

INSTRUCTIONAL ANNUAL PROGRAM PLANNING WORKSHEET FOR 2017-2018

CURRENT YEAR: 2017-2018

PROGRAM: EARTH AND OCEAN SCIENCE

CLUSTER:

LAST YEAR CPPR COMPLETED: 2016-2017

NEXT SCHEDULED CPPR: 2020-2021

CURRENT DATE: 2/22/2017

The Annual Program Planning Worksheet (APPW) is the process for:

- reviewing, analyzing and assessing programs on an annual basis
- documenting relevant program changes, trends, and plans for the upcoming year
- identifying program needs, if any, that will become part of the program's resource plan
- highlighting specific program accomplishments and updates since last year's APPW
- tracking progress on a Program Sustainability Plan if established previously.

Note: Degrees and/or certificates for the same program may be consolidated into one APPW.

This APPW encompasses the following degrees and/or certificates:

ADT – GEOLOGY AND AS - GEOLOGY

GENERAL PROGRAM UPDATE

Describe significant changes, if any, to program mission, purpose or direction. *If there are not any, indicate: NONE.*

NONE

PROGRAM SUSTAINABILITY PLAN UPDATE

Was a Program Sustainability Plan established in your program's most recent Comprehensive Program Plan and Review?

Yes ☐ If yes, please complete the Program Sustainability Plan Progress Report below.

No ☒ If no, you do not need to complete a Progress Report.

If you selected yes, please complete the Program Sustainability Plan Progress Report below after you complete the Data Analysis section. That data collection and analysis will help you to update, if necessary, your Program Sustainability Plan.

DATA ANALYSIS AND PROGRAM-SPECIFIC MEASUREMENTS

In addition to other data that is relevant to your program, institutional program data is available on the [SLOCCCD Institutional Research and Assessment Program Review Data Dashboard site](#). Please paste the charts into this document, and respond to the prompts for each data element. Please also comment on your program's data and how it compares to the overall college data. Take time to work with your faculty to review the disaggregated data. Several measures can be "drilled down" to reveal differentiated results based on location, modality, ethnicity, age, gender and so on. This disaggregated data can reveal a great deal about your program's effectiveness.

Note: Your responses to the prompts for the data elements below should be for the entire program. If this APPW is for multiple degrees and/or certificates then you MAY want to comment on each degree and/or certificate, or discuss them holistically for the entire program being sure to highlight relevant trends for particular degrees and/or certificates, if necessary.

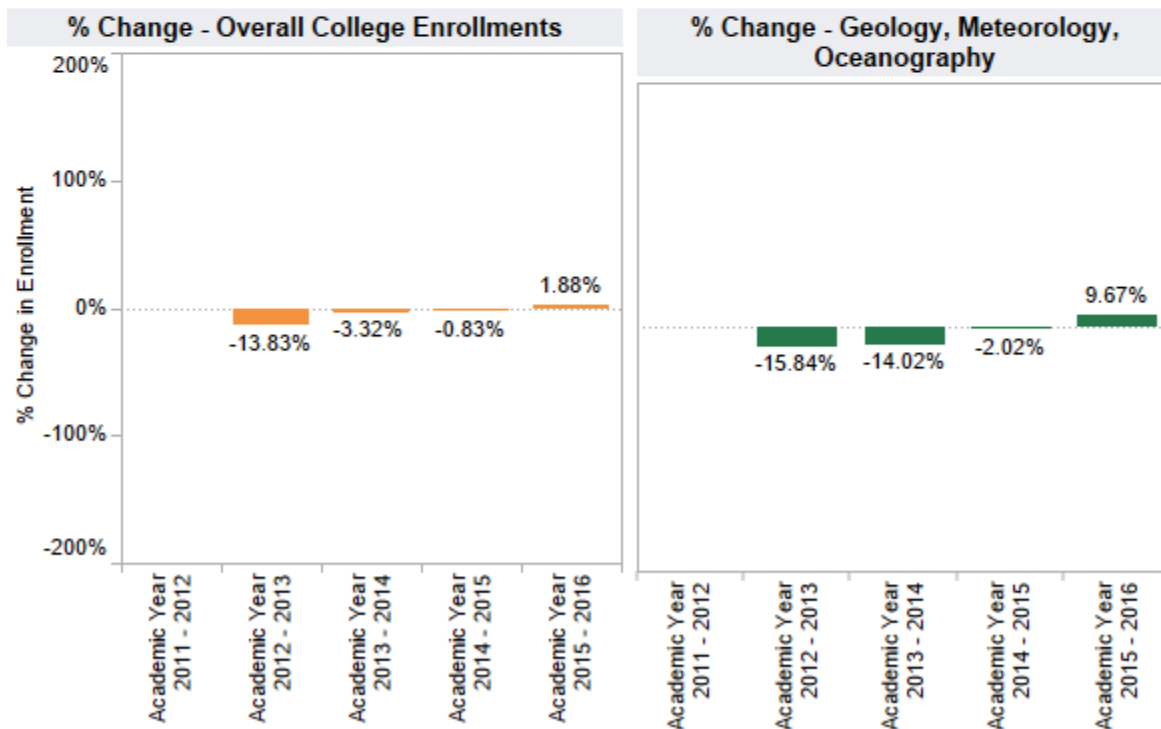
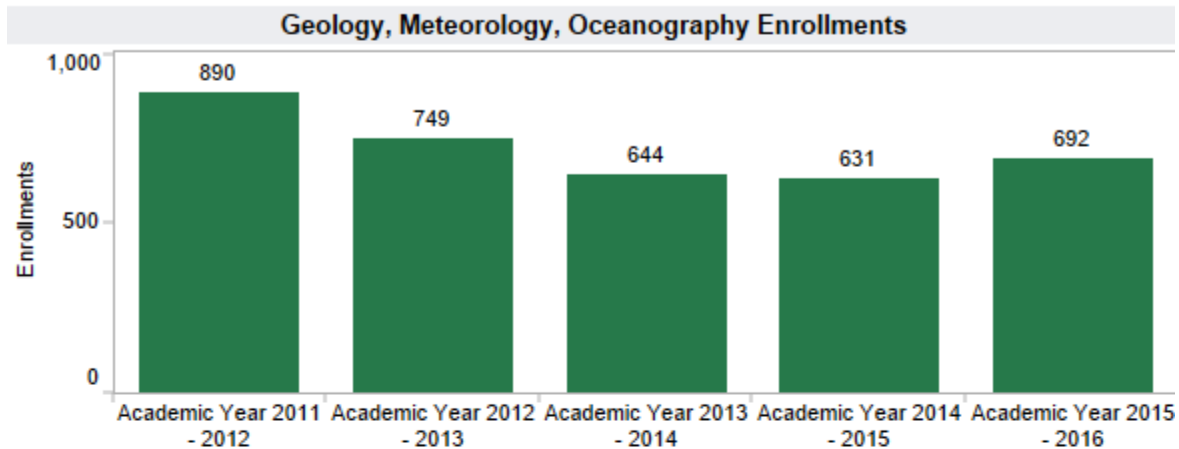
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[General Enrollment \(Insert Aggregated Data Chart\)](#)

