Division: Science and Math

Name of Program/Area and Contributors

9 Responses

Program/Area Name	Name(s) of the person or people who contributed to this review:	Which PAR Template did you fill out?
Astronomy	Shannon Lee and Andrew Totah-McCarty	Academic Services
Chemistry	Wayne Pitcher, Donna Gibson, Harjot Sawhney, Yasmin Trout, Andy Wells, George Arab	Academic Services
Computer Science	Jonathan Traugott	Academic Services
Earth and Environmental Sciences	Jasmeet K Dhaliwal	Academic Services
Engineering	Daniel Quigley	Academic Services
Life Sciences	Megan Jensen, Alexandra Dallara, Robert Cattolica, Gargi Kulkarni, Jennifer Lange, Jeffrey Tsao, Lynn Hansen, Harmony Folse	Academic Services
Math	Ming Ho, with feedback from Math faculty at our Oct 14 meeting	Academic Services
MESA TRIO STEM	Maria Rodriguez-Larrain, Donna Gibson	Student Services/Administrative Services/Office of the President
Physics	Shannon Lee, Andrew Totah-McCarty	Academic Services

Campus-Wide Issues

Reflections on Annual Priority Progress in Academic Year 2024-25

9 Responses

Name of Program/Area	Consider equity first.	Support and prioritize getting off “hold harmless’ for the short- and long-term financial health of the college.	Presentation of marketing and communication plan by District and College with follow up year-end assessment (effectiveness) that shows how we will reach all our audiences and respond to critical needs.	Develop college ‘materials’ to support us in hiring, initiating management of budgets/funds and prioritize making professional development available, particularly training at the college in various “new” technologies.	IST should renew their focus on understanding how Chabot recommendations align with the district technology plan and interface with the college and district.	Senior Leadership and IST work with the district college technology services manager to support the district in matching needs with technology products and ensure we have training and support.
Astronomy	Some Progress	Substantial Progress	Minimal Progress	Minimal Progress	Some Progress	Some Progress
Chemistry	Some Progress	Some Progress	I don’t know/ Too early to tell	I don’t know/ Too early to tell	I don’t know/ Too early to tell	I don’t know/ Too early to tell
Computer Science	Some Progress	Some Progress	Some Progress	Some Progress	Some Progress	Some Progress
Earth and Environmental Sciences	Substantial Progress	I don’t know/ Too early to tell	I don’t know/ Too early to tell	I don’t know/ Too early to tell	I don’t know/ Too early to tell	I don’t know/ Too early to tell
Engineering	Substantial Progress	Substantial Progress	Some Progress	Some Progress	Some Progress	Some Progress

Life Sciences	Some Progress	Substantial Progress	Some Progress	Minimal Progress	I don't know/ Too early to tell	Minimal Progress
Math	I don't know/ Too early to tell	I don't know/ Too early to tell	I don't know/ Too early to tell	I don't know/ Too early to tell	I don't know/ Too early to tell	I don't know/ Too early to tell
MESA TRIO STEM	Some Progress	Some Progress	Minimal Progress	Minimal Progress	Minimal Progress	I don't know/ Too early to tell
Physics	Some Progress	Substantial Progress	Minimal Progress	Minimal Progress	Some Progress	Some Progress

9 Responses

Name of Program/Area	Question: If you would like to comment further on the selections you made above, please elaborate on what you observed. Be sure to mention the specific planning priority number you are referring to at the beginning of your response.
Astronomy	N/A
Chemistry	N/A
Computer Science	New certificates in CSCI contribute to getting off "hold harmless" (Priority 2). Work on AS-T degree and curriculum changes to CSCI 7 support equity first (Priority 1) and response to critical needs (Priority 3). Professional development in AI supports training in new technologies (Priority 4).1
Earth and Environmental Sciences	N/A
Engineering	N/A

Life Sciences	2) We recognize that a large effort has been put into addressing enrollment through winter intersession and compressed calendar. However, we feel unsupported in making the shift to shorter semesters as well as uncompensated for the incredible amount of work this is creating. 4) There seems to be a disconnect between what we have in our budgets and our funding needs. We don't get a clear answer around the budget rollovers. This leads to confusion and frustration. 5) We are unable to assess this 6) We cannot assess the leadership and IST involvement, but we do feel at the instructional level that we do not always get our IT ticket request met and have faced challenges with getting proper software loaded onto classroom computers.

This question is not well-formed. We feel that the Senior Leadership should have provided a list of items they have implemented or are working on for each of the six categories, and ask what else we think should be added.

Math

Regarding #1 (Equity first) , the delay in opening the Pride Center does not seem warranted. First, after not accepting the recommendation of FIT for a Pride Center, the College President wouldn't meet with the Chairs of QuEEN but only sent concerns that were not apropos through the VP of Administrative Services, which the Chairs of QuEEN could not address directly because they couldn't get an audience with him. That was back in June. Then the Pride Center was put on the agenda of the September President's Council, but the College President ran out of time. After that College Council, the College President asked the Chairs of to submit a PAR for the Pride Center, which raised some red flags:
(1) Why weren't we asked to submit a PAR when the proposal went through FIT in Spring 2025?
(2) What would a PAR or a President's Council presentation add that wasn't already addressed in the campus-wide discussion at FIT in Spring 2025?
(3) If the intention had been to ask QuEEN to submit a PAR, why did the College President make the Chairs of QuEEN wait through the whole College Council only to tell them to submit a PAR after the meeting ended? He could have relayed that message way before that.

Regarding #6 (SLT and technology), there needs to be a mechanism by which the College regularly (no less frequently than monthly) updates its technology needs with district IT AND the Chancellor to prioritize and review what District IT is doing. As an example of such communications gap, there was a demo on Fri, Oct 17, on the new SSB9. Chabot's VPAS mentioned the need to comply with AB 607 to disclose total cost of course material, but the IT team acted as if they are not aware of the technology support needed to comply with the legislation that was passed at the end of 2023. As another example, on Oct 17 Wing Kam forwarded to the Chabot list an Oct 16 email from Kristen Whittaker of District IT announcing the launch of SSB9 for registration, which will run in parallel with CLASS-Web (SSB8) through Nov 10, after which registration is available only in SSB9. Yet, Ming only got on Oct 17 a meeting invitation for Oct 30 "to begin conversations regarding Self-Placement transition from SSB8 to SSB9." That's not even two weeks between the meeting date and the transition for registration to be only on SSB9. If difficulties arise, then first-time students would have to complete the Self-Placement on SSB8 before they can register for English and math classes on SSB9. Shouldn't this type of planning happen months earlier?

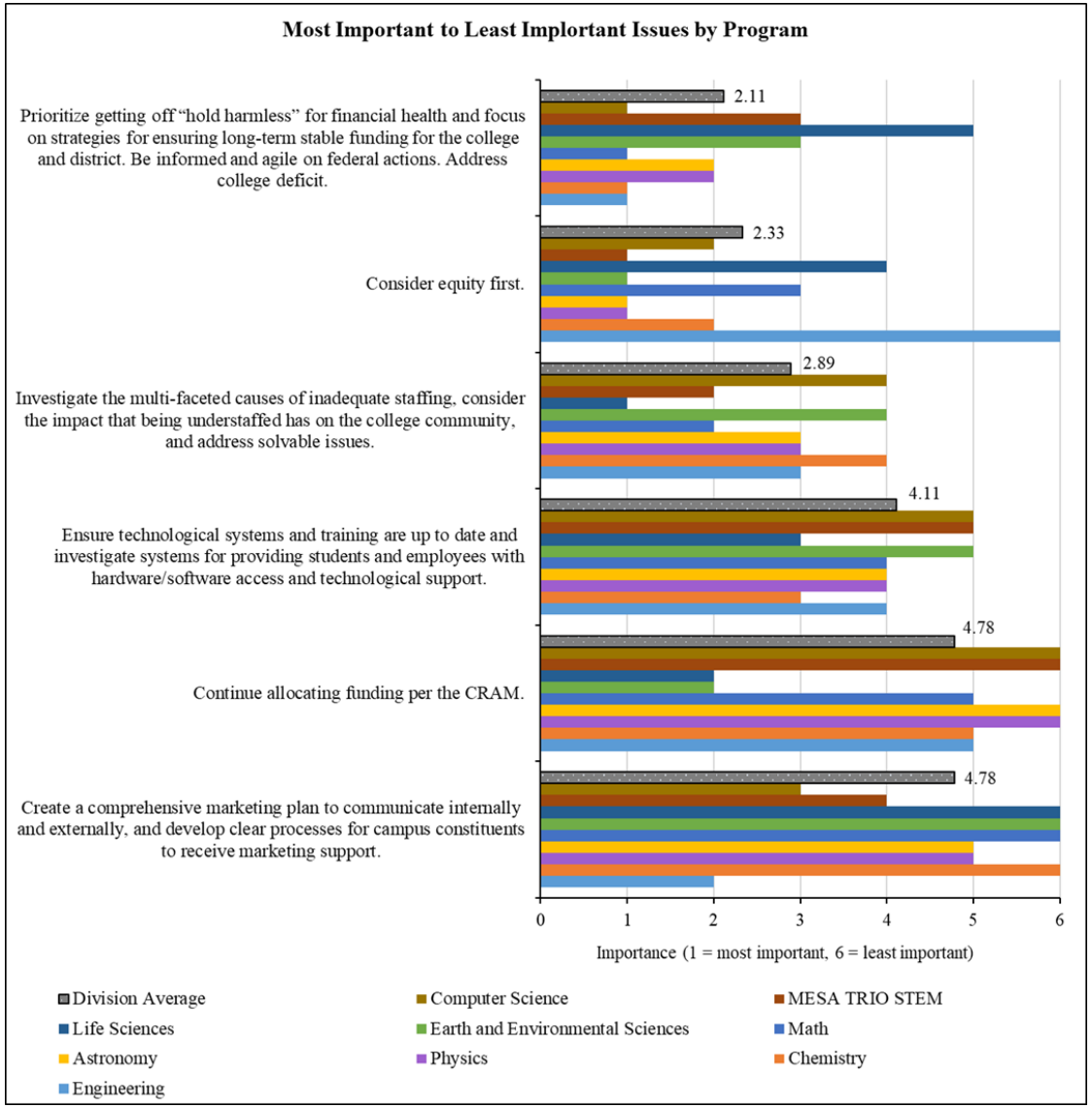
MESA TRIO STEM	N/A
Physics	N/A

9 Responses

Name of Program/Area	Question: If you could advise college decision makers how to make better or more efficient progress on any of these annual planning priorities, what would you say? Be sure to mention the specific planning priority number you are referring to at the beginning of your response.
Astronomy	N/A
Chemistry	N/A
Computer Science	N/A
Earth and Environmental Sciences	N/A
Engineering	N/A
Life Sciences	2) Provide faculty with information on how the compressed calendar process was developed and will be enacted. Just providing a very confusing block schedule that does not match with how we offer our classes and then repeatedly saying, essentially, “deal with it” has been entirely unacceptable. We have identified and reported multiple issues but have not even been offered a conversation on how these can be avoided. We have already spent hundreds of hours trying to build schedules. The work needs to be compensated. 4) Revise the rollover budget process to be more clear about how much we actually have at any given time.

Math	Regarding #1 (Equity first): Charlene Wieser reported that, at the Faculty Senate meeting on Oct 9, the Pride Center came up in a conversation, and the College President responded that he wanted to create a process. Well, that's fine if we were at the beginning of the process, but the Pride Center has already gone through college-wide discussion for a long time. There is no new information the college leadership will get from a PAR submission for the Pride Center, and there is no other project like the Pride Center that is submitting a PAR to get started. If we were to consider equity "first" to serve LGBT+ students, the process can be established now for the next project while the Pride Center is established immediately. The current situation, on the other hand, exhibits "bureaucracy first."
MESA TRIO STEM	N/A
Physics	N/A

Rank the Annual Priorities for the 2025–26 Academic Year



9 Responses

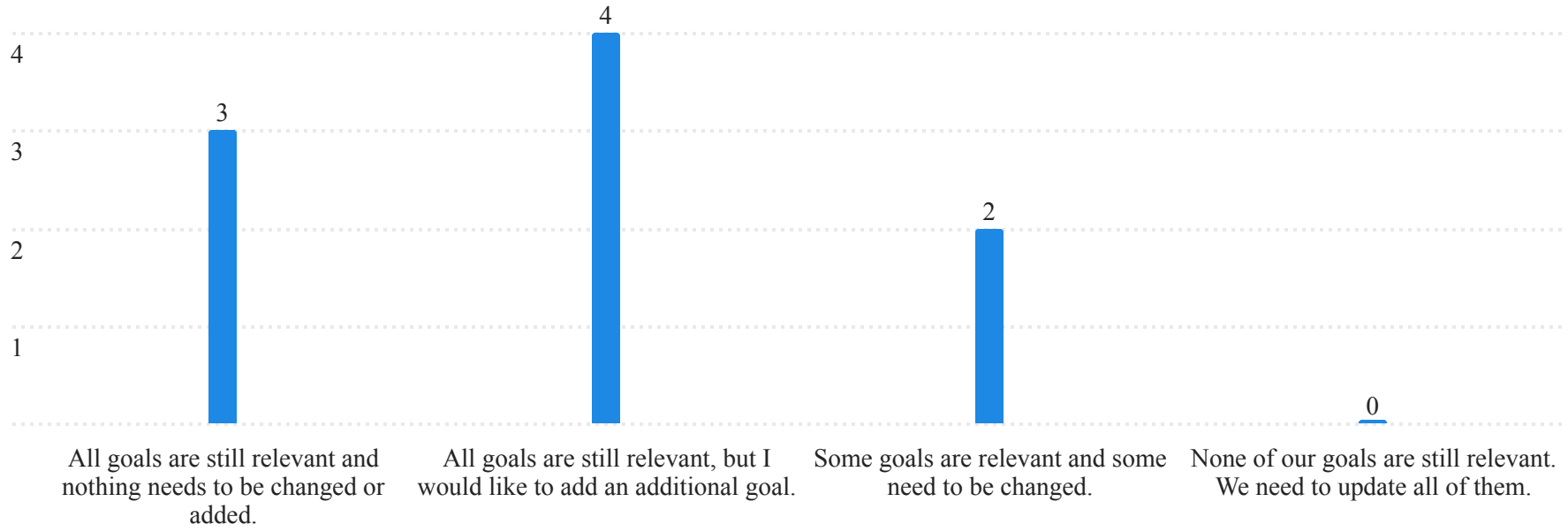
Name of Program/Area	Question: If you believe there is an important issue to address to carry out the college mission that is NOT mentioned in the previous list, please describe below (optional).
Astronomy	N/A
Chemistry	N/A
Computer Science	Provide policies relating to AI and academic dishonesty. For example, what type of AI use would rise to the level of plagiarism? Would failure to disclose use of AI constitute academic dishonesty? Is it appropriate for instructors to use AI to grade assignments and form lesson plans?
Earth and Environmental Sciences	N/A
Engineering	N/A
Life Sciences	N/A
Math	At the Math meeting, we agreed on ranks 1, 2, and 6. We did not rank the rest at the time because they all seem to be able to be achieved independently of one another at the same time; for example, how would ranking "continuing allocating funding per the CRAM" higher or lower affect, say, the "investigation of inadequate staffing"? Ming put in the remaining ranking per his judgment.
MESA TRIO STEM	N/A
Physics	N/A

Reflections on Your Own Goals Established in Fall 2024 PAR

Relevance and Updates to Your Program Goals:

Keeping in mind that you have two years left in this PAR cycle to accomplish these goals, please take a look at your goals to determine:

9 Responses



9 Responses

Name of Program/Area	All goals are still relevant, but I would like to add an additional goal. (Please fill in your new goal, so we can update the spreadsheet.) - Text
Computer Science	N/A
MESA TRIO STEM	N/A
Life Sciences	N/A
Earth and Environmental Sciences	Goal 5: To prioritize publicization and marketing of the GEOS and ENSC programs, particularly through website redesign, developing brochures, circulating flyers for classes each semester, and reaching out to counselors.
Math	N/A
Astronomy	Upgrade the A.V. in the Planetarium to the district standard
Physics	Organized lab and lecture spaces for students and staff, including boxed sets of simple supplies readily available for student use.
Chemistry	N/A
Engineering	Coordinate and collaborate with industry to provide scaling and on/off ramps for students

