



San Joaquin Delta College ● 5151 Pacific Avenue, Stockton CA 95207

Date of Meeting: Tuesday, November 5th, 2024
Time of Meeting: 5:15pm – 6:15pm
Location of Meeting: Center of Microscopy & Allied Science
Name of Recorder: Nicole Nague

Attendees:

College Mission
and Vision Statement
(BP 1200 and 1201)

Mission

We actively and continuously strive to be a student-centered, anti-racist, equity-focused college that serves the educational and economic development needs of our communities. We commit ourselves to high standards of teaching and learning, provide excellent career and transfer education programs, and offer high-quality support services which empower all students to pursue personal development and achieve their academic goals.

(Board Policy 1200)

Vision

We believe in our students and act as a catalyst for knowledge growth, social equity, economic mobility, personal development, and life-long learning.

(Board Policy 1201)

Electron Microscopy (CMAS) Advisory Meeting Minutes

Welcome and Introductions (Start Time: 5:24pm)

A. EM staff:

Jose Jimenez, CMAS LAB Coordinator

Nicole Nague, Associate Professor-Biological Concentration

Lien Trinh, Associate Professor-Crystalline Materials

Linh Phan, Student Embedded Tutor

B. Delta Staff and Managers:

Pedro Mendez, Associate VP

Katrina Leon, Dean (ASBT)

Elizabeth Maloney, President (CTA)

C. Community Members, Microscopy Vendors and Academia Partners:

Kristen Ewell kewell@hawaii.edu

Robert Samuels robert.samuels@asml.com

Chris Spence christopher.spence@evidentscientific.com

Steve Hill steve.hill@lamresearch.com

David Gray david.gray@lamresearch.com

Erick Spaulding egspaulding@ucdavis.edu

Jacob Piatt, QuantumScape

Meshelle Kimbrough, Kaiser Permanente

Approval of Minutes:

Chris, Steve, David and Lien all approved previous minutes.

Changes and Updates to the program:

Full-Time Position has been filled by Jose Jimenez for the Laboratory Coordinator Position. Six Stackable Certificates are placed through to the Curriculum Committee with GE courses in Physics, Pre-Calc and Chemistry removed from the Materials Certificates. Two designated Tutors approved for the EM program.

Old Business:

Recruitment and promoting of EM Program is ongoing. We went to festivals, high school career fairs, Lodi Street Fair, Rotary Club and did EM tours- high school and elementary, Middle College and HS Dual Enrollment students. We still need biological appeal for recruiters/Students, so we are having a working relationship with Stanford (cryo-EM) and Kaiser (histo-tech). We are trying to work with pathology labs as well.

We still need diversity in the EM Program so we have been going to Community/Campus Events such as the Stockton Black family day in the Park/Family Day in the Park Event, EPIC Kickoff Advocacy of EM, Chican/LatinX Kickoff Advocacy of EM, visitation from Mayor Kevin Lincoln, DELTA Counselor Weekly Meeting Presentation to ALL Counselors, CTE Booth Event/College Night Booth Event/Campus Wide Events, and Career Center Meetup events at High Schools.

Program Updates:

The Board of Trustees and Administrative Executives propose Electron Microscopy to submit proposal for the Baccalaureate Program at the Community College Level with the Chancellors office, next cycle round. They all suggest that a BS degree is a valuable asset to have. One claims that having a BS degree can result to direct hire for Full-Time positions with an engineer title. Another commented that anatomy and physiology should be attached to the BS degree. One suggested work credit to speed up degree process as students can test out of classes if they have prior experience. One commented about having an accelerated 3-yr BS degree program.

Program Changes (Revisions to Existing Curriculum)

Discussion:

- Six stackable certificates were updated and moved forward to Curriculum Committee.
 - General Education courses (Physics, Pre-Calc, Chemistry) were removed from the Materials Certificates.
- Course revisions proposed and approved:
 - **EM 70** retitled to *Introduction to Microscopy* (2 units).
 - **EM 84B** retitled to *Fluorescence/Immunohistochemistry*.
 - **EM 89** *Digital Imaging* updated to include a lab portion.
 - **EM 86** *FIB* revised to update curriculum/units with Helios; AFM theory removed.
- Additional BIO course requirements approved (Anatomy, Physiology, Microbiology).
- The following existing programs were revised to align with the development of stackable certificates:

Electron Microscopy – Biological Concentration	Associate in Science
Electron Microscopy – Biological Concentration Advanced Sample Preparation	Certificate of Achievement
Electron Microscopy – Crystalline Materials Advanced Training	Certificate of Achievement
Electron Microscopy – Materials	Certificate of Achievement

Motion: To approve revisions listed above.

- **Moved by:** David Gray
- **Seconded by:** Lien Trinh
- **Vote:** Approved unanimously.

