




Dept - (PSME) Meteorology > Department > Program Review





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](mailto:papemary@fhda.edu).


✕



Dept - (PSME) Meteorology




2019-20 Annual Program Review Update Submitted By: Terrence Mullens



APRU Complete for: 2019-20



Program Mission Statement: The meteorology program provides students with an in-depth knowledge of Earth's atmosphere, its associated weather and global climate processes. The program enables students to understand the scientific, societal and economic impacts of weather with an emphasis on global warming and climate change.



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: Meteorology currently doesn't have any certificates or degrees. However, with the implementation of a new Climate Change class, the department is hoping to develop a "Climate Stewardship" certificate in collaboration with other departments on campus.











Furthermore, the department is exploring the possibility of developing an Earth Science associates degree in collaboration with Geology and Astronomy. Based on similar degree offerings at other colleges, our current course offerings would be sufficient to develop such a degree.


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


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

	 Dept - I.D.1 Academic Services & Learning Resources: #Faculty served: (PSME) Meteorology > Department > Program Review 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): 1.8
	I.E.2 #Student Employees:
	I.E.3 Full Time Load as a %: 55.3%
	I.E.4 # Staff Employees:
	I.E.4 #Staff Employees:
	I.E.5 Changes in Employees/Resources: No new changes in the past year.
	II.A Enrollment Trends: While there was a decline in enrollment in the 2016-2017 year, the overall enrollment has increased from 758 in 2014-2015 to 814 in 2018-2019.
	<p>During 2016-2017, our previous full time faculty member had retired, sending the department into a transition phase that was likely the greatest cause for the decline in enrollment, particularly in Fall, 2016, when we were unable to offer any face-to-face sections. However, enrollment has improved substantially in 2017-2018, and 2018-2019, and initial data for 2019-2020 suggests continued growth in enrollment.</p>
	<p>Enrollment in the popular online sections has continued to remain robust, and changes made to on-campus course offerings (primarily the conversion to a block schedule) have resulted in further increases in enrollment. Currently, all sections, including on campus sections are above capacity, so additional on-campus sections may be needed in the future to support demand. Furthermore, the department has implemented an online version of the Meteorology Laboratory course, which has shown robust enrollment.</p>
	<p>A key strength of the Meteorology department has been adaptation of its offerings for online students. Both Met 10 and Met 10L have seen strong growth due to online offerings, and future Meteorology courses (such as the new Met 12 Climate Change course and our Met 20L Climate Studies Laboratory) are already being developed for future online offerings (in addition to on-campus offerings).</p>
	<p>The introduction of a new course on Climate Change, combined with possible collaborations with Environmental Science to incorporate Meteorology courses into their degree/certificate programs could potentially help to further increase enrollment. The possibility of developing a degree in certificate mentioned in section I.B.6 could also contribute to future enrollment increases.</p>
	<p>II.B Overall Success Rate: The overall success rate decreased slightly from 87% in 2016-2017 to 84% in 2018-2019. The slight decline in success rates can be somewhat attributed to an increase in online offerings, which have historically had lower success rates. The department has increased the availability of both on-campus (additional office hours, optional orientation and review sessions) and</p>

	 Dept - remote (zoom teleconference sessions, streaming of review sessions) resources to target struggling online students. Furthermore, as enrollment in Meteorology courses has continued to improve, the department is beginning to seek the possibility of establishing
	<p>tutoring for Meteorology courses.</p> <p><b>II.C Changes Imposed by Internal/External Regulations:</b> Did not enact any changes relative to above.</p>
	<p><b>III.A Program Success:</b> The implementation of Open Educational Resources in Meteorology courses has made the courses more accessible to students. Additionally, the introduction of hands-on field activities in Meteorology courses has both increased student satisfaction , and has served as a way of making the program more visible to other potential students (who see our students in the field taking measurements).</p>
	
	<p><b>III.B Enrollment Trends - Equity Lens:</b> Enrollment of Targeted Groups has increased from 30% of all enrollment in 2015-2016 to 37% in 2018-2019, which is above the college average of 35%, and in-line with the other Earth and Space science departments (Geology and Astronomy). Meanwhile success rates for Targeted Groups have declined from 80% to 75% in that same time. The department believes that a portion of the increase in enrollment can be attributed to the introduction of lower cost and more accessible materials used in Meteorology courses while the slight decline in success rates can be attributed to the the stretching of resources that occurs as enrollment increases. The department is exploring the possibility of offering tutoring assistance and collaborating with counseling to both improve the enrollment and success rates of targeted groups.</p>
	
