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## **Program Review Report**

**Program: AAS Chemistry**

**Department: Biology, Chemistry, and Environmental Sciences (BCES)**

**Review Date: February 4, 2022**

### **Summary**

A program review for the Associate of Applied Sciences, Chemistry, was presented to the Program Review Committee by Mr. Joaquin Gallegos from BCES.

The catalog shows that the broad-based program's primary goal and description are ambiguous.

The calculated three-year average of declared student enrollment in the program is 1.7 (headcounts) per semester, and the three-year graduation average is 0.33 students per year. The one-year fall 2019 -to-fall 2020 retention rate is 100%, while the Spring 2021 150%-time graduation rate is 100%. Although retention is high, the review showed that students take three years to complete the program.

According to the analysis done by Gray Associates' Program Demand software, the program has a strong student demand for the Chemistry Technician CIP code but only a 50% for Chemical Process Technology CIP Code. Still, it is in the 83-89% percentile for employment in the region.

The program economics based on Gray Associates' software shows a positive contribution margin (including overhead) of \$3.8K for this program from AY 16-17 to AY 19-20. Moreover, the difference between gross revenue and instructional cost (after discounts) is approximately negative \$3.5K for the same period. The ratio for the three-year average between gross revenue and the instructional cost is 2.16. This ratio means that the program is sustainable, mainly because it is a subset of a bachelor program, and the faculty cost spreads among more programs.

During the presentation, concerns with the lack of maintenance and the conditions of the lab facilities were discussed. Similarly, a lack of compliance was found since the program has mandatory upper-division courses for an associate degree program.

Finally, the Strategic Program enrollment plan is still in progress, presented in the self-study report.

### **Recommendations**

The main concern for this program is the need for higher enrollment, and the following recommendations reflect this concern:

1. The program must substitute any mandatory upper-division courses in the program immediately. This has to be completed by April 2022.
2. A catalog description needs to be re-developed to be descriptive enough of what this program will provide to students in terms of skills. This needs to happen immediately and be ready for the next catalog.
3. Establish an External Advisory Committee (EAC) no later than May 31, 2022. In collaboration with the faculty and the EAC, finalize a concrete Strategic Plan no later than Dec 31, 2022, with short/long term goals and enrollment and education quality objectives for this program. During the development of a Strategic Plan, the program probably needs to reconsider if an associate degree in this field is required or whether a certificate could replace it. It is essential to use Gray Associates Data to identify a possible niche for the program that may attract more students.
4. The program leadership needs to discuss a plan to maintain the Chemistry labs that may be affected by damage with the VP for Finance & Administration, Facilities, and the Provost.
5. Continue working on the current Student Learning Outcome Assessment process, emphasizing developing action plans for improving the program. The program needs to be strategic on the data collection but make a better effort in program improvement. As a short-term milestone, the program must report improvement plans in its Annual Report on July 2022.
6. Develop dual credit pathways and a Strategic Enrollment Plan for the program. This needs to be completed by June 2022.
7. The program leadership must present an interim report on enrollment data by June 2025.