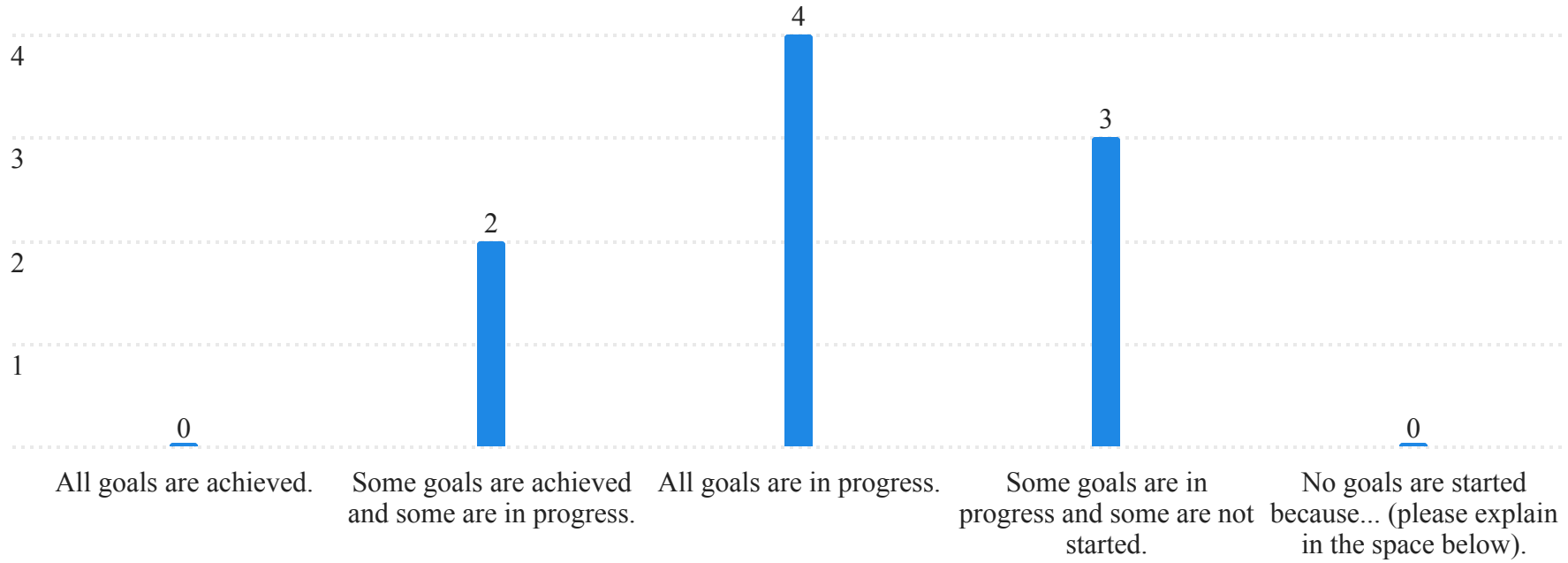
9 Responses

Name of Program/Area	Some goals are relevant and some need to be changed. (Please explain below, so we can update your goals in the spreadsheet.) - Text
Astronomy	N/A
Chemistry	Goal #2: Pilot Chem 1A MESA cohort needs to be changed. We do not have a schedule that allows enough MESA students to enroll in the same section of Chem 1A. We will replace this goal with the following: New goal #2: Run an additional section of Chem 201 for students enrolled in Chem 1A New goal #3: Revise/combine Chem 31 and Chem 30A lab manuals in preparation for Common Course Numbering requirements
Computer Science	N/A
Earth and Environmental Sciences	N/A
Engineering	N/A
Life Sciences	Modifying Goal #4 - Support health science pathway students. Expected Outcomes will now include researching and trying new curriculum and student support options aimed at addressing upcoming CCN changes and the potential loss of current prerequisite courses.
Math	N/A
MESA TRIO STEM	N/A

Physics N/A

What is the current status of the goals your program/area established in Fall 2024?

9 Responses



Reflections on Achievement and Challenges:

9 Responses

Name of Program/Area	Question: So far, what is going well regarding completing your program's/area's goals? Please include reflections on achievement of outputs or outcomes.
Astronomy	We added a part-time faculty member to our pool that can teach both physics and astronomy. We have had interdisciplinary conversations about adding certificates to our PHYS and ASTR programs. We learned that ASTR certificates would be more useful that PHYS (because of ENGR). We created a day-time astronomy lab which is being taught for the first time this semester (Fall 2025). Andrew was able to get us OER grant funding to rewrite our lab manual to be OER and include new labs that do not require evening observing conditions. I have been able to have students test out 3 of the new labs so far this semester. We are working with Steve Gunderson to upgrade the planetarium to be at the district standard. This A.V. overhaul will simplify planetarium operations, troubleshooting, and upgrade the performance of the space as a classroom and college and community resource. We cannot express how grateful we are for this. Also, I missed adding this to the Physics PAR and I cannot go back . Since I am filling out both of them I am hoping you can add in this statement about institutionalizing our STEM Counselors that could potentially lose funding as the HSI STEM grant sunsets. Dedicated full-time STEME counselors are critical to sustaining and advancing the student outcomes achieved through the STEME pathway. With their focused 40-hour-per-week commitment, these counselors have been the driving force behind significant gains in educational planning and student success. In AY 24–25, 90% of STEME students completed a Student Education Plan (SEP), with 67% completing a comprehensive SEPC. Among HSI STEM students—who represent roughly 70% of the pathway—the share without an SEP by the end of their first year fell dramatically from 41% in 2020–21 to just 9% in 2024–25, while those completing SEPC/Both more than doubled from 31% to 62%. These structured advising supports have directly translated into stronger outcomes: three-year degree and certificate completion among HSI STEM students has risen from 13% (2019–20 cohort) to 32% (2022–23 cohort), and transfer rates have increased from 21% to 31%, reaching 40% for full-time students. This data confirms that the counselors' intensive, equity-minded work not only strengthens student retention and success but also advances the college's mission and Student-Centered Funding Formula (SCFF) performance metrics. This makes continued investment in full-time STEME counseling essential to sustaining this progress.
Chemistry	1. Students are enrolling in Chem 201 2. Success data has been analyzed 3. Classes are filling (enrollments over 100%) 4. STEM counseling greatly helps students. Dedicated full-time STEME counselors are critical to sustaining and advancing the student outcomes achieved through the STEME pathway. With their focused 40-hour-per-week commitment, these counselors have been the driving force behind significant gains in educational planning and student success. In AY 24–25, 90% of STEME students completed a Student Education Plan (SEP), with 67% completing a comprehensive SEPC. Among HSI STEM students—who represent roughly 70% of the pathway—the share without an SEP by the end of their first year fell dramatically from 41% in 2020–21 to just 9% in 2024–25, while those completing SEPC/Both more than doubled from 31% to 62%. These structured advising supports have directly translated into stronger outcomes: three-year degree and certificate completion among HSI STEM students has risen from 13% (2019–20 cohort) to 32% (2022–23 cohort), and transfer rates have increased from 21% to 31%, reaching 40% for full-time students. This data confirms that the counselors' intensive, equity-minded work not only strengthens student retention and success but also advances the college's mission and Student-Centered Funding Formula (SCFF) performance metrics. This makes continued investment in full-time STEME counseling essential to sustaining this progress.