	
	
	<p><b>III.C Success, Non-Success and Withdraw Rates:</b> The Success Rates, Non-Success Rates, and Withdrawal Rates for each of the populations in 2018-2019 is as follows:</p>
	<p>African American: 58%, 20%, 22%</p>
	<p>Latinx: 75%, 12%, 13%</p>
	<p>Filipinx: 95%, 2%, 4%</p>
	<p>Pacific Islanders: 55%, 45%, 0%</p>
	<p>Native American: 67%, 33%, 0%</p>
	<p>Asian: 90%, 6%, 5%</p>
	<p>White: 85%, 8%, 7%</p>
	<p><b>III.D Equity Planning and Support:</b> 1. Incorporate assignments involving the contributions of meteorologists from diverse backgrounds. - Targeted groups: African American, Latinx, Filipinx, Pacific Islander, Asian Populations and Women.</p> <p>2. Develop a protocol where students who are struggling after the fourth week of class are individually contacted by the instructor to offer assistance. All Targeted Groups will benefit from this.</p> <p>3. Exploring the development of an OER/Free Textbook for all courses.</p> <p><b>III.E Departmental Equity Planning and Progress:</b> Incorporating more hands-on activities using weather equipment in the course will allow for our students, especially our targeted students, to get a better sense of how Meteorology can be applied to their lives, making our courses more interesting and engaging to them, which should help enhance our success rates. Additionally, incorporating a "Diversity in Meteorology" component to the course, where students learn about meteorologists and climate scientists from diverse</p>

	 Dept - backgrounds, can also help targeted students see science as more accessible. (PSME) Meteorology > Department > Program Review
	Enhanced Support for Students - The Meteorology Department has seen a substantial increase in enrollment over the last two years, while success rates have decreased slightly. We believe that the adding of a tutor who could hold additional office hours would be highly beneficial for students who are struggling.
	III.F Assistance Needed to close Equity Gap: Yes
	IV. A. SLOAC Summary: All SLO's for Meteorology were assessed in the 2017-2018 and 2018-2019 years.
	IV.B Assessment Planning: An SLO has just been implemented for the Meteorology Laboratory (Met 10L) course. This SLO will be assessed in both Winter and Spring, 2020. A new course (Met 12 - Introduction to Climate Change) will be launched in Fall 2020, and SLOs will be assessed in the 2020-2021 year.
	V.A Budget Trends: Funding has made it possible to continue maintaining the De Anza College Weather Station (including repairing the rain gauge prior to the 2017-2018 rain season). This data has been incorporated into both the lecture and laboratory courses.
	Funding was approved in 2018 to acquire 20 Kestrel Pocket Weather Instruments. Since the acquisition of the instruments, they have been used, quite effectively in class demonstrations and field activities. Students in the meteorology classes have shown higher levels of engagement and interest in course content when it has been followed up with a hands-on activity. Acquiring additional equipment, such as what is requested in this year's program review, could help further the attractiveness of the department's courses.
	V.B Funding Impact on Enrollment Trends: A decrease in equipment funding for Meteorology would hurt our ability to offer hands-on activities during lecture and laboratory courses, which would make understanding of difficult concepts more challenging.
	Furthermore, enrollment in all sections has been above capacity for the past three quarters, so a decline in funding could negatively impact the number of sections that we offer, and thus the number of students we can serve.
	V.C.1 Faculty Position(s) Needed: None Needed Unless Vacancy
	V.C.2 Justification for Faculty Position(s): There is an ongoing need to hire additional PT instructors to expand offerings of the popular online Meteorology and Meteorology laboratory courses. Now that the new FT faculty has successfully completed the initial two phases of the tenure process, he is comfortable teaching additional online sections to meet demand.
	V.D.1 Staff Position(s) Needed:
	V.D.2 Justification for Staff Position(s)::
	V.E Equipment Requests: Equipment resource requests listed on spreadsheet
	V.F Facility Request: No resource for facilities requested
	V.G Other Needed Resources: Resource requests listed on spreadsheet



 Dept - (PSME) Meteorology > Department > Program Review  
V.H.1 Staff Development Needs:  
V.H.2 Staff Development Needs Justification:

V.I Closing the Loop: All SLOs will be re-assessed after the implementation of requested resources, and success rates will continue to be closely monitored following implementation of requested resources.

Last Updated: 02/07/2020

#SLO STATEMENTS Archived from ECMS: