



STEM Completion Coaching April 17, 2020 update to GPIT
Prepared by James McGarrah, STEM faculty lead

IN PROGRESS:

STEM Completion Coaching Meetings

4/3/2020 Discussed organization of STEM Completion Coaching and the transition to online. We had updates from MESA, STEM Counseling and faculty on how they moved to online. Scott Peat was tasked with coming up with a Google Survey so that we can document all the outreach efforts that STEM faculty have been involved with.

4/17/2020 Discussed introduction STEM pathway course that is modelled on Engineering B47 for STEM pathways of Biology, Mathematics and Physical Science. Pillar I (Clarify the Path) and Pillar II (Enter the Path) are addressed by this proposed course. Dual enrollment and first-time students are the target audience. A Google Survey will be sent out in order to organize thoughts about content and organization. In the short term, Laurel Mourtzanos would like to pilot aspects of this as soon as possible with high school recruitment. The tentative plan is to submit (a) course proposal(s) in the Fall to Curriculum and pilot the course with outreach to seniors in high school as a part of the BC intake process.

The outreach survey will be reviewed and then be sent to STEM faculty this next week. Thank you, Scott!

MESA has been doing wonderful work and has continued with Academic Excellence Workshops conducted by MESA tutors Ramsses Patterson and Ian Spark. During spring break MESA conducted a survey of MESA members and found some students are struggling with the new environment. On April 17, 2020 MESA's Townhall meeting had a presentation from Esteban Campa from the Cope Health Scholars program which is a collaboration with the Executive Program in Health Policy & Management at UCLA. The MESA annual awards and recognition banquet has been moved to a virtual format and is scheduled for Thursday, May 14.

MESA is coordinating three career STEM pathway experiences for students in the summer USDA/NRCS service learning scholarships for 4 student at \$2,500 each, BLM federal service learning scholarship for 3 students for \$2,500 in June and Eisenhower will be open again for 4 students at \$5,000 each. All applications are due in the next few months.

Future STEM Completion Coaching Meetings

4/24/2020 The discuss ideas for introductory STEM pathway course. And see what can be implemented in the short to intermediate term.



ACCOMPLISHMENTS

Clarify the Path Pillar for STEM

4/3/2020 James Zimmerman (UC Merced), Steve Middleton (Merced College), Craig Hayward (BC OEI) and James McGarrah (BC) submitted a proposal, mostly written by Craig, titled "Increasing Student Flow and Success Along Intersegmental STEM Program Pathways," in response to the California Education Learning Lab's RFP, "Enabling Institutional Change in Undergraduate STEM Education." If funded, grant activity starts in August 2020. The grant involves connecting UC and community college faculty to create vetted and effective program maps that ensures that lower division of transfer programs closely align with upper division coursework at the university.

Ensuring Learning Pillar for STEM

9/27/2019 Math Mindset Training – BC math faculty attended training organized by Stephen Waller (Dean of Instruction) with funding from a California Academic Partnership Program grant. The training was led by Prof. Jo Boaler from Stanford University's Youcubed program. This included math faculty from KHSD and all local middle schools.

10/25/2019 STEM POGIL Training – Over 40 BC STEM faculty attended training on how to teach with a new student-interactive pedagogy, Process Oriented Guided Inquiry Learning (POGIL). Training was conducted by the national POGIL.org program, and it was funded from the College's Guided Pathway grant. Two chemistry faculty are continuing to work with POGIL through a California Education Learning Lab (CELL) grant in collaboration with CSUB and UC Merced.

3/6/2020 STEM Math Improvement Consultancy – The math department faculty met with three national consultants to discuss what they need to help improve STEM student math success. The consultants were paid out of an NSF I-USE grant called "Bridging to STEM Excellence". This grant was obtained by Stephen Waller in collaboration with four universities and five national STEM teaching non-profit organizations. Faculty will be invited to participate in national training sessions in the future.

UPDATES

March 2020 The Feb. 8, 2020 proposal to California Educational Learning Lab (CELL) with PI Mark Kubinec at UC Berkeley with Bakersfield College co-PIs Ximena DaSilva, Wade Elias and James McGarrah was declined. The proposal uses on-line learning communities to excite and retain beginning STEM majors by exposing them to graduate level research. The program networks UC Berkeley graduate students and postdocs with General Chemistry students across California enrolled at community colleges, CSUs and other UCs and there are read in on a current research project. The students have the goal of learning what is going on and proposing a future experiment for the UCB researcher. This will be facilitated online and through remote access.