SLOCCCD Program Review Data - Enrollment

Department:
Multiple values

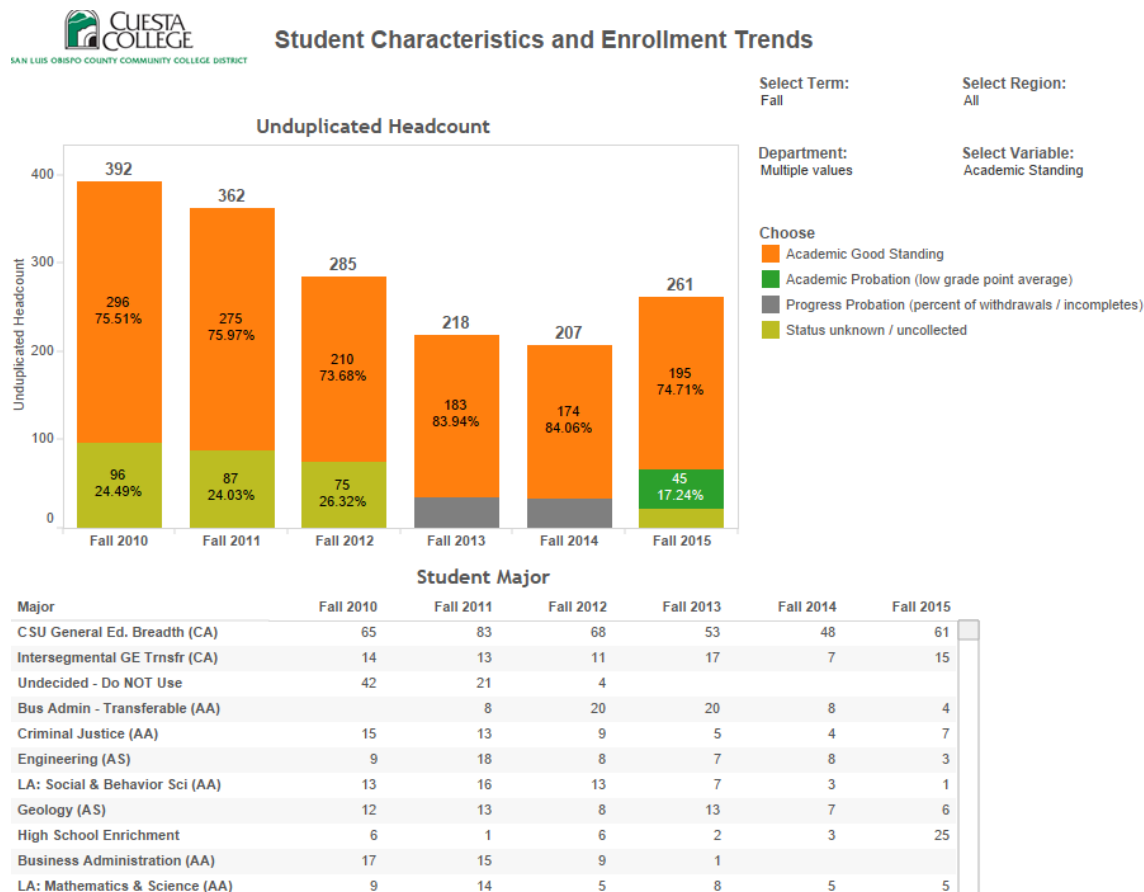
Course:
All



Enrollment: Duplicated count of students who completed greater than 0 units in positive attendance courses or were present on census for all other accounting methods.

