who helped to complete this document.
Dr. Lisa Yon, Professor, ESES Dept.

Full-time faculty (FTEF)
0.8

Part-time faculty (FTEF)
0

Classified & other staff positions that support this discipline
Brenda Morris, ADA, 20% workload
Tony Kopec, Instructional Support Assistant IV, 10%

Additional hourly staff that support this discipline and/or department
None

PROGRAM INFORMATION

PROGRAM OUTCOMES

Begin this section by reviewing the Program Review reports for courses and programs in TracDat. All active course and program outcomes should be systematically assessed over a 3-year cycle.

- **Program** = Leads to a degree or certificate
- **Discipline** = A group of courses within a discipline

*Programs will be able to complete program completion and outcome questions.

Depending on the degree or transfer goals of our students, they have the choice of three different GE pathways:

- Associate Degree GE Requirements
- CSU GE Requirements
- IGETC Requirements

Palomar College has identified a set of General Education/Institutional Learning Outcomes, which represent the overall set of abilities and qualities a student graduating from Palomar should possess.Click here for a link to Palomar's GE/ILOs.

How do the courses in your discipline support General Education/ Institutional Learning

Outcomes? In your response, please specify which GE/ILO(s) your discipline supports.
At this time, Earth Science is essentially a single course (ES 100 lecture) discipline. Although ES 100 lab exists on the books, we have not been able to offer the course. ES 115 (Natural Disasters and Environmental Hazards) is offered on occasion, but is cross-listed as GEOG 115 and all learning assessments occur within that discipline.

With this information in mind, the ES 100 course supports the designated General Education/Institutional Learning Outcomes (ILO) in the following ways:

ILO1-A Written Communication:
Students enrolled in ES 100 are required to accurately communicate their knowledge of core concepts in Earth Science in order to successfully pass the course. Students may demonstrate this knowledge through classroom discussions, completion of assignments as well as topic essays on section exams (major topics include plate tectonics, mineral/rock resources, climate patterns/climate change).

ILO2- B Inquiry and Analysis:
As a scientific discipline, students enrolled in ES100 must learn how to analyze scientific data. Much of Earth Science involves the understanding of large data sets encompassing whole Earth processes. Thus successful students become familiar with the reading, analysis, and understanding of graphs and charts summarizing this information. Specific sections utilizing numerical data are included in topics such as geologic time and the calculation of radiometric ages. The ES 100 lab course is designed to allow students more in-depth exposure to scientific data sets.

ILO3 Creative, Critical, and Analytical Thinking:
As a science course, students are required to use critical thinking skills to successfully complete the course requirements. This involves analyzing scientific data using critical thinking and information literacy. One example used in class is the critical analysis of how the scientific method was used to develop the Plate Tectonic Theory from older, incomplete models through the incorporation of new technologies and the resulting new data sets.

ILO4-C Civic Knowledge and Engagement:
Successful students are required to develop an understanding of the role of earth processes in generating natural hazards (such as earthquakes, volcanic eruptions, changing climate patterns) and the impact of these hazards on humans. Students must also recognize the role of humans in resource management (for example mineral use and exploitation) and the choices we make in land development (for example water resources and security). Thus students should be aware of the intimate relationship we have with our planet. Students who successfully complete the program will be able to make informed and responsible decisions regarding the Earth and its resources.

GE Foundational Knowledge of Discipline:
ES 100 is a survey course providing an overview of the fields of geology, geography, oceanography, and astronomy. The topics are approached from the perspective of Earth as a system where interconnected components interact with each other and are thus interdependent. Areas of study include those related to plate tectonics, earthquakes, volcanoes, mineral/rock resources, geologic time, landscape development, weather systems, ocean circulation, climate change, and Earth's place in the solar system. Successful students are required to demonstrate a broad understanding of Earth science concepts, principles, and processes, which entails a foundational knowledge of the discipline. Students are also tasked with questioning their role (as humans) in these Earth processes.

Summarize the major findings from your course outcomes assessments that are related to the General Education/Institutional Learning Outcomes that your discipline supports.
Students in ES 100 are meeting all course assessments with scores above 70%, which is the SLO standard that is being used by the discipline. ES 100 currently assesses three SLOs:

- Midlatitude Cyclone - Describe the frontal components, weather patterns, and general motions of a midlatitude cyclone.
- Earth's Seasons - Describe the production of Earth's seasons as they relate to the tilt of the planet on its axis and the resulting distribution of solar energy across the Earth's surface.
- Plate Tectonics - Describe the dynamic processes involved in tectonic plate motions, including the characteristic processes and landforms associated with tectonic plate boundaries.

All three SLOs address the following GE/Institutional Outcomes:
- ILO1-A Written communication
- ILO2-B Inquiry and Analysis
- ILO3-Creative, Critical, and Analytical Thinking and Information Literacy
- ILO4-C Civic Knowledge and Engagement
- GE Foundational Knowledge of Discipline

Overall student success rate for comprehensive assessments is above 70%. Comprehensive assessments include multiple choice/matching questions, completion of diagrams, and short answer essay questions which are embedded in the exams for each section.

An interesting trend has been noted related to the SLO assessments. Prior to exams/SLO assessment, several activities both in class and online are given to students to complete as part of the discussion of the topic and to enhance their understanding of the topic. Students who fully and successfully completed these activities score well above 70% on the assessment. In contrast, students who failed to participate in and complete these in class and online activities also fail to pass the SLO assessment. Obviously students who participate in the learning activities do much better on assessments, which is certainly not surprising. The question becomes, however, how does one enforce the full participation of all students in the completion of these activities? Students make the choice of whether or not to fully participate in a course and thus their grade will be a reflection of their level of participation.

ENROLLMENT TRENDS

Palomar College uses the WSCH/FTEF ratio as one indicator of overall efficiency in addition to the overall fill-rate for courses.

Although the college efficiency goal is 525 WSCH/FTEF and 85% fill-rate (minimal), there are many factors that affect efficiency (i.e. seat count / facilities / accreditation restrictions).

This information can be found by going to the "Program" page in the PRP Data Dashboard.

What was your efficiency trend over the last 5 years? Was it expected?
During the past five years of data, the Earth Science Discipline Fall WSCH/FTEF averaged 633, which greatly exceeds the desired College efficiency goal of 525. This trend is not surprising and has been maintained for longer than the five years discussed here. Even for Fall 2014, when college-wide values decreased and enrollment as a whole was lower, the ES Discipline WSCH/FTEF value at 582 was still above the College goal (as was the fill rate at 92%). It is important to note that some of the slight decline observed for Fall 2014 may have been due to the fact that we actually expanded our offerings of ES 100 to five sections rather than the typical four sections offered prior to or since then.

What factors have influenced your efficiency trends?
Since our efficiency values are very stable (routinely exceeding the College goals), we would suggest that students are interested in a general survey Earth Science course to satisfy their General Education and transfer requirements. ES 100 provides a "taste" of each of the other disciplines within the ESES Department and some students do go on to take a focused course in Geography, Geology, or

Oceanography. For other students, this will be their only exposure to the Earth Sciences. It is with these thoughts in mind that we make every effort to maintain an informative and engaging course.

Are there particular courses or programs that are not getting sufficient enrollment, are regularly cancelled due to low enrollment, or are not scheduled at this time? What is contributing to this issue? Does this level of efficiency meet the needs of the program and the district?
The ES 100 lecture courses regularly fill and usually generate a Wait List as well. The ES 100 Lab course is not currently being offered due to scheduling issues. The three lecture sections that are now regularly offered could easily support one lab section, however finding that one time frame where enrollment would be maximized is difficult. The lab class has only been offered once (Spring 2016) since passing Curriculum Committee but was cancelled at that time due to low enrollment. Since that time, restrictions on course offerings have not allowed us to offer the lab again. Without the lab component, students cannot use the ES 100 lecture/lab pair to satisfy GE requirements or science requirements for AA-T Anthropology or Liberal Studies.

The Chancellor's Office Vision for Success stresses the importance of reducing equity gaps through faster improvements of underrepresented groups.

ACCJC also requires that colleges establish institutional and program level standards in the area of success rates. These standards represent the lowest success rate deemed acceptable by the College. In other words, if you were to notice a drop below the rate, you would seek further information to examine why the drop occurred and strategies to address the rate.

Click on this link to review the course success rates (A, B, C, or Credit) for your discipline.

In this section we will identify a course success rate standards and a stretch goal (what you would like to move toward) for programs.

Course Success Rates by gender, age, ethnicity, special population, location, and modality (You can access the Student Equity Plan on the SSEC website https://www2.palomar.edu/pages/ssec/)

COURSE INFORMATION

COURSE SUCCESS AND RETENTION

What is your program's standard for Discipline COURSE Success Rate?
70.0%

Why did you choose this standard?
We consider 70% to be an appropriate standard for disciplice course success rate, which is consistent with SLO rates.This is also consistent with the College's institutional standard of 70%.

Has your overall course SUCCESS rates increased, decreased, or stayed the same over the last 5 years?
Stayed the same

Was this expected?
Overall success rates for the last 5 years average 68%, however there is one year that is distinctly different than the other four: Fall 2014 had a overall success rate of only 62% compared to other years of 71%, 70%, 71%, and 68%. Removing this one outlier gives an overall success rate of 70%. Fall 2014 was an unusual year for the ES course in that we offered five sections rather than the typical four. It is possible that success rates were lower due to over-extension of course resources with the higher enrollment produced by the added section. Since that time, we have only offered four sections and currently only offer

three sections due to the retirement of a full-time faculty member who had been involved with the program.

What is your Stretch goal for COURSE success rates?
71.0%

How did you decide upon the goal?
According to Palomar's Accreditation Midterm Report (MARCH 2019), the campus-wide Stretch Goal for the college is 71%. Although the college has not yet achieved that goal, the Earth Science discipline has met the success rate Stretch Goal of 71% twice (Fall 2013 and Fall 2016) so it seems to be an overall achievable goal for the Earth Science discipline.

Have your overall course RETENTION rates increased, decreased, or stayed the same over the last 5 years?
Stayed the same

Was this expected? Please explain.
Retention rates over the past five years have averaged 92%. Again, Fall 2014 appears distinctly different with a retention rate of only 87% whereas other years showed rention rates of 96%, 96%, 92%, and 91%. Removal of the outlier data from Fall 2014 produces an average retention rate of 94%.

Are there differences in success or retention rates in the following groups? (choose all that apply)
Age
Gender
Ethnicity

Gender: Why do you think gender differences exist? What do you need to help close the gap?
Gender is a difficult group to evaluate since the data is self-reported and students may identify outside of their birth gender. That being said, there appears to be no real difference in retention rates between females at 93% and males at 92% over the five years of data. Success rates, however, do show a distinct difference with females showing an average success rate of 71% opposed to the average success rate for males being only 65%. One could speculate that females are more focused, show more attention to detail, are better organized, etc. which is very much an "old-school" style of thinking. Without knowing for sure what affected these students and their performance, there is no clear path to closing the gap other than making sure that all students (regardless of gender identification) recognize the rigors associated with a college education.

Age: Why do you think age differences exist? What do you need to help close the gap?
As students must report their actual birthday, data related to age can be considered reliable and not surprising. Although retention across the three age categories presented (19 and under, 20 to 24, 25 to 49) averages 92%, the 20-24 age range is slightly lower at 91%. What is truly not surprising is the success rates: 19 and under at 68%, ages 20-24 at 66%, but 80% for ages 25 to 49. Typically an older student has developed better study habits, better life skills and time management skills, and often has a better understanding of the value of their education. I would suggest that students need to be better educated on the rigors of college and the importance of time management. Younger students are more familiar with the high school model of education where the majority of work is completed during a seven-hour school day in which classes meet daily. They are often unprepared for the college setting where the majority of the work occurs outside of the scheduled class time and the motivation to complete the assigned work must come from the student themselves. Typical college-level science courses require a commitment of at least nine hours of work per week outside of the classroom, but many students appear unready to make that kind of time investment.

