

El Camino College
Natural Sciences Division
Biotechnology Advisory Board Meeting Minutes

Date: March 25, 2024

Time: 3:00-4:00pm

Location: Zoom

Participants:

Amy Grant (Dean of Natural Sciences, El Camino College)

Carlos Lopez (Vice President of Academic Affairs, El Camino College)

Jose Anaya (Dean of Community Advancement, El Camino College)

Mia Dobbs (Full-time Anatomy and Physiology Faculty, El Camino College)

Eduardo Ayala (Full-time Biotechnology Faculty, El Camino College)

Arturo Hernandez (MESA Program & STEM Center Director, El Camino College)

Chris Martin (Senior Director of Production, Bachem)

Fang Wang (Associate Professor of Biology, CSUDH)

Megan DeLong (Biomedical Science Pathway Faculty, El Segundo High School)

Joel Espejo (US Head of Human Resources, PolyPeptide Laboratories Inc.)

Lequina Miles (Senior Director, Quality Assurance and Regulatory Affairs, Phenomenex)

Sheldon Schuster (President, Keck Graduate Institute)

Amy Grant opened the meeting at 3:00 pm. After introductions, **Amy Grant** facilitated the meeting agenda as follows:

Agenda

- I. Approved Agenda
- II. Welcome and Introductions
- III. Recap of minutes from the last Biotechnology Advisory Board meeting
 - a. Overview of certificates and degree
 - b. Equipment
 - c. Student pipeline
 - d. Programs we participate In
- IV. Today's Biotechnology Advisory Board Topics:
 - a. Review of Courses and Curriculum
 - b. Generating Student Interest
 - c. Grant Funding
 - d. LARC Program Recommendation
 - e. Advisory Board Recommendation for Program Approval by CCC
 - f. Input From Our Board Partners

Review of Courses and Curriculum

- g. Our biotechnology courses (Biol-77, Biol-76, Biol-77, Biol-78, and Biol-79) were approved locally and await approval from the chancellor's office. Classes will be offered for the first time during the Fall 2024 semester.
- h. The two stackable certificates and AS degree have been submitted:
 - *Biotechnology Laboratory Assistant* – 2 semester program
 - *Biotechnology Technician* – 3 semester program
 - *AS Degree in Biotechnology* – 4 semester program; 60 units required to graduate
- i. **Jose Anaya** asked if we would be talking about the certificates and degrees and the certificates students would be receiving.
- j. **Amy Grant** replied that we would be doing so and then provided an overview of requirements for the certificates and associates degree. This is information that we've covered in our last advisory board meeting. She added we would be working with students to see how many of them have already taken chemistry and if not, we will hold spots for them that have not already taken chemistry.

Generating Student Interest

- k. **Mia Dobbs** discussed interest from students that want to do biotechnology but also from those she advises and in her classes. Mia is the advisor for the Health and Medical Association (HMA) student club. She arranged for Eduardo Ayala to do a presentation for them on our biotechnology classes. These students are interested in careers in medicine but are also open to exploring alternative career paths. Interest has been strong from students in Mia's AP classes. Many students in these classes are not sure they want to pursue careers in medicine, especially those in the Pre-PT and Pre-PA pathways. They are attracted to how quickly they would be able to transition to industry after taking our biotech classes. Mia does not think we'll have trouble with enrollment in our biotech classes.
- l. **Amy Grant** added that she has heard that local biotech programs average 8-10 students per class, but she is optimistic due to Mia's efforts in getting the word out. Division faculty are advertising the biotech classes to their students. She also added that we have flier, a website and ECC's Marketing and Communication division will release biotech materials on social media. Amy walked the board through the website and flier.

Grant Funding

- m. **Eduardo Ayala** discussed the BECAP (Blue Economy and Climate Action Pathways) project and CTEA Perkins application. Eduardo Ayala was recruited to

serve as ECC's lead for the BECAP project. The initial round of funding is \$50,000 over two years to do exploratory work. The work includes participation in a community of practice. This project aligns with our biotech program because we had previously planned proteomics activities and DNA sequencing that incorporate ocean concepts. Lastly, Eduardo gave an overview of an internal ECC application for federal CTEA Perkins application. This funding mechanism suits our program because biotechnology was flagged as a priority in this funding opportunity. The application will be sent to Amy Grant on April 5th and then will be forwarded to school leadership.

- n. **Amy Grant** thanked Eduardo and added that these funds will help sustain the program in the long term.

LARC Program Recommendation

- o. **Amy Grant** shared that our biotech program received LARC approval last week (March 21st). Los Angeles Regional Consortium (LARC) recommendation is required as part of the process for state approval by the Chancellor's Office.