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[Disaggregated Enrollment Data](#) (review analytically to determine if different populations are impacted)



- List the previous year's projection and current year's projection for enrollment (*i.e. increase, decrease, remain the same*).

We projected that the Enrollments will slowly increase.

- List the trend (*i.e. increasing, decreasing, same*).

The trend is clearly increasing.

- List contributing factors to the trend.

The enrollments in EOS continue to improve. We attribute the continuing improvement of better scheduling, the addition of the Geology AS-T degree, and the attraction of the Grand Canyon field trip for Geology 211. We added a second section of Ocean 210 in the evening on SLO campus that has also steadily increased in enrollment. This accommodates the students that could not enroll in the daytime class. There continues to be a concerted effort to publicize these courses and the benefits of obtaining an AS-T degree in Geology. Every semester we provide a public demonstration of our water sampler at the CalPoly Pier

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Open House where hundreds of local residents learn about the course offerings at Cuesta. The AS-T pattern may also be benefitting from dual enrollment Geology 210 courses at Atascadero High School. The Geology of California (Geology 220) was improved with different textbooks more accessible to our undergraduate students.

- Are different demographic groups underrepresented in your enrollment figures? What might be causing this? How can it be addressed?

The EOS students are predominately non-science majors seeking a GE course in physical science. In Fall 2015 there is an observable increase of students on academic probation enrolled in the EOS courses compared to the incompletions of the previous semesters. This is a reflection of faculty efforts to support students to finish courses. It also reflects the embedded tutors in Geology 210 and the EOS tutor (McCabe) available in the Student Success center on a weekly basis.

- What strategies will be employed to meet the current year's projection?

We have added an additional embedded tutor to help students in our Geology of California, Geologic Hazards and Physical Geology classes. We will be seeking to add an embedded tutor to the Oceanography courses.

[General Student Demand \(Fill Rate\) \(Insert Aggregated Data Chart\)](#)

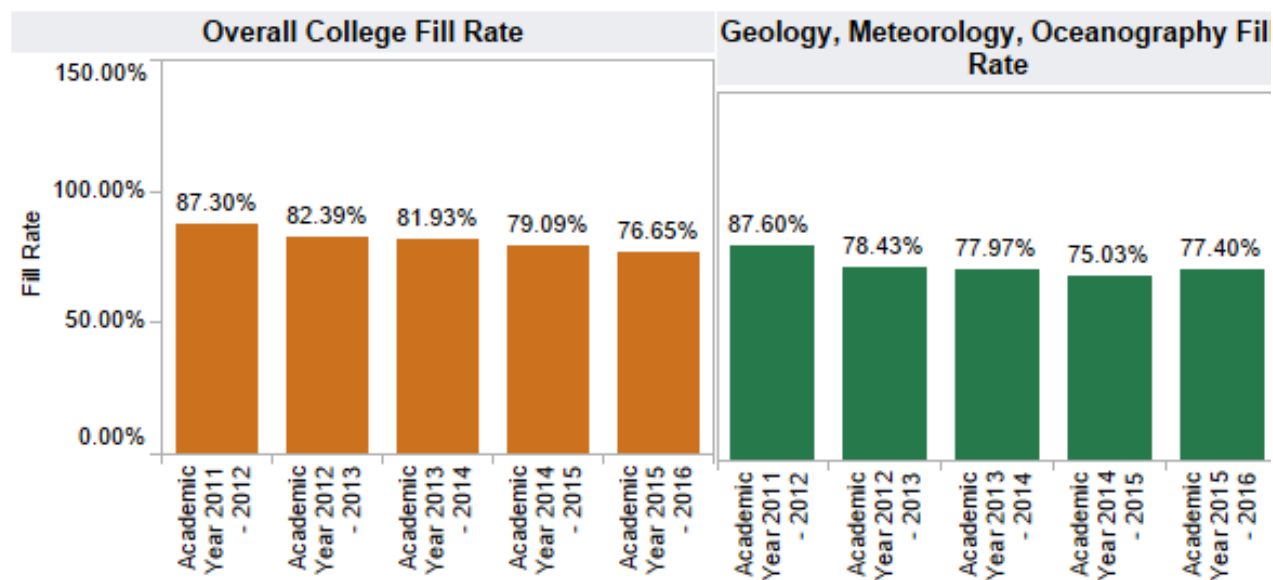
[Disaggregated Student Demand Data](#) (review analytically to determine if different types of courses are impacted)

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SLOCCCD Program Review Data - Student Demand (Fill Rate)

Department:
Multiple values

Course:
All



Fill Rate: The ratio of enrollments to class limits. Cross listed class limits are adjusted appropriately.
Also, courses with zero class limits are excluded from this measure.

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- List the trend (i.e. increasing, decreasing, same)

The EOS fill rates are slightly higher in the 2015-16 semester and slightly above the campus as a whole.

- List contributing factors to the trend.

The number of available sections on SLO campus is stable and well-matched to the number of students. The enrollments on the NCC campus are also increasing. The program enrollments and fill rates have benefitted the dual enrollment class in Geology 210 at Atascadero High School.

- List which courses have the highest student demand and which courses have the lowest student demand.