Ethnicity: Why do you think ethnicity differences exist? What do you need to help close the gap?
Ethnicity is another factor which could be misleading as the data is self-reported and the current societal

trends encourage people to embrace their ancestral/cultural roots. This can be clearly seen in the multi-ethnicity category which I do not recall in previous PRP reports. That being said, I can see from the data and from my own contact with students in the classroom that some students typically fall below the norm. In this case, success rates for Hispanic students average 61% compared to overall course success rates of 70%. There are many factors that could be at work here. If one were to speculate, in an attempt to provide guidance to improve performance, some factors could relate to adequate preparation for some students such as the language and critical thinking skills required for college-level sciences classes.Current limited access to data does not allow us to evaluate English Language Learners (ELL) students as we have done in the past, but prior data has suggested that ELL students have lower success rates. Students considering enrollment in college-level science courses need to be properly advised that college-level English and Math skills provide the best preparation for success in these courses.

Are there differences in success/retention between on-campus and online courses?
N/A

Do you have any best practice methods you use for online courses to share with the community?
This course is not offered online.

COURSE OUTCOMES

How is course assessment coordinated across sections and over time?
Due to the recent retirement of a full-time faculty member from the ESES Department, the ES 100 course is currently taught by a single full-time faculty member. Previously, the tasks associated with assessment were shared and coordinated by two full-time faculty members in the Department.

How have you improved course-level assessment methods since the last PRP?
Results from assessments show that overall students are meeting the assessment goals. There are no plans at this time to change assessment methods.

Summarize the major findings of your course outcomes assessments.
Although students meet course assessment goals, this is a simple snapshot of just a few of the topics covered within the course. Even overall course success at an average of 70% is misleading since this does not reflect a typical bell curve distribution. More and more we are seeing a trend toward a bimodal distribution of with almost equal amounts of A/B grades compared to D/F and a lesser number of students in the C range.

Reflecting on the major findings you summarized, what are some questions you still have about students' learning in your courses that you have not yet been able to address with your outcomes assessments?
Outcomes assessments cannot address the basic preparedness of students for a college-level science course. Many of the students who enroll in ES 100 appear to have deficiencies in basic college-level English and Math skills, and we fear that this problem may be exacerbated by the full implementation of AB705 in Fall 2019. To assist with this basic skills gap, we have implemented an online learning component in conjunction with the publisher of the textbook used in the ES 100 course (McGraw-Hill). Completing these online activities in conjunction with traditional classroom learning activites (including demonstrations and student-driven, hands-on explorations) appears to yield a higher student success rate, but only if the student fully participates. The solution to increasing participation levels remains an unanswered question.

What are some improvements in your courses that have been, or can be, pursued based on the key findings from your course learning outcomes assessments?
In an attempt to increase student engagement (and therefore success), we began using a learning program available through the publisher of the textbook used in the ES 100 course (McGraw-Hill). The

implementation of the McGraw-Hill LearnSmart program as part of the required activities for ES100 has provided a way to offer students reinforcement of course concepts tailored to their individual skill and knowledge levels. For each student, the LearnSmart program tracks which topics the student has mastered and which require further instruction and practice. Students are thus able to earn credit for successful completion of the reading and associated exercises. We believe that this program has increased success rates for some students but there are still students who simply choose not to complete any of the homework activities. Many of these students only show up to class to take exams and thus are doomed to failure. Students make the choice of whether or not to fully participate in a course. I am not aware of improvements that I can make to the course that would alter the behavior of such students.

PROGRAM CURRICULUM ALIGNMENT, MAPPING, SCHEDULING, & PLANNING

The Chancellor's Office Vision for Success stresses the importance of decreasing the average number of units accumulated by CCC students earning degrees.

