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i Department Chairs/Program Leads: Please press the edit symbol in the right-hand corner to update. Below, the text in bold corresponds both to the name of the box when editing this page and also to the first-column on the APRU worksheet. If you have questions, please contact: papemary@fhda.edu.

▼ 🏛️ Dept - (PSME) Geology ✎

2019-20 Annual Program Review Update Submitted By: Marek Cichanski

APRU Complete for: 2019-20

Program Mission Statement: The mission of the De Anza College Geology department is to give students an opportunity to successfully complete science coursework for transfer, Associate degree, or lifelong learning, with transfer being the primary goal of most Geology students.

The department seeks to foster an awareness, understanding, and appreciation of the complexity of the planet that the students, faculty, staff, and all of humanity live on. Some of this drive stems from the desire to enable the students to be better-informed citizens of our increasingly crowded world, while some of it comes from the faculty's desire to draw the students into the sheer fascination of the Earth's dynamism and complexity.

In terms of concrete educational goals, the department expects to provide students with an opportunity to earn transferable general education credits. This outcome applies to the majority of the Geology 10 students, with smaller fractions of them taking the class for the A.A. Degree, personal interest, or lifelong learning.

I.A.1 What is the Primary Focus of Your Program?: Transfer

I.A.2 Choose a Secondary Focus of Your Program?: Personal Enrichment

I.B.1 Number Certificates of Achievement Awarded:

I.B.2 Number Certif of Achievement-Advanced Awarded:

I.B.3 #ADTs (Associate Degrees for Transfer) Awarded:

I.B.4 # AA and/or AS Degrees Awarded:

I.B.5 Trends in # Degrees Awarded:

I.B.6 Strategies to Increase Awards:

I.C.1. CTE Programs: Review of Perkins Core Indicator and SWP

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Outcomes Metrics:

I.C.2 CTE Programs: Labor Market Demand and Industry Trends ::

I.D.1 Academic Services & Learning Resources: #Faculty served:

I.D.2 Academic Services & Learning Resources: #Students served:

I.D.3 Academic Services & Learning Resources: #Staff Served:

I.E.1 Full time faculty (FTEF): 1.7

I.E.2 #Student Employees: This was intended for I.E.1, above, but that box wouldn't allow for the entry of text:

1.7 The Geology faculty consist of one full-time Geology instructor and another full-time instructor with FSAs in Geology and Astronomy, who is currently mostly teaching Astronomy.

I.E.3 Full Time Load as a %: After the one part-time instructor left in 2017, all instruction in the department has been full-time load or overload. The most recent full-time percentage (2018-1019) was 71%.

I.E.4 # Staff Employees: Although the Geology department has no staff employee specifically assigned to it, the PSME Division's Computer Laboratory Administrator, Ching Bays, has been very helpful in maintaining the laptops that are used by students in the Geology and Astronomy laboratory classes.

I.E.4 #Staff Employees: 0

I.E.5 Changes in Employees/Resources: See narrative in I.E.3, above.

II.A Enrollment Trends: From 2016-17 through 2018-19, overall WSCH in the department has gone from 1085 to 830, but productivity has remained close to constant, going from 497 (in 16-17) to 488 (18-19). This is probably due to the fact that the strongest enrollment in the department has been in the online Oceanography classes.

II.B Overall Success Rate: Our overall success rate has increased from 77% to 80% in the last three years (16-17 to 18-19).

II.C Changes Imposed by Internal/External Regulations:

III.A Program Success:

III.B Enrollment Trends - Equity Lens: During the last three years (15-16 through 17-18), the percentage of Geology students from the targeted populations has remained steady at 41% - 44%, with a high of 44% in 2016-17. This is slightly above the College average during this time, of 36%-37%.

III.C Success, Non-Success and Withdraw Rates: Disproportionate impacts are documented for the African-American student group, with "All Students" having a success rate of 80%, as opposed to 57% for African-American students.

III.D Equity Planning and Support: The Geology department has traditionally provided lecture-lab classes for non-science majors

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seeking to fulfill CSUGE, IGETC, and De Anza G.E. science requirements. Strategies for improving success rates of targeted groups, as indeed for all students, will need to address this reality. Probably the best avenue to explore will be the modern methods of in-class formative assessments, also known as `lecture-tutorials`, `think-pair share`, and `clicker questions`. Only one faculty member thus far has had much exposure to these methods, and they have encountered challenges such as: 1) Technical difficulties with implementing in-class formative assessments in large lecture classes, and 2) Recently, their time has been devoted to creating and teaching the first online course in the Astronomy department.

Specific Suggestion / Plan: Instead of trying to acquire and maintain physical "clickers", the College could experiment with an institutional subscription to a smartphone-based, in-class polling system like PollEverywhere.com.

III.E Departmental Equity Planning and Progress: Professional development and technical support, aimed towards implementing modern methods of formative assessment in the lecture classroom, will probably be the most useful help that the department's full-time instructor can receive.

III.F Assistance Needed to close Equity Gap: Yes

IV. A. SLOAC Summary: The Geology department coordinator is currently working to plan a new SLO process for the Astronomy department, which has recently transitioned to being a department with most of its courses taught by part-time instructors. This will necessitate a si

IV.B Assessment Planning: Geology 10

V.A Budget Trends:

V.B Funding Impact on Enrollment Trends:

V.C.1 Faculty Position(s) Needed: None Needed Unless Vacancy

V.C.2 Justification for Faculty Position(s):

V.D.1 Staff Position(s) Needed: None needed unless vacancy

V.D.2 Justification for Staff Position(s)::

V.E Equipment Requests: No Equipment Requested

V.F Facility Request:

V.G Other Needed Resources:

V.H.1 Staff Development Needs: Currently the Geology and Meteorology Departments are participating in the NSF funded project SAGE 2-YC promoting change and best practices in undergraduate geoscience education at 2-year colleges nationally. Two faculty members have been participating in workshops at College of William

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and Mary in Virginia and the University of Wisconsin Madison.

Additional support for these and other faculty members to participate in the American Geophysical Union and Geological Society of America's national meetings would augment this drive in faculty development within the Earth Sciences at De Anza.

Here is an item that would have been placed under V.G "Other Needed Resources" if possible:

Replacement toner cartridges for the Astronomy/Geology laser printer in room S-14. This printer is used to print materials that are used in Astronomy and Geology classes, such as those used in the Astronomy 15 labs held next door in room S-15. Use of this printer saves on Xeroxing costs. This is an HP Color LaserJet CP5525.

V.H.2 Staff Development Needs Justification: Lower-division general-education courses in the sciences, particularly in the Earth Sciences, have been identified as "gateway" courses that draw members of underrepresented populations into STEM majors. DiLeonardo has been very active over the last two decades in National Science Foundation and NASA supported projects intended to improve undergraduate Geoscience education and impact STEM education nationally. Most recently a push has been to seek and employ strategies defined by ongoing research nationally that support those goals and push to a further goal of increasing the participation and better serving underrepresented populations in STEM. Over the last three years implementations of these methods in instruction has seen a steady 3 to 4% increase per year in success rates in Geology classes for members of targeted populations (see discussion above). The department asks the College to support our continuing success by directly supporting involvement of our faculty in national meetings and symposium. The additional benefits, beyond efforts to close the equity gap on the De Anza campus include our department's ability to disseminate our testing of these methods to the larger college and university populations across the country.

V.I Closing the Loop:

Last Updated: 02/02/2020

#SLO STATEMENTS Archived from ECMS: