Program Review Update Report

2025 - 2026

SKY Dept - Biotechnology

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12/09/2025

SKY Instructional Program Review Update

Submitter Name:
Jing Folsom; Nick Kapp

Submitter Date:
11/14/2025

DIVISION:
Science, Technology, Engineering, and Mathematics (STEM)

PROGRAM NAME:
Biotechnology

YEAR OF REVIEW:
2025 -2026

1. STUDENT LEARNING OUTCOMES

What notable conclusions were drawn from the assessment results? If available, note any differences in assessment results by key disaggregations (e.g. modality, learning communities, etc.). What have been the implications for the program? Specific questions to answer in your response:
i. What percentage of course SLOs have been assessed in the last three years?
Number of Course SLOs:
46

Percentage:
65.2

ii. Which course(s) were assessed in the last three years?
BTEC 150, 170, 171, 210, 220

iii. Degree-bearing programs are expected to assess Institutional SLOs, ideally during each ISLO's featured year. List which course(s) were assessed for which ISLOs in the last three years.
Effective communication/information literacy were accessed using BTEC 170/171 (Fall 2024) final project CRISPR/Cas 9

iv. Drawing from course and institutional SLOs results, what notable conclusions were drawn? Which results led to action(s) that were planned or taken, if any, to enhance student learning in those courses?
Although on-campus enrollment in biotechnology courses was low during the 2022–2025 academic years, student performance remained strong. All enrolled students successfully met the course-level SLOs, particularly in core laboratory competencies, safety practices, and foundational biotechnology skills. These results demonstrate that the program continues to deliver high-quality instruction and maintains strong alignment with Institutional SLOs even with smaller class sizes.

However, the review period also revealed significant challenges that affected faculty continuity and overall program participation in assessment. From 2022–2025, the program experienced reduced faculty capacity:

Jing Folsom was reassigned to serve as Interim STEM Dean for two years, reducing direct instructional and program-leadership involvement.

Nick Kapp was on sabbatical leave for one year, further limiting available full-time faculty participation.

As a result, assessment activities, program coordination, and curriculum updates were more difficult to sustain, and participation in SLO review cycles was lower than in typical years. Despite these constraints, the available SLO data still showed that students who were enrolled achieved the intended learning outcomes.

2. CURRICULUM

Please indicate whether the following tasks have been completed:

Submitted a current assessment calendar with all active courses to the Office of Planning, Research, and Institutional Effectiveness
Yes

Updated the Improvement Platform with new and/or changed SLOs, after approval by the Curriculum Committee
Yes

Updated the program website with new and/or changed PSLOs after they are published in the College Catalog
Not Applicable

Reviewed, updated (as needed), and submitted degree and certificate maps to the Curriculum Committee
Not Applicable

3. ADDITIONAL INFORMATION

Please note anything else that has not been captured above that is relevant to program accomplishments, challenges, and resource needs. Explain and document your response as needed.
We have strong enrollment in our dual-enrollment biotechnology classes at the local high schools; however, most of these students plan to attend four-year universities directly after graduation. As a result, on-campus enrollment in our Biotechnology and Biomanufacturing programs remains low. Even when some dual-enrollment students do choose to attend Skyline, many do not declare biomanufacturing as their major.

Through the NSF-supported BABEC internship grant, which focused on high school seniors, students were surveyed about their experiences and their interest in continuing biotechnology at Skyline. BABEC identified several key challenges and provided recommendations (see uploaded PPT). According to their findings, while students reported overwhelmingly positive experiences with high school biotechnology, many were unclear about how biotechnology fits into a transfer plan, and only a small number expressed interest in completing an AS degree or certificate.

In response to these recommendations, we have begun adjusting our program and course offering schedule. This includes offering BTEC 220: Cell Culture and Protein Recovery in Fall 25 to create clearer, more accessible pathways for certificate completion and transfer preparation. We are also working to strengthen our internship options and better communicate how biotechnology can be integrated into UC/CSU transfer pathways. In addition, we are exploring the possibility of modifying our program title to better align with current workforce trends.