The Ocean 210 lecture (both f2f and DE) and Ocean 210 Lab courses are completely filled and consistently have a waitlist. Most of the geology classes have rebounded and fill or nearly fill in SLO campus listings. We had a small wait-list for the first time in several years for Geology 210 and Geology 229B this Spring. Our lowest enrolled geology class continues to be Historical Geology (Geology 211). The faculty have attempted to increase enrollments in Geology 211 by changing pre-requisites to advisories, but have concerns for the success of underprepared students.

- Based upon the trend, what strategies do you plan on implementing?

Another section of Ocean 210 has been added to the SLO campus in the evening to accommodate student demand. Given the enrollment numbers in geology classes, our current schedule seems sufficient and meets demand.

We are considering developing additional field courses possibly a course on the geology of national parks to address the increased demand for field experience.

[General Efficiency \(FTES/FTEF\) \(Insert Aggregated Data Chart\)](#)

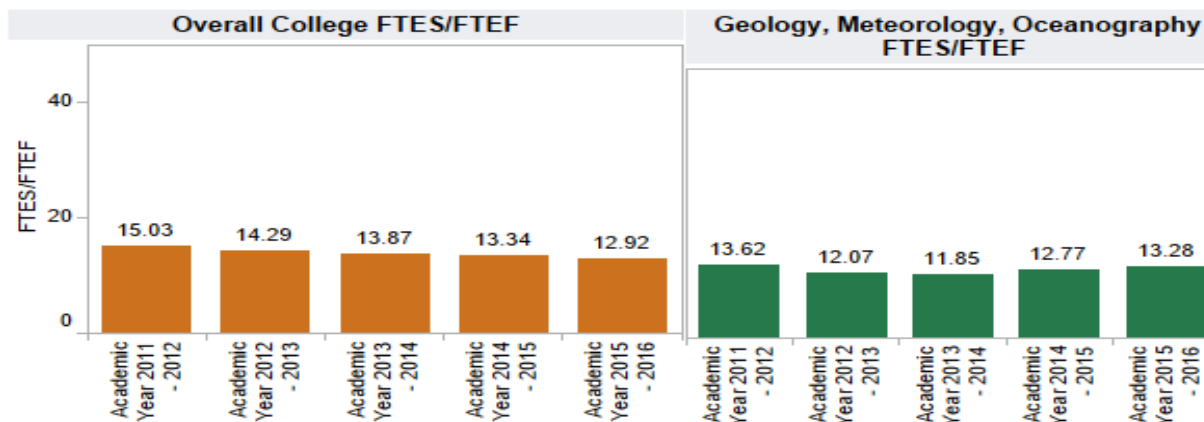
[Disaggregated Efficiency Data](#) (review analytically to determine if different types of courses are impacted)

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SLOCCCD Program Review Data - Efficiency (FTES/FTEF)

Department:
Multiple values

Course:
All



FTES/FTEF: The ratio of total FTES to Full-Time Equivalent Faculty
(SXD4 Total-Hours/17.5)/XE03 FACULTY-ASSIGNMENT-FTE)

- List the previous year's projection and current year's projection for enrollment (*i.e. increase, decrease, remain the same*).

Our enrollments have increased slightly

- List the trend (*i.e. increasing, decreasing, same*).

The EOS efficiency increased from 12.77 to 13.28. This increase in efficiency reflects the increasing enrollments in Geology, as well as the Dual Enrollment Course at Atascadero High School.

- List contributing factors to the trend.

Offering most courses on a two-day per week option has helped efficiency by increasing

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enrollments on the main campus. Numbers have also improved due to our decision to restrict the number of low-enrollment courses in North and South county campuses. The efficiency also reflects the addition of a dual enrollment course in Atascadero.

- What strategies will be employed to meet the current year's projection?
We continue to recruit students for EOS courses and have added embedded tutors to help them succeed. These efforts, combined with appropriate scheduling of classes are beginning to bear fruit resulting in increased class size. Another option for consideration is to offer 9-week geology courses and more distance education classes within the EOS department. A third possibility is to offer a dual enrollment course in Oceanography at SLO High School.

[General Student Success – Course Completion \(Insert Aggregated Data Chart\)](#)

[Disaggregated Success and Completion Data](#) (review analytically to determine if different populations are impacted)

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SLOCCCD Program Review Data: Successful Course Completion