Advisory Board Recommendation for Program Approval by CCC

- p. **Amy Grant** informed the board that state program approval by the Chancellor's Office also requires recommendation by our board. She then called for a vote. Board members voted via Zoom's chat tool with the following statement: "I support the creation of the El Camino College Biotechnology Program. Bob Smith, MegaBio," and included their name and organization. The results of the vote are below.
 1. I support the creation of the El Camino College Biotechnology Program. **Megan DeLong**, El Segundo High School
 2. I support the creation of the El Camino Biotechnology Program. **Lequina Myles**, Phenomenex
 3. I support the creation of El Camino College Biotechnology Program. **Fang Wang**, CSUDH
 4. I support the creation of the El Camino College Biotechnology Program. **Chris Martin**, Bachem Americas Inc
 5. On behalf of PolyPeptide Group, I support the creation of the ECC Biotechnology Program. **Joel Espejo**.
 6. I strongly support the initiation of the El Camino College Biotechnology Program. It is an excellent addition to our regional efforts to support biotech industry development as well as excellent career opportunities for the students. **Sheldon M Schuster**, President of the Keck Graduate Institute
 7. I support the creation of the Biotechnology program as we know it will greatly benefit our students. **Arturo Hernandez**, MESA Program and STEM Center Director.

8. I support the creation of the El Camino College Biotechnology Program.
Eduardo Ayala, Assistant Professor, El Camino College
9. I support the creation of the El Camino College Biotechnology Program. **Mia Dobbs**, Professor, El Camino College
10. I support the Biotechnology Program. **Jose Anaya**.

Please note that the advisory board member below was unable to attend this board meeting due to a scheduling conflict but submitted a statement in support of El Camino's Biotechnology Program via email on March 25, 2024.

11. I support the creation of the El Camino College Biotechnology Program.
Pavan Nagpal, Engineering Instructor, El Camino College.

Input From Our Board Partners

Educational Partners

- q. **Amy Grant** asked our educational partners the following questions: How can we get your students interested in our program? Could you distribute flyers? Could you students make site visits?
- r. **Megan DeLong** said that they could potentially do site visits. They would need funding for field trips or buses, to get students off campus. She also added that they had just recently had their college and career fair. That could have been an opportunity to have members of ECC's biotech program on campus, talking directly to their students.
- s. **Eduardo Ayala** offered to visit El Segundo High School to do classroom visits to provide information about the biotech program.
- t. **Megan DeLong** agreed with having Eduardo come in and talk to their junior and senior classes and their biomed pathway students.
- u. **Fang Wang** also said that although they are a four-year school that their students or partners would also benefit from our biotech program. She also offered to distribute our fliers.
- v. **Jose Anaya** asked Amy Grant if she had a sense of how many high schools had a biotech academy.
- w. **Amy Grant** replied that North Torrance and El Segundo high school, both of which are on our advisory board, had biomed pathways but was not sure about other districts. Amy also added that we would be sending the fliers out to our educational partners.

Industry Partners

- x. **Jose Anaya** provided an overview of his role at ECC as the Dean of Community Advancement. He helps industry connect with the college and source talent but also helps develop their existing workforce. He also provided an overview of opportunities available to our industry partners through ECC. These included internships, apprenticeships, new hire salary subsidies and incumbent workforce

training. Jose is able to help companies adopt internship programs through coop-education where a student gets college credit, but they may or may not get paid or through a paid internship where students may or may not get college credit. He mentioned that paid internships are more popular. Jose also mentioned ECC had been involved with apprenticeships for the past seven years. This type of program is a way of developing a student into an occupation, typically it's an earn and learn model, with students participating in either a 2 or 4- year program. Jose mentioned the need to have a mentor at companies interested in apprenticeships to help develop the apprentice. For new hire subsidies, ECC received funding from the Chancellor's Office to subsidize the salaries of new hires for up to 6 months and 50% of their salary as an incentive to hire our students. Additionally, entities like the South Bay Workforce Investment Board (SBWIB) may be able to cover additional subsidies. Lastly, ECC has funding through the California Incumbent California Employment Training Panel to subsidize incumbent workforce training that ECC can offer to develop existing employees. Incumbent training can be offered onsite, in any subject and the length can be customized to be as short as 8 hours all the way to 200 hours.