Computer Science	Game Development certificate (Goal 1, Yi Dai); Computer Science Jam focused on AI (Goal 3, James McNeely, Jon Traugott); CSUEB/Community College partnership to study classroom impact of AI in CS (Goal 2, Goal 3 Jon Traugott). After discussions with Dean Lopez, we are optimistic that an AS-T degree can be implemented within the unit cap, which has been a stumbling block in the past. We are excited that new student club in AI/Machine Learning has been formed (Jon Traugott advisor). We've made some progress in CSCI 15 success with increased review of CSCI 14 topics. By leveraging his expertise in game development, Yi Dai has improved student engagement in CSCI 14 and CSCI 15; students are thrilled to create games of their own design in the context of programming assignments! James McNeely is participating in a trial AI training program composed of three courses: AI foundations and Prompt Engineering, Software & Cloud Computing Fundamentals (NorCal) and Gen AI Capstone . James' training and insights will help us develop a successful Computer Science Jam and to develop AI-focused assignments in our programming courses. Dedicated full-time STEME counselors are critical to sustaining and advancing the student outcomes achieved through the STEME pathway. With their focused 40-hour-per-week commitment, these counselors have been the driving force behind significant gains in educational planning and student success. In AY 24–25, 90% of STEME students completed a Student Education Plan (SEP), with 67% completing a comprehensive SEPC. Among HSI STEM students—who represent roughly 70% of the pathway—the share without an SEP by the end of their first year fell dramatically from 41% in 2020–21 to just 9% in 2024–25, while those completing SEPC/Both more than doubled from 31% to 62%. These structured advising supports have directly translated into stronger outcomes: three-year degree and certificate completion among HSI STEM students has risen from 13% (2019–20 cohort) to 32% (2022–23 cohort), and transfer rates have increased from 21% to 31%, reaching 40% for full-time students. This data confirms that the counselors' intensive, equity-minded work not only strengthens student retention and success but also advances the college's mission and Student-Centered Funding Formula (SCFF) performance metrics. This makes continued investment in full-time STEME counseling essential to sustaining this progress.
Earth and Environmental Sciences	Goal 1: We have made significant progress toward developing the ADT in both GEOS and ENSC, updating the AS in ENSC. These are the key aspects to begin with, and then start developing the AS in GEOS as we learn more about what students are planning to do with this major. The same logic stands for developing certificates in both departments. Goal 2: We are making significant progress in course based research experiences (CURE) with the support of our funded NSF IUSE ITYC grant. We have also been strategic in using our equipment funds in the past two academic years to purchase six petrographic microscopes and one scanning electron microscope, which directly support CURE integration Overall, the full-time STEME counselors have been remain fundamental to sustaining and advancing the student outcomes achieved through the STEME pathway. In particular, with regards to GEOS and ENSC as new and expanding programs, the support of counselors in advising students and helping them find this pathway is key to the visibility of the program and recruitment of students. The support of Chabot College counselors in recruiting students into the Earth and Environmental sciences is particularly important to increasing the diversity of the these fields, which have historically excluded many communities. Given their significant support of HSI STEM students, we need to maintain these counselors at their current full-time positions. With their focused 40-hour-per-week commitment, these counselors have been the driving force behind significant gains in educational planning and student success. In AY 24–25, 90% of STEME students completed a Student Education Plan (SEP), with 67% completing a comprehensive SEPC. Among HSI STEM students—who represent roughly 70% of the pathway—the share without an SEP by the end of their first year fell dramatically from 41% in 2020–21 to just 9% in 2024–25, while those completing SEPC/Both more than doubled from 31% to 62%. These structured advising supports have directly translated into stronger outcomes: three-year degree and certificate completion among HSI STEM students has risen from 13% (2019–20 cohort) to 32% (2022–23 cohort), and transfer rates have increased from 21% to 31%, reaching 40% for full-time students. This data confirms that the counselors' intensive, equity-minded work not only strengthens student retention and success but also advances the college's mission and Student-Centered Funding Formula (SCFF) performance metrics. This makes continued investment in full-time STEME counseling essential to sustaining this progress.

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Engineering	Our high school dual enrollment program is beginning to take off. High schools with PLTW programs are being offered dual enrollment for students enrolled in two of their classes to earn ENGR 10 and ENGR 11 credit. Summer bridge has been successful by bridging students into college from high school by taking ENGR 10 and gaining exposure to campus and learning communities Our yearly certificate pipeline has increase dramatically by allowing students to earn one of three certificates. Success rates and enrollment have increased slightly. Senior lab technician has been instrumental in creating an engineering community by maintaining open lab hours.