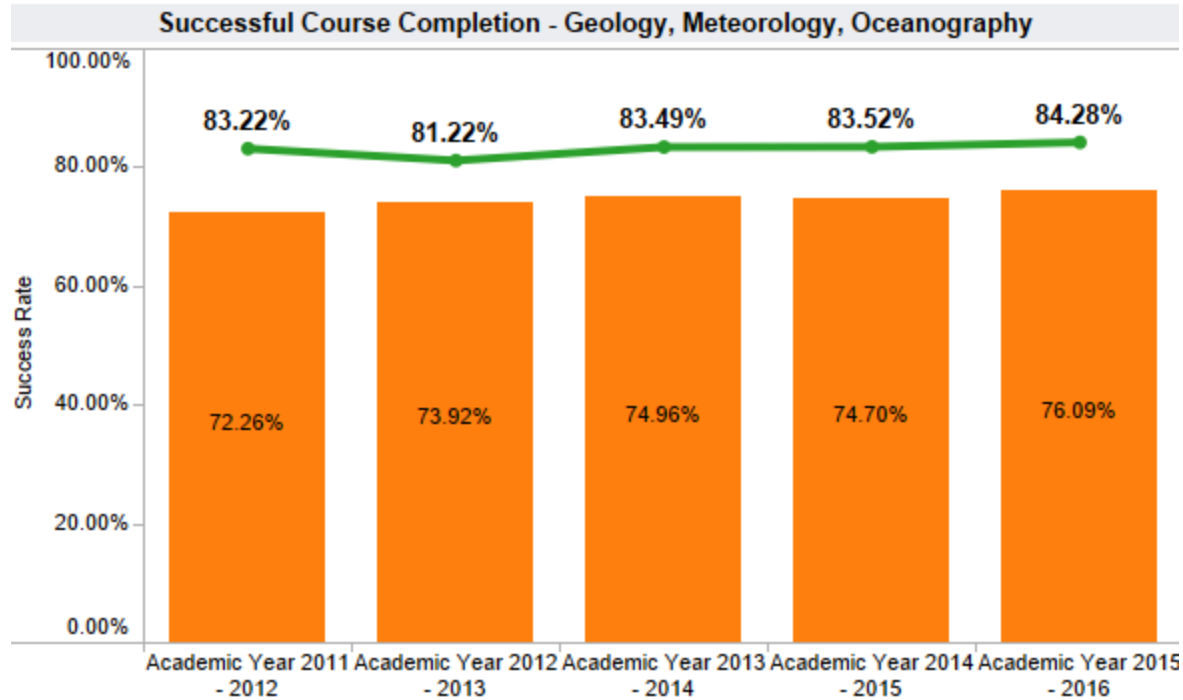
Select Department:
Multiple values

COURSE
All

Legend:

Department Success Rate

Overall College Success Rate



Geology, Meteorology, Oceanography Success Rate Table

	Academic Year 2011 - 2012	Academic Year 2012 - 2013	Academic Year 2013 - 2014	Academic Year 2014 - 2015	Academic Year 2015 - 2016
Department Success..	83.22%	81.22%	83.49%	83.52%	84.28%
Total Enrollments	882	740	636	625	687

Success: The Percentage of student enrollments resulting in a final grade of "C" or better

- Are different demographic groups underrepresented in your success figures? What might be causing this? How can it be addressed?

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Data shows several groups that have lower success rates in EOS classes. The largest group are adults 30-39 years old. Success for this age group is 11% below the mean. Those students listed as academically disadvantaged rank 7.6% below the mean and non-English transfer, Hispanic/Latino, and Promise students rank 5.9%, 4.8% and 4.3% below the mean.

We speculate that the largest student group above are often parents with young children and jobs that limit time for study. Those listed as academically disadvantaged are often under-prepared for the rigor of academic science class and need remedial course work. It follows that Hispanic/Latino and non-English transfer students have difficulty with reading assignments critical to their success.

- List strategies used during the last year in which data was reported to increase student success.

We have added imbedded tutors in geology classes and have weekly tutoring available outside of class.

- Did your strategies effect change?

The data suggest an improvement as does anecdotal evidence derived from conversations with lab students in Geology 210. Many have expressed how much the embedded tutors have helped them succeed.

- List the trend (*i.e. increasing, decreasing, same*).

One year does not provide a trend, but there is an improvement over the prior years.

- Based upon the trend, what strategies do you plan on implementing?

More tutors and encouraging students to seek help early and often.

We also have consistently observed that students fail to purchase textbooks, even those available as rentals. They plan to use the single textbook on reserve in the library but never make it there. Many students think that, as in high school, they do not need to read the textbook on their own. Having a program to provide textbooks might be valuable for financially disadvantaged students, especially for a GE course in science.

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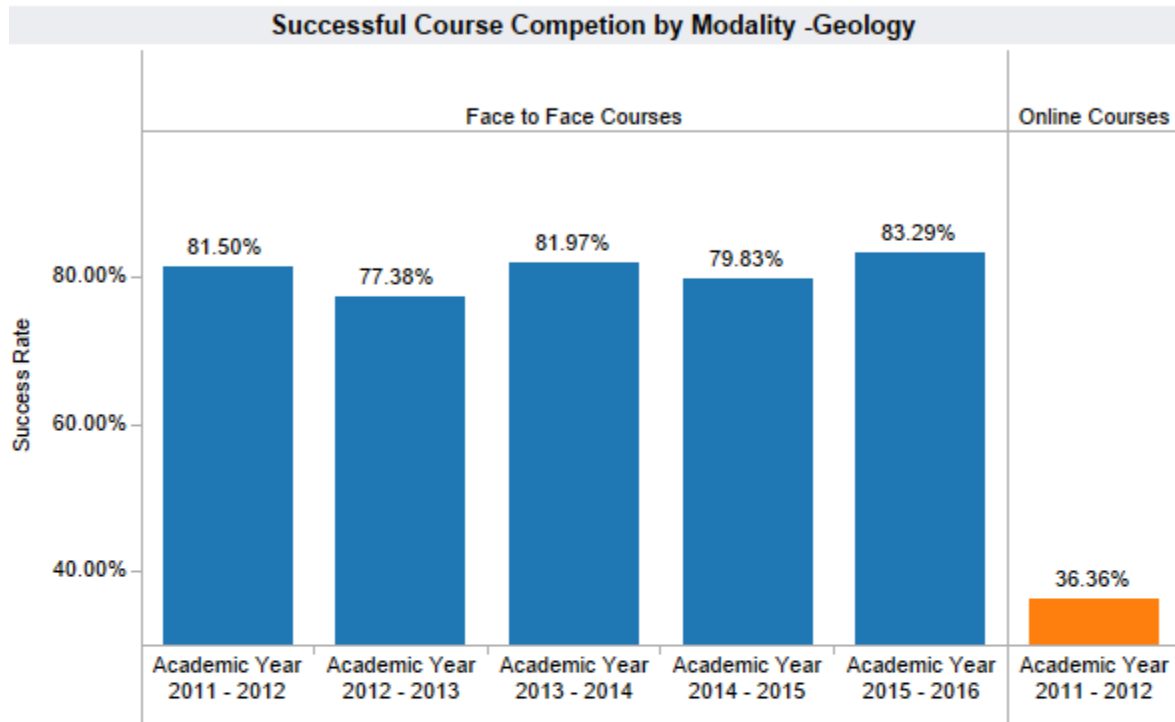
Student Success—Course Modality (Insert Data Chart)

