

Pierce College Biotechnology Advisory Committee

Meeting Minute

Date: Friday, Feb 10, 2023

Time: 4:00 – 5:00 pm

Meeting URL: <https://laccd.zoom.us/j/81799418736>

- I. Call to order (**started at 4:01 pm**)
- II. Welcome and Introduction (**5 min**)
- III. Program Updates (**5 - 10 min**) – *Presenter:* Aron Kamajaya
- IV. Discussion Item (**30 min**):
 - a. Baccalaureate Program in Biomanufacturing
 - i. Upper Division Core Biomanufacturing courses.
 - ii. Upper Division GE courses.
 - iii. Elective Courses.
 - b. Certificate of achievements & A.S. degree
 - i. General Biomanufacturing Technician CoA.
 - ii. Bioindustrial Manufacturing Technician CoA.
 - iii. Biomanufacturing A.S degree.

General comments:

Carla Yorke (chat) brought up that students, particularly STEM students, often spend more than 2 years in the community college for many reasons (financial, proximity to family, etc). Being able to complete a Bachelor's degree at community college will be a total game changer for many students.

Terri Quenzer (chat) replied that 23 of the community college's Biotech AS degree programs articulate to the Solano & MiraCosta BS degree programs; 2 year students don't lose credits in

Biotech. The Baccalaureate program supplies a complete educational pathway from high school to doctorate level, with multiple exit and entry points.

Bruce Nash praised the proposed program as well-thought out, and emphasized how happy he is to be involved in the development of the training program as the Co-PI in Pierce College's first Biotech NSF ATE grant (NSF DUE 2100575). He thought the course choices are appropriate and useful.

Terri Quenzer (chat) mentioned possibility for having out-of-state students. Something we need to be thinking of as we build the program.

Jim Dekloe and **Dominique Ingato** expressed full support to Pierce College proposal for the Baccalaureate program in Biomanufacturing. They have been very supportive to the similar Baccalaureate program proposal by the Moorpark College and Los Angeles Mission College, highlighting the strong demand in Biomanufacturing statewide and within Los Angeles county. Both are also committed to share classroom resources to help the new program.

Bruce Nash (chat) praised the extend of collegiality among the Biotech community at California.

Jim Dekloe also shared his experience as a director of the Baccalaureate program in Biomanufacturing at Solano College. He mentioned that the extra \$84 per unit goes directly to the program.

Terri Quenzer typed this (\$84 goes directly to support the Baccalaureate program) in the chat.

President Ara Aguiar fully support the proposition to have the \$84 goes directly to the Biomanufacturing program.

Shelley Thai (chat) also expressed support for the program proposal.

Jim Dekloe discussed the major distinction between the upper division and lower division courses; upper division courses implement higher levels of Bloom's Taxonomy where students are expected to

solve problem and design/ create. He also brought up the possible part-time option for the students as well as talking about the process for the international student program.

Paul Webster (chat) posed a question on whether these upper division course be made available online for those who have little time to spare, limited transport option, or are geographically tied.

Richard Prieto and **Wendy Wooten** highlighted the importance of a near-peer mentorship program that allows high school students to be mentored by the current biotech student, which is something that has been implemented in Pierce's Biotech Training Program; students from Reseda high schools who completed Biotech 002 course in Fall 2022 are now serve as mentor to students with no prior lab experience.

Comments on Upper Division General Education Courses:

Ying-Tsu (chat) highlighted the "Project Management" course as one possible upper division GE course. This course is also offered by Solano College.

Troy Walton expressed supports for the "Business Communication" course, highlighting the importance of communication within the organization (internal meeting, email, etc) and external communication (i.e. with clients, collaborators, etc).

Bruce Nash (chat) also expressed supports for the "Business Communication", highlighting it as an important soft skill.

Comments on the possible Elective Courses:

Saidhbhe O'Riordan (chat) suggested a possible software/ computer programming to go with the automation and higher order instrumentation.

Benny Ng (chat) asked the type of language that is most useful in Biotech automation (C++, Python, R, etc).

Cindy Malone (chat) mentioned that python and R are very common in a BS program.

Bruce Nash (chat) agreed that automation and programming are very important in the changing industry landscape (post-COVID). This (automation, automation programming, robot maintenance) is true in the field beyond Biotech/ Biomanufacturing, such as car making, high tech manufacturing, and others.

Jim Dekloe highlighted the importance of automation in bioprocessing. He also mentioned a possible funding opportunities.