Life Sciences	Goal 1: Revisit and refine all SLOs to ensure that course sequences have aligned assessments that develop skills within the program. Outcomes: Modify curriculum to align to common course numbering mandates Discuss majors level revision to 2 semesters and work with LPC on articulation. Continue to define skill development and assessment across sections and work to ensure vertical course alignment across course sequences. Progress made: We have been working to vertically align courses within pathways and to develop common benchmark assessments and rubrics to ensure students are mastering core skill competencies in each class. Thus far, we have developed and implemented rubrics for BIOS 41 (graphing and microscopy), BIOS 44 (aseptic technique), BIOS 42 (dissection and microscopy), BIOS 21A and 21B (microscopy and graphing), BIOS 15 (microscopy), BIOS 21 A-C (lab reports). We are continuing to integrate the rubrics into the lab manuals and ensure that the rubrics are being used across the sections to ensure continuity and equal rigor. We need to revisit the SLOs to ensure they are reflecting the core skill development we are focusing on in each course. Goal #2: Expand course offerings to grow our program Outcomes: Develop more non majors courses offered (ie. forensics, native plants and animals, human biology, and others) to increase options for GE credit in natural sciences for both associates and transfer degrees. Work to develop biotechnology pathway and curriculum. Look to add more sections of current courses when we move into larger space, and build part-time staffing pool to help cover additional sections. Look at ways to modify course offerings to provide student friendly scheduling. Progress made: We have created two new GE courses and submitted them to the curriculum committee. They are awaiting approval. Five faculty were trained at UC Berkeley on cell culture technique and one faculty week-long institute from BIORAD for biotechnology skill development. One faculty member went to the Bay Area K-16 Collaborative STEM meeting and also to a Las Positas College Biotechnology Industry Advisory Board meeting to investigate leads on developing biotechnology partnerships. Our Discipline Plan for 2026-27 has an additional 4 FTEF in anticipation of the opening of the Phase II biology labs. This will 1) restore previous section numbers in the Health Science Pathway, 2) provide additional, needed seats in our Biology Majors Pathway, and 3) provide at least one lecture only GE each term. We continually are interviewing and hiring part-time faculty to increase our pool of instructors. Over the last year we have hired nine part-time instructors over the past year and hope to hire more this year. In an attempt to both clarify and expand min quals for our area, we worked with the Ventura Community College District to develop a proposal for a new Discipline of Anatomy & Physiology. This proposal was just submitted to the ASCCC. We worked as a division to develop a compressed calendar that will double the amount of biology majors students that are able to take all of their required science and math courses in a 2-year sequence. For Health Science students we are planning on changing how we schedule BIOS 41 and BIOS 42 to provide more condensed course blocks and more options. In particular we are being attentive to maintaining sections that start at 6:00 pm or later for students who work during the day. We have ensured that we provide hybrid courses for at least one section in most large course offerings and morning, afternoon and evening sections to accommodate different scheduling needs for our students. Goal#3: Establish faculty inquiry groups for the process of improving teaching across the discipline. Outcomes: Invite outside organization (ie. Escala, SEPAL) to offer STEM DEI Pedagogy training during a multi-session FLEX Day workshop. Develop a STEM community of practice aimed to educate faculty on best practices and improve student success. Progress made: As we have shared our materials with part-time faculty, we have modeled how to integrate effective DEI strategies into our courses by sharing Powerpoints and other materials based on trainings we have done individually. We hope to continue to share our knowledge and internal faculty expertise in more formal ways. We had a data dive for all STEM Disciplines at a FLEX Day to look at student data and determine which student groups we are undeserving. There were clear trends that mirrored the rest of campus, and we were able to start discussing what strategies we could use to improve student achievement across all sections. Through the HSI STEM grant, a subset of BIOS faculty have been working across STEM disciplines to coordinate skill building through the series to better prepare students. This has fostered discussion around pedagogy and practices. We have used a personal connection to reach out to SEPAL coordinator, Jeff Schinske, to seek out professional development targeted to STEM faculty and are in talks to determine where/when to offer it for the most impact. Goal #4: Support health science pathway students. Outcome: Funding to approve proposal to develop a health and wellness students success team. (Proposal submitted for the last two years in program review) This would allow for faculty leads, success coaches, and counselors to support student success. Compensation will vary from 1 to 3 CAH per semester or year depending on the role. Peer mentors and success coaches will provide direct support to students through workshops and advising. Welcome events, advising days, and career workshops will enhance student engagement and success. Progress made: We have submitted the proposal for the past two years and never received a response. Success Team Planning

	Naj has a Canvas page of MTH 21 coreq support resources for faculty. We are in the process of working on the same for MTH 1.
Math	Dedicated full-time STEME counselors are critical to sustaining and advancing the student outcomes achieved through the STEME pathway. With their focused 40-hour-per-week commitment, these counselors have been the driving force behind significant gains in educational planning and student success. In AY 24–25, 90% of STEME students completed a Student Education Plan (SEP), with 67% completing a comprehensive SEPC. Among HSI STEM students—who represent roughly 70% of the pathway—the share without an SEP by the end of their first year fell dramatically from 41% in 2020–21 to just 9% in 2024–25, while those completing SEPC/Both more than doubled from 31% to 62%. These structured advising supports have directly translated into stronger outcomes: three-year degree and certificate completion among HSI STEM students has risen from 13% (2019–20 cohort) to 32% (2022–23 cohort), and transfer rates have increased from 21% to 31%, reaching 40% for full-time students. This data confirms that the counselors' intensive, equity-minded work not only strengthens student retention and success but also advances the college's mission and Student-Centered Funding Formula (SCFF) performance metrics. This makes continued investment in full-time STEME counseling essential to sustaining this progress.
MESA TRIO STEM	Our students have continued to make gains in core STEM courses, with a F22-F24 combined average across selected courses of a 77% pass rate vs a 61% pass rate for non-MESA STEM students. Notably: 79% vs 64% in BIOS 21A; 72% vs 50% in CHEM 31; 71% vs 46% in CSCI 14; and 59% vs 35% in MTH 21. Our SEP completion rate continues to be high. Our counseling interventions are a core component of our program as our counselors develop relationships and build trust with our students over the years. Our intrusive model of counseling promotes frequent contact with the goal of catching a problem while it is still fixable. Our increased availability of counseling this past year has been a great support to our students. This is reflected in our high persistence rate (F24-Sp25 at 92%). To maintain this success, we aim to continue providing sufficient counseling contacts for our students in need of additional support.
Physics	We have increased our PHYS 4A enrollment. We offered a triple section in SP2025 and have updated our schedule to allow for future triple sections to match fluctuating enrollment needs. This should prevent us from turning students away and will support continued growth of our program. We added a part-time faculty member to our pool that can teach both physics and astronomy. We would love to add more! We have had interdisciplinary conversations about adding certificates to our program. We have learned that ASTR certificates would be more useful than PHYS (because of ENGR certificate redundancy). We are also in the process of creating non-credit certificates for PHYS support courses as part of a cross-department strategy to provide more resources for students on an Engineering pathway. We have identified space in the compressed calendar for these non-credit certificate courses that do not conflict with other courses, allowing students to stack credit and non-credit certificates as they complete the recommended course sequence.