SLOCCCD Program Review Data: Successful Course Completion

Select Department:
Geology

Legend:

- Face to Face Courses
- Online Courses



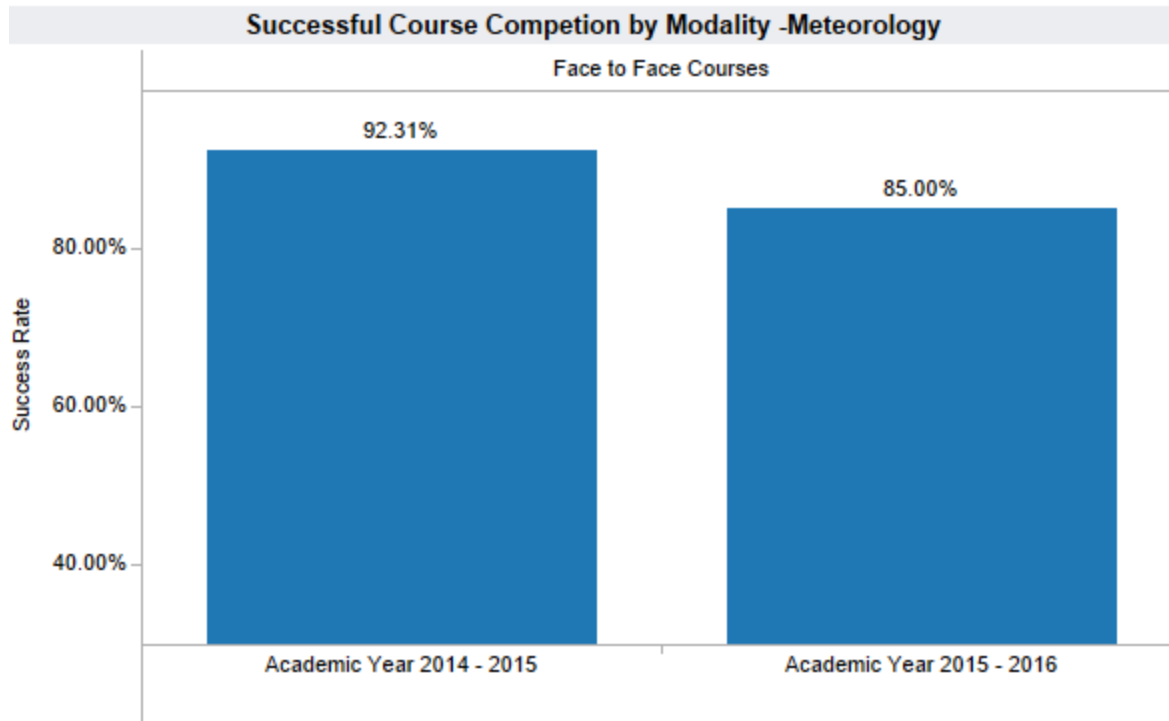
Successful Course Completion by Modality Table - Geology						
		Academic Year 2011 - 2012	Academic Year 2012 - 2013	Academic Year 2013 - 2014	Academic Year 2014 - 2015	Academic Year 2015 - 2016
Face to Face Courses	Department Success Rate	81.50%	77.38%	81.97%	79.83%	83.29%
	Total Department Enrollments	573.0	473.0	366.0	352.0	395.0
Online Courses	Department Success Rate	36.36%				
	Total Department Enrollments	11.0				

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SLOCCCD Program Review Data: Successful Course Completion