Palomar College's Guided Pathways plan includes clarifying paths for students by sequencing course offerings so that they support scaffolding and timely completion. Our goal is to ensure learning through:

- The mapping and assessment of clear program outcomes that are also aligned to employer and/or transfer institution expectations.
- Engaging and applied learning experiences.
- Effective instructional practices to support students in achieving success.

How do your course outcomes help your students achieve their program outcomes?
The primary mission of the Earth Science discipline at Palomar College is to fulfill the general education requirements:
AA General Education, Area B, Natural Science; CSUGE Area B1, Physical Science; and IGETC Area 5A, Physical Science.
Earth Science does not have a degree or certificate, but we try to offer the ES100 course in a way that is convenient to students and that can help them achieve their program.

What is your departmental strategy on how you schedule your courses including the time of day you offer courses? Do you use fast track or block scheduling (putting required classes near each other) to organize required classes (Particularly to meet the needs of disproportionately impacted students)?
We use block scheduling and all ES 100 sections are currently offered on the Main Campus in prime-time morning time blocks. We
have a dedicated classrooms for ES 100 where we receive priority scheduling. This allows easy access to supplies and materials for classroom demonstrations and student-driven, hands-on explorations.

How do you work with other departments that require your course(s) for program completion?
We schedule the ES 100 lecture classes in typical block scheduling format so that it coordinates with other departments.

Does your discipline offer cross-listed courses?
Yes

How do you work with the other department(s) to ensure consistent curriculum per the COR and minimum qualifications? How do you coordinate course scheduling?

The only cross-listed course is ES 115, which is cross-listed as GEOG 115. Both Earth Science and Geography disciplines are within the Earth, Space and Environmental Sciences Department. Currently ES/GEOG 115 is only taught as one course offering during fall semesters by a recently retired Geography faculty member. All assessments of the course occur within the Geography discipline.

Are there curriculum concerns that need to be resolved in your department? What are they?
Currently ES 100 lab is listed in the College catalog and, as such, is presented as an option to students as an approved course for transfer into the CSU San Marcos Liberal Studies Elementary Subject Matter (ESM) option. As of Fall 2016, ES 100 lecture and lab courses may also be used to satisfy course requirements for the A.A. in Anthropology for Transfer (A.A.-T). I regularly encounter students enrolled in the ES 100 lecture who are frustrated that the ES 100 lab is not being offered. This concern needs to be addressed.

in the Liberal Studies Program and in Anthropology

How is the potential need for program/course deactivation addressed by the department?
As described above, it is time to for the College to decide if course offerings can be expanded. ES 100 lab was approved in 2015. If we cannot offer the class, it should be deactivated so that students are not misled by the information in the College catalogue.

Is your department pursuing non credit or not-for credit options at this time?
No

Are there areas you would like to expand?
If we can secure qualified, additional teaching staff it might be beneficial to expand offerings to satellite campuses such as the Rancho Bernardo Center.

Click here for information about Noncredit and Community Education

Is your department offering online classes?
No

How do you consider student needs when determining which classes and how many classes should be offered online versus face-to-face?
Earth Science is a very hands-on subject. It is not pedagogically sound to offer the course in an online setting.

Describe other data and/or information that you have considered as part of the evaluation of your program
We try to coordinate with the requirements of 4-year transfer schools (such as CSU-San Marcos) to keep ES 100 transferrable for our students. Thus, as described above, a decision regarding the status of ES 100 lab does need to be made in the near future.

CAREER AND LABOR MARKET DATA

The Chancellor's Office Vision for Success stresses the importance of increasing the percent of exiting students who report being employed in their field of study. It is important for us to consider how ***all*** of our programs connect to future careers.

Go to this website https://www.onetonline.org/ and enter your discipline in the bubble on the top right for ideas about potential occupations. Click on an example to see more detail.

What kinds of careers are available for people who complete your programs (and/or transfer)? (Refer to link above) Are there any new or emerging careers and if so how would the new or emerging careers impact your future planning?