9 Responses

Name of Program/Area	Question: What are some challenges regarding completing your program's/area's goals? Please include reflections on challenges with producing outputs or outcomes so far.

	Our challenge in creating a certificate in astrophysics is that there doesn't seem to be a need. We have so few students who want to be astrophysics majors —maybe one per year —that it will not really make much of a difference.
Astronomy	We have created the day-time astronomy lab which so far is going well. We would still like to have evening observing opportunities that our students (and general public) can attend but there is just no appropriate place on campus. We would need it to be easily accessible, dark, with unobstructed views. Perhaps with the purchase of the Frye property we could use that in the future, or with the completion of the athletic fields we could use those. The STEM courtyard could also be a future possibility and we are excited about the opportunity that may provide once plans have been constructed, but we are still in the first phases after hiring the architect. Also, I missed adding this to the Physics PAR, and I cannot go back. Since I am filling out both of them, I am hoping you can add in this statement about institutionalizing our STEM Counselors that could potentially lose funding as the HSI STEM grant sunsets. With the HSI STEM grant ending, maintaining the strong outcomes achieved in the STEME pathway is at serious risk. The progress in SEP completion, degree attainment, and transfer rates was driven by full-time STEME counselors whose 40-hour commitment ensures consistent, equity-focused support. Without them, sustaining these results and the Student Success Team (SST) model they helped build will be difficult. These counselors are essential to continuing the momentum, preserving the infrastructure developed under the grant, and maintaining alignment with the SCFF and college-wide goals for student success and equity.
Chemistry	1. The role of Chem 201 needs to be more clearly defined; run a section of Chem 201 that only currently enrolled Chem 1A students would take 2. The implementation of AB 1705 had resulted in students entering Chemistry courses with insufficient math skills 3. On the STEM counseling side, with the HSI STEM grant ending, maintaining the strong outcomes achieved in the STEME pathway is at serious risk. The progress in SEP completion, degree attainment, and transfer rates was driven by full-time STEME counselors whose 40-hour commitment ensures consistent, equity-focused support. Without them, sustaining these results and the Student Success Team (SST) model they helped build will be difficult. These counselors are essential to continuing the momentum, preserving the infrastructure developed under the grant, and maintaining alignment with the SCFF and college-wide goals for student success and equity.
Computer Science	New certificates take time to develop and get approved. Earliest term offered would be Fall 2027. Regarding AI, the landscape is changing rapidly, so practices developed now might be obsolete by the time they are implemented. For example, we can currently design assignments that defeat cheating via AI. As AI models get more sophisticated, this might no longer be true in a few years. Also, there is a culture shift in industry where AI is no longer seen as an optional tool but as an essential part of any work flow. While over-use of AI can inhibit learning, removing AI from the curriculum would actually make it harder for students to succeed in the job market. Another challenge is the perception by some students that AI reduces the desirability of a Computer Science degree. We should do more to emphasize AI as opening up new avenues for CS careers as opposed to AI "programmers" replacing humans. With the HSI STEM grant ending, maintaining the strong outcomes achieved in the STEME pathway is at serious risk. The progress in SEP completion, degree attainment, and transfer rates was driven by full-time STEME counselors whose 40-hour commitment ensures consistent, equity-focused support. Without them, sustaining these results and the Student Success Team (SST) model they helped build will be difficult. These counselors are essential to continuing the momentum, preserving the infrastructure developed under the grant, and maintaining alignment with the SCFF and college-wide goals for student success and equity.

Earth and Environmental Sciences	We have added Goal 5 explicitly above because after launching (or re-launching) our departments in Spring 2023, we are still struggling with enrollment to the point that we need to cut FTE's in order to remain at 60% enrollment. With the HSI STEM grant ending, maintaining the strong outcomes achieved in the STEME pathway is at serious risk, including the support needed from counselors to advertise and grow our program. The progress in SEP completion, degree attainment, and transfer rates was driven by full-time STEME counselors whose 40-hour commitment ensures consistent, equity-focused support. Without them, sustaining these results and the Student Success Team (SST) model they helped build will be difficult. These counselors are essential to continuing the momentum, preserving the infrastructure developed under the grant, and maintaining alignment with the SCFF and college-wide goals for student success and equity. As we grow our programs, and establish our degrees in GEOS and ENSC, we are anticipating the continued guidance of the STEME counselors in recruiting students and supporting them in completing their degrees in our departments. Without the STEME counselors, our program may be at serious risk of experiencing very limited growth; at present most students interested in the Earth Sciences major in Geography at Chabot College, for which they do not need the STEM requirements. Without dedicated STEME counselors, we may not be able to find and recruit the students who are interested in Earth Sciences with a STEM background, a track that would give the far greater career opportunities in the future. Goal 3: hiring a second full time faculty will become relevant and more realistic in the future when the program is larger. Realizing this, we have added the additional Goal 5 in this PAR 2025. Goal 4: The hiring freeze has affected this goal, and so we are re-submitting a classified prioritization request with relevant collaborating departments in 2025-2026 academic year.
Engineering	Universities have been very difficult to maintain articulation with engineering courses with constantly changing curriculum. Need a dedicated engineering lab technician, additional faculty, and student assistants to fully staff all aspects of the engineering program. Offering STEM 95 and STEM 1 to increase enrollment in STEM classes and connecting students to industry for internship experience.