Related Documents
Skyline Advisory Board Presentation 5.21.25.pptx

Goals & Resource Requests

Job Placement

Record the number of students who obtain a job placement. Look to increase every year.

Year Initiated
2022 - 2023

Goal Status
Active

Implementation Step(s) and Timelines
fostering partnerships with industry. Obtaining Grants. Connecting with industry partner work with dual enrollment and collect their feedback

Mapping
- SKY Strategic Goals: *(X - Hightlight Selected)*

- **Increased Student Enrollment:** Increase student enrollment by being responsive to communities we serve (**X**)
- **Student Support and Resources:** Ensure that all students have the support and resources needed to achieve their educational goals (**X**)

UPDATE

Goal Update Date
11/14/2025

Academic Year Updated
2025 - 2026

Goal Update
Behind Schedule

Goal Update Narrative
Still lacking a good connection with local industry. Need support from College and District to build sustainable relationship with local industry.

Resource Request

Division Name
Science, Technology, Engineering, and Mathematics (STEM)

Year of Request
2025 - 2026

Resource Type
Student, Aides, Hourly, or Temporary Workers

Resource Name
Student Project Managers

Resource Description
Student Project Managers to hire from Biotech certificate students in order to give them work experience.

Funds Type – Mark all that apply.
Categorical, Grant Funded

Briefly explain how this request helps to advance the goals and priorities of your program, the College, the District, and/or the California Community College Chancellor's Office.
Students gain work experience that is needed for their certification. Part of the CCCD work experience.

Cost
2,000

Level of need, with 1 being the most pressing
1

Goals & Resource Requests

Increase student enrollement

Historically participation of students in on campus (Skyline College) certificate and degree programs has been low. In the single digits. Participation in the dual enrollment programs have been high. We need to increase our enrollment of students and matriculation of students to skyline. We are currently working with Michael Fuller from BABEC to help with this process.

Year Initiated
2023 - 2024

Goal Status
Active

Implementation Step(s) and Timelines
Student Family Day at Skyline College in the spring, CTE day, Summer Paid internship for Seniors from High school

Mapping
- SKY Strategic Goals: *(X - Hightlight Selected)*

- **Antiracist and Equitable Institution:** Be an antiracist and equitable institution (**X**)
- **Increased Student Enrollment:** Increase student enrollment by being responsive to communities we serve (**X**)
- **Student Support and Resources:** Ensure that all students have the support and resources needed to achieve their educational goals (**X**)
- **Thriving Environment:** Foster a thriving learning and work environment (**X**)
- **Fiscal Stability:** Ensure fiscal stability to support the College mission and maintain public trust (**X**)

UPDATE

Goal Update Date
11/14/2025

Academic Year Updated
2025 - 2026

Goal Update
Behind Schedule

Resource Request

Division Name
Science, Technology, Engineering, and Mathematics (STEM)

Year of Request
2025 - 2026

Resource Type
Classified Professional/Administrator Position (permanent)

Resource Name
Collaboration work

Resource Description
collaboration with dual enrollment team /counselors at HS and Skyline to guide dual enrollment students to our program

Funds Type – Mark all that apply.
Recurring Cost

Briefly explain how this request helps to advance the goals and priorities of your program, the College, the District, and/or the California Community College Chancellor's Office.
We have huge dual enrollment student population, but our on campus enrollment is low. We should work collectively to guide students come to us.

Cost
2,000

Level of need, with 1 being the most pressing

Goals & Resource Requests

1

Internship program

An internship program is designed to significantly enhance student learning, engagement, and long-term success. By providing structured, work-based learning opportunities, the program aims to:

Strengthen Technical and Professional Skill Development
Students gain hands-on experience applying classroom and laboratory knowledge in real industry settings. This strengthens their technical competencies, problem-solving abilities, workplace communication skills, and overall readiness for employment in biotechnology or related fields.

Improve Career Clarity and Confidence
Exposure to authentic workplace environments helps students understand industry expectations, explore different roles, and refine their academic and career goals. Students report increased confidence in their abilities and clearer understanding of which pathways—certificates, degrees, or transfer—best fit their aspirations.

Enhance Employability and Workforce Transition
Internships provide students with résumé-worthy experience, professional networks, and references that directly improve job prospects. Employers often prefer candidates with prior hands-on experience, and internships can serve as a direct pipeline to full-time employment.

Boost Student Persistence and Completion
Work-based learning is strongly associated with increased motivation, course retention, and program completion. When students can directly see the relevance of their coursework to real-world applications, they are more likely to stay engaged and finish their academic goals.

Support Institutional SLOs
Internships reinforce multiple ISLOs—including Critical and Creative Thinking, Effective Communication, Community Engagement, and Information Literacy—by providing practical contexts in which students can demonstrate and strengthen these competencies.

Year Initiated
2025 - 2026

Goal Status
Active

Implementation Step(s) and Timelines

Goals & Resource Requests

Phase 1: Planning & Foundations (Months 1–3)

1. Define program goals and scope

Identify target student groups (certificate, degree, dual-enrollment, returning adults).

Determine the number of internship slots needed annually.

Establish intended student learning outcomes and alignment with ISLOs.

2. Conduct stakeholder consultation

Meet with faculty, counseling, CTE office, and industry partners.

Confirm workforce needs, required skills, and feasible internship roles.

Phase 2: Partnership Development (Months 3–6)

3. Build or formalize industry partnerships

Conduct outreach to biotech companies, labs, and research institutions.

Present internship framework, expectations, and wage structure.

Identify supervisors, project descriptions, and possible hiring timelines.

4. Establish agreements and compliance

Work with college HR and legal to create or update MOUs.

Confirm liability coverage, onboarding requirements, and site expectations.

Deliverables: Partner commitments, signed agreements, internship project descriptions.

Phase 3: Program Infrastructure (Months 5–8)

5. Develop student recruitment and application processes

Create a clear eligibility checklist (completed courses, GPA, skills).

Build an online application portal or simple submission form.

Develop a selection rubric for equitable screening.

6. Create program materials

Internship handbook (expectations, professionalism, reporting).

Employer supervisor guide (mentorship, evaluation expectations).

Student orientation materials (safety, communication, timesheets).

7. Establish tracking and assessment systems

Define assessment measures linked to SLOs and ISLOs.

Set up systems to track hours, and learning outcomes.

Goals & Resource Requests

Deliverables: Recruitment materials, handbooks, orientation modules, assessment plan.

Phase 4: Pilot Cohort Launch (Months 9–12)

8. Recruit and select students

Promote opportunities in classes, newsletters, counseling, and high schools.

Conduct interviews and finalize placements.

9. Train and onboard interns

Deliver student orientation (workplace expectations, confidentiality, safety).

Confirm payroll setup for student hourly compensation.

10. Begin internship placements

Students begin 8–12 week placements.

Program coordinator conducts check-ins with students and supervisors.

Deliverables: First student cohort placed in paid internships.

Phase 5: Evaluation and Improvement (Months 12–15)

11. Collect evaluations and SLO evidence

Supervisor evaluations of student performance.

Student reflections linked to SLOs and ISLOs.

Employer feedback on skill gaps or strengths.

12. Review data and adjust program design

Identify improvements needed (scheduling, preparation, placement matching).

Adjust curriculum or pre-internship training based on feedback.

Deliverables: End-of-year report, recommended improvements, next-year plan.

Overall 15-Month Timeline (Summary)

Phase	Timeline	Key Actions
1. Planning	Months 1–3	Goals, funding, stakeholder input
2. Partnerships	Months 3–6	Industry outreach, agreements
3. Infrastructure	Months 5–8	Recruitment, materials, assessment system
4. Pilot Launch	Months 9–12	Student selection, onboarding, placements
5. Evaluation	Months 12–15	Assess results, refine program

Mapping

- SKY Strategic Goals: *(X - Hightlight Selected)*

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- **Thriving Environment:** Foster a thriving learning and work environment (**X**)

Goals & Resource Requests

Resource Request

Division Name
Science, Technology, Engineering, and Mathematics (STEM)

Year of Request
2025 - 2026