Select Department:
Meteorology

Legend:
■ Face to Face Courses



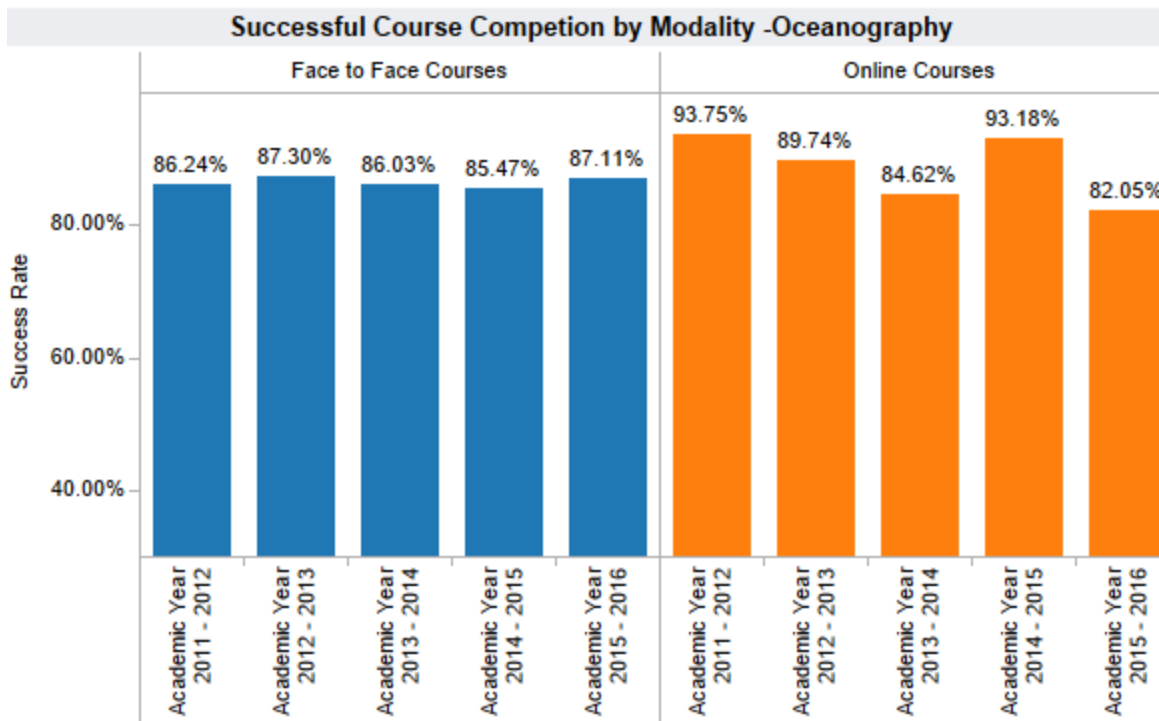
Successful Course Completion by Modality Table - Meteorology			
		Academic Year 2014 - 2015	Academic Year 2015 - 2016
Face to Face Courses	Department Success Rate	92.31%	85.00%
	Total Department Enrollments	13.00	20.00

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SLOCCCD Program Review Data: Successful Course Completion

Select Department:
Oceanography

Legend:
■ Face to Face Courses
■ Online Courses



Successful Course Completion by Modality Table - Oceanography						
		Academic Year 2011 - 2012	Academic Year 2012 - 2013	Academic Year 2013 - 2014	Academic Year 2014 - 2015	Academic Year 2015 - 2016
Face to Face Courses	Department Success Rate	86.24%	87.30%	86.03%	85.47%	87.11%
	Total Department Enrollments	218.0	189.0	179.0	172.0	194.0
Online Courses	Department Success Rate	93.75%	89.74%	84.62%	93.18%	82.05%
	Total Department Enrollments	80.0	78.0	91.0	88.0	78.0

- List strategies used during the last year in which data was reported to increase student success.

The online oceanography has continued using a curriculum that guides students through weekly

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worksheets and provides very hands-on learning experiences. Each chapter of the online curriculum has a forum where students ask each other questions about the work and also allows me to intervene and steer the class back on track if necessary. The curriculum effectively prepares the students for the exams and results in approximately equal success rate for online Ocean 210 and DE Ocean 210.

For Geology, we have added embedded tutors and a tutor at the success center for all students.

- Did your strategies effect change?
Success rates in EOS have improved, So it seems to help.
- List the trend (*i.e. increasing, decreasing, same*).

One year change doesn't provide us with any clear trend. However, success rates in geology have improved.

The success rates in Oceanography have remained high for both f2f and online modalities.

- Based upon the trend, what strategies do you plan on implementing?
We will continue to utilize embedded tutors as available.

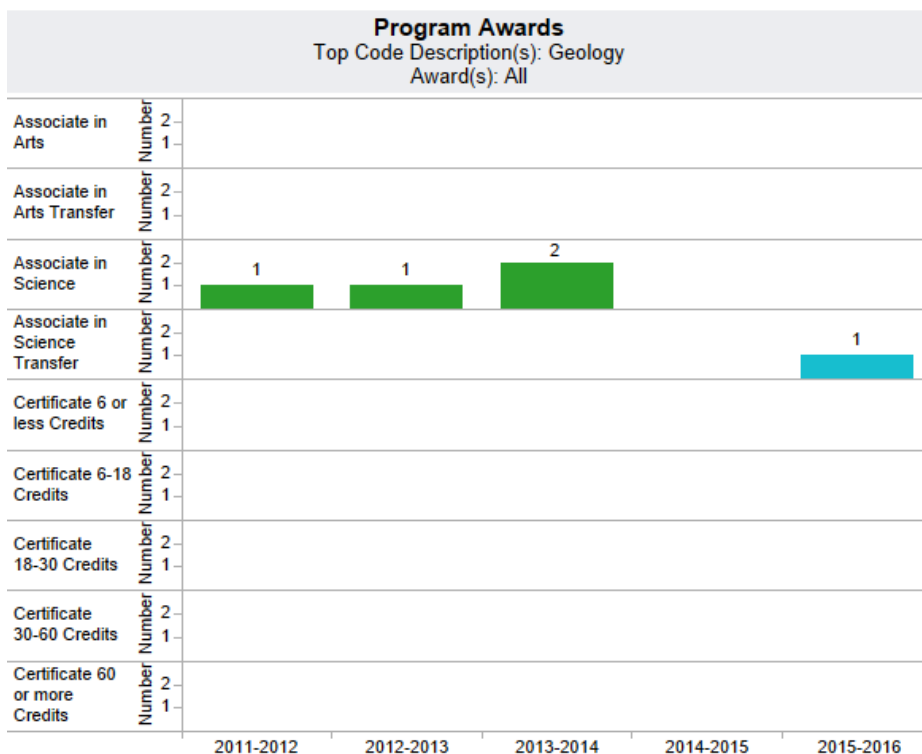
[Degrees and Certificates Awarded \(Insert Data Chart\)](#)

