

## EXTERNAL EVALUATION REPORT FOR THE DEPARTMENT OF GEOLOGICAL SCIENCES PPR

The external evaluation of the Department of Geological Sciences occurred on March 4<sup>th</sup>, 2022.

The external evaluation team included the following members:

- Dr. Claire Todd – Chair, Department of Geological Sciences, CSU San Bernardino
- Christine Irwin – Alumnus and Earth Science Educator
- Dr. Merri Lynn Casem – Chair, Department of Biological Science, CSU Fullerton

The evaluation team met with the following individuals during their visit:

- Dean Marie Johnson and Associate Dean Sean Walker
- Dr. Adam Woods – Chair, Department of Geological Sciences
- Department staff
- Tenured and Tenure-track GEOL Faculty
- GEOL Lecturers and Graduate Teaching Associates
- GEOL Undergraduate and Graduate students

**Strengths** that were identified include:

- Commitment to student success
  - The department's undergraduate thesis requirement is labor-intensive for faculty, but high impact for students and a valuable avenue for student engagement with the department.
  - Research Day and Alumni Dinner are effective community building events for faculty, staff, students and their families.
    - Research Day gives majors practice in scientific communication and prepares students for future professional presentations.
    - The Alumni Dinner sustains the sense of community within and beyond the department while also serving as a fundraising event.
  - The department is committed to authentic engagement with questions of diversity, equity and inclusion; participation in the URGE program will provide valuable resources for future DEI work.
  - Student perceive the department community as “a family,” and cite the department as the reason they continued their studies at CSUF.
- Culture of collegiality
  - Tenure-track and tenured faculty feel supported and enjoy working with the department toward shared goals.
  - Department staff express satisfaction with their work environment, particularly aspects of their work that involve interacting with students.
- The department is recognized by external employers for providing highly qualified workforce; faculty are often contacted by employers seeking applicants from CSUF Geological Sciences students.
- The department maintains a strong connection to its alumni.
- The department has implemented an effective field-based curriculum and research program. Field experiences are a critical component of a Geological Sciences degree; indeed, the CA geologist licensing board requires undergraduate field courses.

- Continued support for field and undergraduate research experiences (including sufficient staffing, space, and funding) will be essential to the program's continued success.

**Areas of Opportunity** that we see for the department include:

- Build on the department's commitment to DEI:
  - Provide professional development opportunities specific to DEI for tenured/tenure-track, part-time faculty and graduate teaching assistants.
    - Leverage existing GEOL faculty expertise (Bonuso – Elevar workshop) as well as CNSM and campus resources.
  - Develop more nuanced measures of success for students, faculty, and staff.
  - Use institutional data to identify equity gaps, and to prioritize work in specific classes or in support of specific student groups.
  - Align DEI-related goals with student learning, recruitment, and retention goals
  - Engage lecturers in departmental DEI efforts to establish a culture of inclusion throughout the department.
  - Integrate DEI-related approaches into future hiring plans.
- Consider how future hires could reflect changes in the field and align with student interests in the intersection of geology and earth science with global climate change, and a move away from the historic focus on oil exploration.
- Develop a more refined assessment plan.
  - The measures described in the self-study are general and may lack the resolution needed to identify actions that would improve student learning.
  - A more refined assessment plan could support DEI and student success initiatives identified by the department.
  - Leverage the expertise of recent hires to lead these assessment efforts.
    - Recognize scholarship associated with this work in the RTP process.
- Include introductory courses such as GEOL 101 in recruitment, student success and DEI initiatives
  - Evaluate possibility of moving GEOL 101L to a "low cost/no cost" course by eliminating or reducing the lab manual cost for students.
  - Examine the alignment of the GEOL101L lab manual with the current lab curriculum. The use of the lab manual differs between sections suggesting that the lab-based instruction experienced by the students is also variable.
  - Ensure that student learning objectives for GEOL 101L align/supplement student learning objectives in GEOL 101 lecture. This would promote consistency and student success in GEOL 101L.
  - Communicate broader departmental goals to GEOL 101 and 101L instructors.
- Evaluate the role of the B.A. in Earth Science in your program

- Identify ways to improve engagement with BA students, particularly those who do not take advantage of the optional thesis opportunity.
  - Leverage pre-service teachers with community outreach to enhance visibility of the CSUF GEOL major and GEOL career options to K-12 and community college students. The proposed Peer Mentor program could play a similar role, in addition to supporting GEOL major student success.
  - Revisit the learning outcomes for the BA degree, which are nearly identical to the BS outcomes. Changes may not be required, but the two degrees appear to serve a different student population with different career goals from BS students.
- Establish a MA program (project-based vs thesis) to create options for students who otherwise end up in Environmental Science and for professional development for career advancement.
    - Explore options for additional support for graduate students including but not limited to tuition fee waivers to ensure equitable and inclusive access to the degree program.

**Areas of Concern** that we would urge the department to prioritize include:

- More intentional coordination of GE courses; our review suggests the following:
  - Inconsistency in the implementation of course-specific student learning outcomes. Lecturers may benefit from improved guidance in the development and delivery of their courses.
  - Inconsistency between lab sections resulting from absence of oversight; in particular, the use and requirement of a lab manual for introductory courses varies across sections.
  - Consider the use of peer-observations and feedback especially for new lecturers.
  - Consider the role of GE lecturers and curriculum in the department's recruitment and DEI-related goals.

### **Summary Statement**

CSUF Geological Sciences is a highly effective department, with a strong commitment to student success and sense of community among faculty and students alike. Department faculty and staff collaborate to deliver a high-impact curriculum, particularly through field experiences and undergraduate research projects; and to build community through annual events, and advising and outreach to individual students. We hope the opportunities and concerns listed above help the department achieve the ambitious goals described in their program performance review.