Ying-Tsu (chat) expressed supports for the “Emerging Biotechnology” course, highlighting the flexibility of the course topics to keep up with the rapidly-evolving field of Biotechnology/ Biomanufacturing. For example: mushroom tech and blue economy.

V. Action Item (10 – 15 min)

- a. **Vote:** Baccalaureate Program in Biomanufacturing with identified curriculum.

Yes: 22, No: 1, Abstain: 0

- b. **Vote:** Certificate of Achievements in Biomanufacturing & Bioindustrial Manufacturing & Biomanufacturing A.S. degree with identified curriculum.

Yes: 23, No: 0, Abstain: 0

- c. Program needs: facilities, equipment, and personnel.

VI. Adjournment (ended at 4:59 pm)

List of the Board Members in Attendance

| No | Name | Affiliation | Position | |
|----|----------------------|--|---|-------------------------------|
| 1 | Aron Kamajaya | LA Pierce College | Biotech Lead Faculty | Pierce College |
| 2 | Gracejeet Sroya | LA Pierce College | Faculty - Life Science/ Biotech | |
| 3 | Isidore Goodman | LA Pierce College | Faculty - Chemistry/ Biochemistry | |
| 4 | Benny Ng | LA Pierce College | College Outcome Coordinator | |
| 5 | Shannon DeVaney | LA Pierce College | Department Chair (Life Science) | |
| 6 | Mon Khat | LA Pierce College | CTE Dean | |
| 7 | Donna Mae Villanueva | LA Pierce College | Dean Academic Affairs | |
| 8 | Ara Aguiar | LA Pierce College | Interim President | |
| 9 | Chander Arora | LA Mission College | Biotech Director | Local Biotech Program |
| 10 | Pamela Eversole-Cire | Pasadena City College | Biotech Director | |
| 11 | Shelley Thai | Glendale City College | Biotech Faculty | |
| 12 | Andria Denmon | Santa Monica College | Biotech Faculty | Biotech-others |
| 13 | James DeKloe | Solano College | Biomanufacturing program director | |
| 14 | Dominique Ingato | Mira Costa College | Biomanufacturing program co-chair | |
| 15 | Wendie Johnston | PBC (representing LARC) | Lab Director | |
| 16 | Terri Quenzer | Biosci Workforce Dev Hub | Executive Director | |
| 17 | Carla Yorke | Amgen Biotech Experience - Greater LA | Acting Director | |
| 18 | Karin Steinhauer | Amgen Biotech Experience - Greater LA | Senior Lab Technician - Pierce site | |
| 19 | Marty Ikkanda | Amgen Biotech Experience - Greater LA | Founder, Pierce Emeritus | |
| 20 | Ying-Tsu | BABEC | Executive Director | High School |
| 21 | Wendy Wooten | Reseda Charter High School | Teacher | |
| 22 | Daniel Moon | Taft Charter High School | Teacher | |
| 23 | Richard Prieto | LAUSD | Work-based Learning Program Coordinator | |
| 24 | Michael Boerum | LAUSD | Dual Credit - CTEIG Coordinator | 4-yr acad |
| 25 | Cindy Malone | CSUN | Faculty & CIRM Director | |
| 26 | Howard Xu | CSULA | Faculty & Director CSULA Biospace incubator | |
| 27 | Bruce Nash | DNA-LC CSHL (representing InnovATEBIO) | Assistant Director for Science | Industry & Trade Organization |
| 28 | Troy Walton | Beyond Meat | Vice President of Plant Protein Research | |
| 29 | Paul Webster | Oak Crest Institute of Science | Senior Scientist | |
| 30 | Nathan Zuzow | Thermo Fisher | Technical Application Scientist | |
| 31 | Saidhbhe O'Riordan | Grifols | Principal Sc - QC dev & validation | |
| 32 | Axel Muller | Curia Global | Senior Scientist | |
| 33 | Rajika Perera | Poseidon Laboratory | CEO | |
| 34 | Herman Lelie | Constitution Laboratories | CEO | |
| 35 | Samuel Neuendorf | Eurofin | Lab Project Manager, Mira Costa alumnus | |
| 36 | Spencer Hammond | Kite Pharma | Quality | |
| 37 | Raymond Liu | Dispatch BioTherapeutics | Head of Synthetic Biology, Co-founder | |
| 38 | Howard Chan | Biocom California | Program Manager, Education | |