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SLOCCCD Program Review Data: Degrees and Certificates Awarded

Program:
Geology

Award Type:
All



Award T..		Program Awards Table				
Award		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
Associate in Science	Geology (AS)	1	1	2		
	Total	1	1	2		
Associate in Science Transfer	Geology (AST)					1
	Total					1
Grand Total		1	1	2		1

Program Awards: The number of degrees and certificates awarded by program type

- List the previous year's projection and current year's projection for degrees and certificates awarded (*i.e. increase, decrease, remain the same*).
- List the trend (*i.e. increasing, decreasing, same*).
- List contributing factors to the trend.
- What strategies will be employed to meet the current year's projection?
EOS has two degree options (AS, ADT) and both are difficult for students to complete in a 2-year time frame. Our policy has always been to identify potential and declared majors and provide one-on-one mentoring and counseling to encourage and help direct their program. Given the nature of the course work, it is not likely that we will see a large increase in the number of degrees in the near future.

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OTHER RELEVANT PROGRAM DATA (OPTIONAL)

Please provide and comment on any other data that is relevant to your program such as State or National certification/licensure exam results, employment data, etc. If necessary, describe origin and/or data collection methods used.

PROGRAM OUTCOMES ASSESSMENT AND IMPROVEMENTS CHECKLIST AND NARRATIVE

CHECKLIST:

- ☒ SLO assessment cycle calendar is up to date:
- ☒ Date SLO assessment cycle calendar was last updated: Spring 2016
- ☐ All courses scheduled for assessment have been assessed in eLumen
- ☒ Dates of last completed course assessments in eLumen : Fall 2016
- ☐ Program Sustainability Plan progress report completed

Narrative:

Briefly describe program changes, if any, which have been implemented in the previous year as a direct result of the Program or Student Services Learning Outcomes Assessment. *If no program changes have been made as results of Program or Student Services Learning Outcomes Assessment, indicate: NONE.*

The big change in Ocean 210 f2f class is the lower exam grades after we stopped using the CPS classroom system. This allowed students to practice answering questions about the material. Students still completed the class but the overall grades are lower. We are currently assessing adopting a new ocean 210 textbook with web-based quizzes to replace the practice with CPS.

PROGRAM PLANNING / FORECASTING FOR THE NEXT ACADEMIC YEAR

Briefly describe any program plans for the upcoming academic year. These may include, but are not limited to the following: *(Note: you do not need to respond to each of the items below). If there are no forecasted plans for the program, for the upcoming year, indicate: NONE.*

- A. New or modified plans for achieving program learning outcomes.
- B. Anticipated changes in curriculum, scheduling or delivery modality
- C. Levels, delivery or types of services
- D. Facilities changes
- E. Staffing projections
- F. Other

PROGRAM SUSTAINABILITY PLAN PROGRESS REPORT

This section only needs to be completed if a program has an existing Program Sustainability Plan. Please indicate whether objectives established in your Program Sustainability Plan have been addressed or not, and if improvement targets have been met.

Area of Decline or Challenge	Identified Objective (Paste from PSP)	Planning Steps (Check all that apply)	Has the Improvement Target Been Met?
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Enrollment		<input type="checkbox"/> Identified <input type="checkbox"/> Resources Allocated <input type="checkbox"/> Implemented	
Student Demand (Fill Rate)		<input type="checkbox"/> Identified <input type="checkbox"/> Resources Allocated <input type="checkbox"/> Implemented	
Efficiency (FTES/FTEF)		<input type="checkbox"/> Identified <input type="checkbox"/> Resources Allocated <input type="checkbox"/> Implemented	
Student Success – Course Completion		<input type="checkbox"/> Identified <input type="checkbox"/> Resources Allocated <input type="checkbox"/> Implemented	
Student Success— Course Modality		<input type="checkbox"/> Identified <input type="checkbox"/> Resources Allocated <input type="checkbox"/> Implemented	
Degrees and Certificates Awarded		<input type="checkbox"/> Identified <input type="checkbox"/> Resources Allocated <input type="checkbox"/> Implemented	

If Program Sustainability Plan is still necessary, provide a brief description of how you plan to continue your PSP and update your PSP to remove any objectives that have been addressed and include any new objectives that are needed.

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SURVEY

Please take 15 minutes to complete the IPPR Survey. Your assessment will serve to help us make the form and process better.

Thanks,

The IPPR Committee

[Survey Link](#)