- y. **Eduardo Ayala** asked if ECC funding for incumbent training could be used for employees interested in our biotech quality and regulatory class.
- z. **Jose Anaya** said that this funding could be used for this type of class. He also added that this type of training is subsidized per hour, per individual and so the more employees that go through an incumbent program, the more financially attractive it is for a company.
- aa. **Amy Grant** thanked Jose Anaya for sharing his information and then asked our corporate partners how many semesters of coursework would enable our students to be eligible for an internship at their company and if their companies would be able to offer internships.
- bb. **Chris Martin** replied that he had some experience with the apprenticeship program which they had initiated and worked together with the South Bay Workforce Investment board on that. And internships are actually something that they've also been talking about internally to implement at Bachem. He thanked Jose Anaya for sharing the information about opportunities for employers and said that he or somebody from the Bachem Human Resources Team will reach out to Jose Anaya. As far as how many semesters it would take for students to be eligible for an internship, he said that his gut feeling was somewhere around one and a half to two years of studies.
- cc. **Jose Anaya** replied to Chris that ECC had received a letter of support from Chris Martin's Company (Bachem) for a grant and so ECC had funds available for any apprenticeship programs he might want to adopt. He also added that he was happy to sit down with Chris Martin to sit down and customize an internship program. He thinks that Bachem would be ideal for a Co-Op program. He added that companies that have implemented an apprenticeship program use it as a pipeline for talent and have a retention rate of greater than 94%.

- dd. **Joel Espejo** said that Polypeptide would be interested in partnering to offer an internship and apprenticeship. He said that he would like to have more information about this because his company finds this very valuable, especially for, like a production technician type of role.
- ee. **Jose Anaya** replied that was great because Polypeptide (Joel Espejo's company) is a recipient of ECC's ATP funding and both internships and apprenticeships can use this source of funding. Jose Anaya added that he would send an email to Joel Espejo to connect.
- ff. **Laquina Miles** said that as far as the semesters of coursework, it would vary. In some cases, maybe a year or so, but then there may be other cases depending on if they're going to go into manufacturing or go to the lab or if students already come with experience so we can tailor it to them.
- gg. **Amy Grant** asked what other perks we can offer while we wait for full approval of the certificates. Would our corporate partners be open to tours and site visits?
- hh. **Jose Anaya** suggested scholarships as a perk. He said that if any company out there wants to sponsor our students, scholarships are a great avenue because they create name recognition with our students. He added that they are a great way of connecting to our students, because those students apply for scholarships and our corporate sponsors get to review their applications.
- ii. **Joel Espejo** said that PolyPeptide would be open to Tours and site visits.

Next Steps

- jj. **Amy Grant** shared the biotech program's next steps. These steps include starting our first cohort in the fall, prepping rooms and equipment and receiving final approval from the Chancellor's office for our biotech certificates and degree. She asked Eduardo Ayala for an estimate on when final approval may happen.
- kk. **Eduardo Ayala** replied that ECC's curriculum liaison said that it would take about 60 days from when we submit our supplementary paperwork.
- ll. **Amy Grant** replied that this would be in time for the fall semester. She then thanked the advisory board for partnering with us and for making our biotech program possible. She closed by asking if there were any last questions or thoughts.
- mm. **Eduardo Ayala** asked Laquina Miles about her thoughts on offering an online version of our quality and regulatory class as part of our program. He added that an online option could be attractive to both our students and industry professionals.
- nn. **Laquina Miles** replied that she thought this would be awesome. So shared that in many cases people already have experience, but they may not have had formal training. She also added that quality is applicable whether you're working on medical devices, biotech, or pharmaceuticals. Finally, given her experience teaching Quality and Regulatory at other universities, she knows it is a mix of students that are undergraduates, graduates and it helps when there is balance because students learn from each other.

- oo. **Sheldon Schuster** asked if we had any relation with AltaSea.
- pp. **Eduardo Ayala** replied that the BECAP program (Blue Economy) is partnering with AltaSea, and that he was going to do a site visit as part of their conference kicking off the program.
- qq. **Sheldon Schuster** said that AltaSea was a 450,000 square foot facility and there certainly ought to be opportunities for students. Given biotech's focus on health, he also asked a question for us to consider for the future. He asked, "what about agriculture and food?" He argues that the existential threat young people are going to face is not cancer. It's going to be food. And he wondered if we should think about how to how to make biotech more attractive to students with those interests.
- rr. **Jose Anaya** asked for clarification, because he said that ECC works with a lot of food manufacturers in the LA area and if Sheldon Shuster's focus was on growing food.
- ss. **Sheldon Shuster** confirmed that growing food is what he was referring to as well building as food supplements. He said that food supplements will have to be made biologically, like meat flavoring. He also added that plant breeding is an area of importance, with an extreme shortage of people that have expertise in molecular breeding. He emphasized that modern agriculture is going to have life or death implications.
- tt. **Mia Dobbs** added that when she was doing research for the different certificates and looking at other programs that she came across a community college with a high-level certificate in food, science, and technology and that this was something we could look at.
- uu. **Sheldon Shuster** agreed and offered his assistance because he saw these as great opportunities for young people and hopes we could be part of that.
- vv. **Amy Grant** showed the biotech website to our advisory board and thanked our board members for attending.

This meeting was adjourned at 3:45pm.

Minutes written by Eduardo Ayala.