

2020 Instructional Program Reviews



CAN Program Review (Instructional) - Earth Science (Fall 2021)

STEP 1: Annual Updates

2020-2021

1. Changes & Updates: The most significant update is the retirement of long-time adjunct Kimberly Kirchoff-Stein. She was an excellent instructor who built up the OCEN course offerings significantly. She also helped some with departmental planning, SLOs, and equipment/supply requests, and equipment maintenance. She will be missed. To cover her classes, we have hired 3 new adjuncts, which will mean significant mentoring and evaluation tasks for the department's one full-time faculty member, which will take time away from working on our existing program goals/objectives.

As note in our 2019/20 update, overall we are pleased with the new space in Building 23. I haven't been in the classroom since Feb, but I don't believe the two issues associated with the new instructional space have been resolved (i.e. inclusion of a triple whiteboard on the side wall and the installation of a new map flat file on top of our existing file.

Additionally, obviously, COVID has made our jobs more difficult, as earth science classes rely heavily on face-to-face labs and field trips.

2. Progress Reports: In our last program review, the Earth Science program identified 7 Objectives to be completed through Fall 2021, and we also noted the objectives would be difficult/impossible to achieve without release time. If little progress was made in 2019/20, our intention was to develop a release time request for 2020/21. We have made little progress over the last year, in part because the move to online classes due to COVID consumed huge amounts of time in Spring 2020 and Summer 2020. We also did not have time to develop a release time request... and it seems unlikely to be funded given the current budget situation.

Earth Science Objectives:

1. Revise current Environmental Science AS degree – no progress
2. Create a Geology AS-T degree – no progress
3. Create a lab class (ENVS 101) to accompany ENVS 115 - completed
4. Develop print and online marketing materials for Earth Science programs – no progress
5. Explore the development of a CTE program of ENVS – no progress
6. Collaborate with STEM Center to improve student success and develop pathways for first semester student – initiated, but not completed
7. Improve student success by increasing hands-on activities and student research opportunities in our classes. – initiated (equipment was purchased), but not completed

Objective #1 is increasingly important as the college moves to pathways and publishes the program mapper. Additionally, demand for ENVS knowledge/skills continues to increase as environmental issues related to climate change, water resources, and fires increase locally, state-wide, nationally, and globally. For objective #1, currently we have two redundant degrees that will lead to some confusion for students. We need to add the ENVS AS-T to the program mapper, revise the ENVS AS degree and then amend the ENVS AS degree program mapper. These changes would likely lead to a significant increase the number of students who complete ENVS degrees, and it will likely help "catch" students who don't persist in other STEM degree programs.

Objective #2 is also increasingly important as the college moves to pathways and publishes the program mapper. Further, as noted in our 2018/19 program review, offering an AS-T would likely help "catch" students who don't persist in other STEM

degree programs.

Objective #4 and #5 are best addressed after we finish objectives #1 and #2. Also, perhaps the new "areas of interest" structure will facilitate some collaboration and assistance in accomplishing these two objectives.

Objective #6 is related in part to objectives #1 and #2... especially now that the college is publishing the program mapper. We will work with the STEM Counselor to update the program mapper, and we will work with other STEM Center staff to better connect our students with STEM Center tutoring and programs.

Objective #7 is much more difficult in a completely online class environment. We have new microscopes, but students are not in the lab to use them. We have not yet ordered the classroom set of globes, though they will be needed for GEOG 101. We have also not been able to finish our inventory of our rock/mineral/fossil samples. Additionally, we did not yet identify our needs for updating landforms and posters. Most of this objective will have to wait until we return to campus post-COVID.

3. Rationale for New Goals: We have no new goals, rather we are still working on the goals from the previous year.

Annual Update Status: Complete

Goal Description: Revise Environmental Science AS Degree

The current AS degree was designed prior to the approval of our ENVS AS-T, and now the two degrees are redundant. The new ENVS AS degree will have slightly fewer required science courses and more skill-based electives. The degree will be designed to facilitate transfer to our local CSU ENVS programs, some of which require fewer classes than indicated on the ENVS AS-T. As noted in section 3 of our program plan, there is a need in California (and our local area in particular) for workers with 4-year degrees in ENVS. Further, (as noted in section 7 of our program plan), our ENVS AS-T and ENVS AS degrees may be able to help "catch" students who do not persist in some of the other STEM fields. This objective will be completed when we launch a revised ENVS AS degree.

Goal Status: 2 - Continuing (PR)

Relevant Program Review Cycle: 2019-2020, 2020-2021

Estimated Start Date: 06/03/2019

Estimated Completion Date: 06/30/2021

Who's Responsible for this Goal?: Susan Mahoney

Please select the college goals with which your program goal aligns.: Student Completion/Success - Provide educational and student services programs that highlight inclusivity, diversity, and equity in their mission to help students meet their unique educational goals and minimize logistical and financial barriers to success.

Please select the college strategic initiatives with which your program goal aligns.: Develop Clear Pathways, Improve Student Completion, Partner with 4-Year Colleges and Universities, Implement Guided Pathways

Action Plans

- 2019-2020** - 1. Review 3 or more local CSU ENVS program degree requirements.
2. Develop curriculum outline for the degree.
3. Input into Curricunet and go through the curriculum review process.
4. Work with articulation officer to submit to state. (Active)

Who's Responsible for Completing this Action Plan?: Susan Mahoney

Estimated Completion Date: Fall 2021

2019-2020 - Consider developing a reassign time request to complete program objectives 1-5. Several of these objectives have languished for years due to lack of time. (Active)

Goal Description: Create Geology AS-T degree

A Geology AS-T degree will help us attract and retain students, and importantly it will help facilitate student transfer to 4-year

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schools. Currently, we lose interested students to other schools. Students who know they have an interest in geology are less likely to attend Canada, and students who find a passion for Geology after taking a class are likely to move on to a school that offers an AS-T. Additionally, as with our two Environmental Science degrees, a Geology AS-T degree program can likely help "catch" students who are not persisting in other STEM fields (e.g. engineering). (See section 7 above.) Many second or third semester engineering students already have all but one or two of the required Geology AS-T courses completed. The Geology AS-T has few classes, so it is a relatively easy degree to complete and it facilitates successful transfer. Additionally, as noted in section 3 above, there are significant job opportunities in California (and our local area in particular). Interestingly, in many cases professional geologists work alongside professional engineers in consulting firms and at construction sites. This objective will be completed when we launch a GEOL AS-T degree.

Goal Status: 2 - Continuing (PR)

Relevant Program Review Cycle: 2019-2020, 2020-2021

Estimated Start Date: 06/01/2019

Estimated Completion Date: 06/30/2021

Who's Responsible for this Goal?: Susan Mahoney

Please select the college goals with which your program goal aligns.: Student Completion/Success - Provide educational and student services programs that highlight inclusivity, diversity, and equity in their mission to help students meet their unique educational goals and minimize logistical and financial barriers to success.

Please select the college strategic initiatives with which your program goal aligns.: Develop Clear Pathways, Improve Student Completion, Partner with 4-Year Colleges and Universities, Implement Guided Pathways

Action Plans

- 2019-2020** - 1. Create Historical Geology course with lab.
2. Use Geology TMC to create Geology AS-T.
3. Input into Curricunet and go through the curriculum review process.
4. Work with articulation officer to submit to state. (Active)

Who's Responsible for Completing this Action Plan?: Susan Mahoney

Estimated Completion Date: Fall 2020

2019-2020 - Consider developing a reassign time request to complete program objectives 1-5. Several of these objectives have languished for years due to lack of time. (Active)

Goal Description: Develop print and online marketing materials for Earth Science department programs.

We need to showcase our program and course offerings, and we especially need to advertise our ENVS and GEOL degree programs. (See section 7 above regarding warding off declining enrollment.) Thoughtful marketing materials and a recruitment plan will help increase underrepresented minority students in our classes and degree programs. (See section 8A above.) Recruitment needs to be done on campus and at our local feeder high schools. (See section 1 above.) We also need further collaboration with our college recruiter and our campus support programs (e.g. EOPS, BTO, Promise, etc..)

Goal Status: 2 - Continuing (PR)

Relevant Program Review Cycle: 2020-2021

Estimated Start Date: 08/01/2020

Estimated Completion Date: 12/31/2022

Who's Responsible for this Goal?: Susan Mahoney ... with help from Marketing

Please select the college goals with which your program goal aligns.: Student Completion/Success - Provide educational and student services programs that highlight inclusivity, diversity, and equity in their mission to help students meet their unique educational goals and minimize logistical and financial barriers to success., Community Connections - Build and strengthen collaborative relationships and partnerships that support the needs of, reflect, and enrich our diverse and vibrant local community.

Please select the college strategic initiatives with which your program goal aligns.: Develop Clear Pathways, Improve Student Completion, Enhance Marketing

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Action Plans

2020-2021 - Create marketing materials for Earth Science Department programs, specifically the ENVS AS-T, ENVS AS, and GEOL AS-T. Start and completion dates are contingent on completing the degree programs. Also, we need lots of help from Marketing, as we know little/nothing about creating promotional materials. (Active)

Who's Responsible for Completing this Action Plan?: Susan Mahoney... and help from Marketing
Estimated Completion Date: Fall 2021

2019-2020 - Work with college recruiter to reach out to local feeder schools. (Active)

2019-2020 - Consider developing a reassign time request to complete program objectives 1-5. Several of these objectives have languished for years due to lack of time. (Active)

Goal Description: Explore the development of a CTE program for ENVS.

Labor statistics indicate there is demand for Environmental Science Technicians in California and especially in the SF Bay Area. Much more research and community networking is needed in order for us to develop a successful program. (See section 3 in our program review.) We will work with the Director of Workforce Development to help develop our programs.

Goal Status: 2 - Continuing (PR)

Relevant Program Review Cycle: 2020-2021, 2021-2022

Estimated Start Date: 01/01/2020

Estimated Completion Date: 12/31/2022

Who's Responsible for this Goal?: Susan Mahoney ... with help from Director of Workforce Development

Please select the college goals with which your program goal aligns.: Student Completion/Success - Provide educational and student services programs that highlight inclusivity, diversity, and equity in their mission to help students meet their unique educational goals and minimize logistical and financial barriers to success., Community Connections - Build and strengthen collaborative relationships and partnerships that support the needs of, reflect, and enrich our diverse and vibrant local community.

Please select the college strategic initiatives with which your program goal aligns.: Develop Clear Pathways, Improve Student Completion, Connect Students with Internships and Mentorships, Build Relationships with Employers

Action Plans

2019-2020 - Contact Director of Workforce Development for assistance on how to move forward. (Active)

2019-2020 - Consider applying for reassign time to research and develop this program (Active)

Goal Description: Collaborate with STEM Center to improve student success and develop pathways for first semester STEM students.

We need to establish in-person and online tutoring in all of our disciplines. This will improve student recruitment, retention and success. (See section 8A above.) Additionally, we plan to work with the STEM Center to develop pathways that include GEOL or ENVS for first year STEM students. This can simultaneously help identify students interested in earth science, provide an option for students who later do not persist in some of the other STEM fields (See section 7 above), and also increase the number of male students taking our classes. (See section 8A above.)

Goal Status: 2 - Continuing (PR)

Relevant Program Review Cycle: 2019-2020, 2020-2021

Estimated Start Date: 01/01/2019

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Estimated Completion Date: 12/31/2021

Who's Responsible for this Goal?: Susan Mahoney ... with help from STEM Center

Please select the college goals with which your program goal aligns.: Student Completion/Success - Provide educational and student services programs that highlight inclusivity, diversity, and equity in their mission to help students meet their unique educational goals and minimize logistical and financial barriers to success.

Please select the college strategic initiatives with which your program goal aligns.: Develop Clear Pathways, Improve Student Completion, Connect Students with Internships and Mentorships, Implement Guided Pathways

Action Plans

2018-2019 - Attend STEM Center Staff meeting and/or otherwise connect with STEM Center on this issue. (They are already working on it.) (Active)

2019-2020 - Contact Learning Center and STEM Center to inquire about how to set up tutoring. (Active)

Goal Description: Improve student success by increasing hands-on activities and student research opportunities in our classes.

Hands-on activities in our lecture classes increase student interest and success. (See sections 6A and 9B.) Further authentic research opportunities based on student interest are also likely to increase interest and success. To facilitate more hands-on activities and research opportunities we need to purchase laboratory equipment and supplies.

Last year we purchased microscopes which have expanded opportunities for student learning in Geology and Oceanography lab classes, and they will also be used in our future Environmental Science Lab.

We have included globes on our resource request for several years and we have had problems finding a good supplier. We backed off on this request recently, but now we are planning to offer the new Physical Geography Lab, so the globes are needed.

Goal Status: 2 - Continuing (PR)

Relevant Program Review Cycle: 2020-2021

Estimated Start Date: 01/01/2021

Estimated Completion Date: 06/30/2021

Who's Responsible for this Goal?: Susan Mahoney with help from Division Assistant

Please select the college goals with which your program goal aligns.: Student Completion/Success - Provide educational and student services programs that highlight inclusivity, diversity, and equity in their mission to help students meet their unique educational goals and minimize logistical and financial barriers to success.

Please select the college strategic initiatives with which your program goal aligns.: Improve Student Completion

Action Plans

2018-2019 -

1. Purchase equipment for 2019/2020 academic year.
2. Work with honors students, regular students, and other faculty to develop individual or group research projects in our classes.
2. Document use of new equipment.

(Active)

Who's Responsible for Completing this Action Plan?: Susan Mahoney and Kimberly Kirchoff-Stein

Estimated Completion Date: Spring 2020

Resource Requests

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Set of 8 durable, accurate globes: six-12 inch globes with clearview mounting and two 12-inch globes with full-swing meridian -
Needed for GEOG 100 and new GEOG 101 lab

Status: Continued Request - Active

Type of Resource: Supplies (Items less than \$5000)

Cost: 1020

One-Time or Recurring Cost?: One-Time Cost

Critical Question: How does this resource request support closing the equity gap?: *

Critical Question: How does this resource request support Latinx and AANAPISI students?: *