Discussion:

- The committee supported the creation of new stackable certificates designed to expand entry and exit points for students, leading toward both Certificates of Achievement and Associate Degrees.

Electron Microscopy – Biological Concentration Basic Sample Preparation	Certificate of Achievement
Electron Microscopy – Crystalline Materials Basic Imaging	Certificate of Achievement
Electron Microscopy – Field Service Technician Basic Training	Certificate of Achievement
Electron Microscopy – Field Service Technician Advanced Training	Certificate of Achievement

Motion: To approve the new programs listed above.

- **Moved by:** David Gray
- **Seconded by:** Lien Trinh
- **Vote:** Approved unanimously.

New Business:

We are working with companies for donations of equipment and have already acquired Cryostat and Tissue processor from Stanford, Hitachi FeSem4800 from University of Hawaii, and 2 HITACHI E-SEM units. We have projected incoming donation of a HITACHI TEM H7600 from University of British Columbia-Canada and a Helios Dual Beam 400S from LAM Research- Oregon.

We voted to create new courses and revise others. We proposed to add new/revised courses such as EM 70 to just “Introduction to Microscopy” 2 units, EM 76 “Introduction to General Histology” 3 units, EM 77 “Beginning Histotechniques” 5 units, EM 78 “Advanced Histotechniques” 5 units, and EM 84B to change “BIO SEM” to “Fluorescence/Immunohistochemistry,” EM79 “Introduction to TEM” 3 units, EM 89 “Digital Imaging” to include a LAB portion, EM 86 “FIB” to update in curriculum and units with Helios and take out AFM theory. We also voted to add additional BIO courses including Anatomy, Physiology and Microbiology.

Unanimous Vote of Approval of Changes from the Committee.

We have some new strategies for recruitment of students such as having social media accounts (Instagram and FB), working on a new media video to include testimonials, advertising one-page in MSA magazine, proposing a required and transferable CSU elective to gain exposure to program, going out to speak directly to the high school Junior and Senior Class outside of Stockton, meeting up at community events outside of the area.

New Program Proposals

Discussion:

- Committee endorsed moving forward with proposal for a **Baccalaureate (BS) in Electron Microscopy** through the Chancellor’s Office next cycle. Suggestions included:
 - Adding Anatomy & Physiology as required courses.
 - Considering prior work credit for acceleration.
 - Exploring a possible 3-year accelerated option.
- New course proposals:
 - **EM 76 – Introduction to General Histology** (3 units)
 - **EM 77 – Beginning Histotechniques** (5 units)
 - **EM 78 – Advanced Histotechniques** (5 units)
 - **EM 79 – Introduction to TEM** (3 units)
- Future accelerated **1-year EM program** (for adult learners) was discussed but deferred until after the BS program is established.

Motion: To approve new program proposals and courses listed above.

- **Moved by:** Robert Samuels
- **Seconded by:** Kristen Ewell
- **Vote:** Approved unanimously.

We are proposing an accelerated EM program like a 1-yr Program for adults. They suggested that it can have a specialized curriculum, have the possibility to test out of tool time, it would need more adjunct staff, and it should be considered after a BS program is established first.

We currently have collaboration with JEOL FSE group, Zeiss FSE group, Thermo group, and internships with QuantumScape and LAM.

We are considering having field trips for students like "Day-in-the-life" that can be annual or semi-annual to different companies.

We would like to have annual speakers on rotation to bring in new ideas, new developments and equipment such as Thermo, Ibss, SubAngstrom, Keyence, QuantumScape, XEI, Oxford, LAM, AMAT. One suggested that we schedule them throughout the year and add Kaiser to the rotation.

The EM Foundation has been active and currently has about \$10K balance. They suggested that we can contact alumni to donate to increase funding, have a silent auction on students' framed EM images, and possibly have companies/vendors pay for ads in our EM Newsletter.

Other:

I. Discussion Items

They commented that prep tools are basic needs for the program and micro-cleavers are needed.

With the expansion of the program, we would need to consider lab space. Removal of cabinets will help with the workspace.

II. New Hot Topic

They suggested that engineer and human biology applicable classes should be considered in the BS degree.

We need 2 more student workers during TOOL-TIME as the coordinator cannot be in 12 rooms at the same time. One commented that a student tutor can be an elective course for credit. Another suggested that a student can be from a work study program.

As for the fundraising ideas, they suggested selling shirts and pins at our annual Open House on April 16, 10-6pm. We will need used equipment and tools to support the Maintenance Program. They commented that they have scroll pumps from LAM to donate.

We have a new request "WISH LIST" items such as chillers and compressors, two Keyence Fluorescence System to support BIO Courses, and Keyence AFM system to support Scanning Probe Microscope Course.

III. Suggestions/Comments

Special thanks to everyone for joining us.

Next Meeting:

April 4th, 2025

Adjournment at 7:12pm by Jose, second by Nicole