25-1051.00 Atmospheric, Earth, Marine, and Space Sciences Teacher, Postsecondary
19-2042.00 Geoscientists, Except Hydrologists and Geographers
25-1043.00 Forestry and Conservation Science Teachers, Postsecondary
25-1053.00 Environmental Science Teachers, Postsecondary
19-3092.00 Geographers
25-2022.00 Middle School Teachers, Except Special and Career/Technical Education
19-4099.00 Life, Physical, and Social Science Technicians, All Other
19-4091.00 Environmental Science and Protection Technicians, including Health
19-4092.00 Forensic Science Technicians
19-4041.02 Geological Sample Test Technicians

New or emerging careers: One potential area of employment is with public outreach organizations such as museum education departments. These facilities are tasked with explaining scientific concepts to the general public.

What are the associated knowledge, skills, abilities (KSA's) needed for the occupations listed above? (click examples in the link above to get ideas)

The KSAs needed for employment in any of the above fields are basic Earth Science knowledge as well as general scientific skills and abilities. Postsecondary teaching jobs would require a minimum of a Master's degree.

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Knowledge needed include:
Education and Training
English Language
Mathematics
Computers and Electronics
Physics
Chemistry
Geology
Biology

Skills needed include:
Speaking
Reading Comprehension
Instructing
Problem Solving Using Scientific Principles
Active Listening

Abilities needed include:
Oral Expression
Speech Clarity
Oral Comprehension
Written Comprehension
Deductive Reasoning

How does your program help students build these KSA's?

By completing the ES 100 lecture, successful students have a basic background in science and fundamental Earth Science concepts to enable them to continue their education at other 4-year institutions. Many of these KSAs are fundamental items (English Language, Speech Clarity, Reading Comprehension)

that a student learns in a variety of classes while obtaining a college degree.

Have you incorporated work based learning (work experience, internships, and/or service learning) into your program?
No

Do you want more information about or need assistance integrating work-based learning into your program?
No

How do you engage with the community to keep them apprised of opportunities in your program?
We engage with the community through various outreach opportunities, such as the Palomar STEM Conference and Earth Science Week. Dr. Yon also participates in outreach by being available to groups as a speaker and has presented at homeowner groups and organizations such as the Daughters of the American Revolution.

Program Goals

In the previous sections, you identified opportunities for improvement. Using these opportunities, develop 3-year SMART goals for your department. Goals should be Specific, Measurable, Attainable, Relevant, Time-Specific. Ensure your goals align with the mission of your department and/or the College's strategic plan.

Please list all discipline goals for this three-year planning cycle. Click here for previous PRPs and goal information.

Goals

Goal 1

Brief Description
Expansion of Earth Science offerings to include ES 100 Lab

Is this a new or existing goal?
Existing

Goal Status
Ongoing

How will you complete this goal?
We are awaiting approval from the College to be able to expand offerings to include the already approved ES 100 lab. We propose that offering the Earth Science lecture/lab at the Rancho Bernardo campus provides a viable option.

Outcome(s) expected (qualitative/quantitative)
With the offering of the ES 100 lab course, students pursuing majors in Liberal Studies (Elementary Subject Matter credential) and those students in the Anthropology A.A.-T degree program will be able to satisfy their course requirements by completing the ES 100 lecture/lab combination.

How does this goal align with your department mission statement, the college strategic plan, and /or Guided Pathways?
The overall mission of the Earth Science discipline is to promote earth science literacy while providing students the opportunity to fulfill the general education physical or natural science requirements for degree or transfer. The ES 100 lecture/lab combo specifically satisfies course requirements for the A.A.-T in Anthropology and transfer into the CSU San Marcos Liberal Studies Elementary Subject Matter (ESM) option. This is also in alignment with the College mission statement wherein the College specifically

states that it supports and encourages students who are pursuing transfer-readiness.

Expected Goal Completion Date
1/27/2020

STAFFING AND RESOURCE NEEDS

Instructions

1. Refer to Strategic Plan.
2. See Data.
3. See career info (In PRP)

Are you requesting additional full-time faculty?
No

Are you requesting additional Staff, CAST or AA?
No