Life Sciences	Goal 1: Revisit and refine all SLOs to ensure that course sequences have aligned assessments that develop skills within the program. Outcomes: Modify curriculum to align to common course numbering mandates Discuss majors level revision to 2 semesters and work with LPC on articulation. Continue to define skill development and assessment across sections and work to ensure vertical course alignment across course sequences. Challenges: We have been given very short sessions on Flex Days to have these discipline conversations. Longer sessions are needed for substantive conversations. We are still waiting for the CCN templates to be released. BIOS 42 and 43 were delayed, BIOS 44 is in phase 3, biology majors has not been released. The potential removal of pre-requisite BIOS 41and CHEM 30A for the health science pathway will be catastrophic to student success unless it is appropriately addressed. Goal #2: Expand course offerings to grow our program. Outcomes: Develop more non majors courses offered (ie. forensics, native plants and animals, human biology, and others) to increase options for GE credit in natural sciences for both associates and transfer degrees. Work to develop biotechnology pathway and curriculum. Look to add more sections of current courses when we move into larger space, and build part-time staffing pool to help cover additional sections Look at ways to modify course offerings to provide student friendly scheduling. Challenges: We continue to struggle to find and retain part-time instructors with specialized knowledge to teach our advanced courses (i.e., physiology, anatomy, microbiology, zoology, etc.) We have submitted faculty prioritization every year to try to replace the faculty positions vacated by retirement. We are still one full time faculty short since Fall 2022. We are looking to expand our section offerings as we inhabit the STEM Phase II building, but anticipate having a hard time staffing the sections we will be able to offer. We also have built a new biotechnology Cell Culture lab space, but do not have the pre-requisite courses in place for students. We need to develop a curriculum and pathway to get students at the level they would need to do cell culture. This would also require a faculty with a specific skill set to be able to teach it, or training a current faculty in this area. We also will require more lab technician support as we expand our course offerings and increase sections to meet the student demand. Goal#3: Establish faculty inquiry groups for the process of improving teaching across the discipline. Outcomes: Invite outside organization (ie. Escala, SEPAL) to offer STEM DEI Pedagogy training during a multi-session FLEX Day workshop. Develop a STEM community of practice aimed to educate faculty on best practices and improve student success. Challenges: Difficult to find a time for all the faculty to be in a training together due to overlapping schedules and long lab hours. Finding funding has been difficult. We asked SASE for funding, and were asked to go to PARTI. PARTI did not approve our proposal and wanted to take it in a different direction than what we intended to do. We are trying to find a time to create a cohort of STEM Faculty to run an onsite “SEPAL-like” training to help implement scientific teaching practices across all sections. We would ideally like to see a division-wide STEM training that would be offered for a large block of time on a FLEX Day to allow for the maximum involvement and serve as a common experience that could be used to create a culture shift towards using common pedagogical practices across STEM. Goal #4: Support health science pathway students. Outcome: Funding to approve proposal to develop a health and wellness students success team. (Proposal submitted for the last two years in program review) This would allow for faculty leads, success coaches, and counselors to support student success. Compensation will vary from 1 to 3 CAH per semester or year depending on the role. Peer mentors and success coaches will provide direct support to students through workshops and advising. Welcome events, advising days, and career workshops will enhance student engagement and success. Challenge: We have submitted the proposal for the past two years and never received a response.
Math	We need time to create/curate coreq resources for students that they can access on their own whenever they need help. It’s also difficult to deliver support to students who really need them, as they often are constrained by their work schedule or do not prioritize optional activity. With the HSI STEM grant ending, maintaining the strong outcomes achieved in the STEME pathway is at serious risk. The progress in SEP completion, degree attainment, and transfer rates was driven by full-time STEME counselors whose 40-hour commitment ensures consistent, equity-focused support. Without them, sustaining these results and the Student Success Team (SST) model they helped build will be difficult. These counselors are essential to continuing the momentum, preserving the infrastructure developed under the grant, and maintaining alignment with the SCFF and college-wide goals for student success and equity.

MESA TRIO STEM	We have not made progress on creating a cohorted section of math or chemistry. The updates to AB1705 placement criteria have made it complicated to determine whether we would have enough students starting at the same level at the same time.
	Uncertain economic environments create unstable enrollment trends. We are trying to build flexibility in our schedule to make room for potential double and triple sections should need arise, but we have yet to get reliable trends in enrollment to make confident predictions on what to offer a year in advance. Canceled classes that are low enrolled cause roadblocks to transferring students who need courses that we struggle to offer reliably (PHYS 4C, PHYS 5).
Physics	Growth is a priority for us, but a specific challenge is our PHYS 4C course which averages about 1.5 sections of students per year. This means the Spring section is overflowing with students needing the course, and the Fall section is often canceled. We are working with our Dean and our STEM Counselors to create SEP's that try to even out this enrollment so that we can have PHYS 4C reliably offered in Fall and Spring. We are also optimistic that increasing our enrollment in PHYS 4A will extend to PHYS 4C, but not all ENGR majors require increasing our enrollment in PHYS 4A will extend to PHYS 4C, but not all ENGR majors require 4C for transfer.

Student Learning Outcomes (SLOs) and Program Learning Outcomes (PLOs)

SLO (Student Learning Outcome):

9 Responses

Name of Program/Area	If any courses in your program/discipline have not completed SLO assessments in the five-year assessment cycle, please explain why.
Astronomy	We are in progress. We will be assessing 4 sections of ASTR this semester.
Chemistry	N/A
Computer Science	Some courses have not been offered recently (CSCI 6, CSCI 10, CSCI 42).
Earth and Environmental Sciences	The earliest that any of our courses across GEOS and ENSC were offered under this new program of Earth and Environmental sciences was in the 2022-2023 academic school year. Hence, SLO assessments for these courses will begin in 2027-2028 academic year. There are several newer courses coming online in both GEOS and ENSC, that will be evaluated later than this time, within a 5-year cycle of first course offering.
Engineering	N/A

Life Sciences	Public Health (BIOS 18) has only been offered once in the last couple of years (summer 25) through the biology department. Health (HLTH 18) is regularly offering this course in both Fall and Spring, but they have not assessed it yet. There needs to be a discussion with that division why assessment has not happened under that rubric since it is taught on a regular basis. BIOS 21C is currently being assessed by the faculty member that is teaching it.
Math	The spreadsheet claims that MTH 220 should have been done during 2024/25, but MTH 220 wasn't first offered until we came back from the pandemic. So doing its SLO in 2025/26 with the rest of the math courses would still fall within 5 years of its first offering.
MESA TRIO STEM	N/A
Physics	We are in progress. Our discipline will be evaluating 4 courses this semester.

PLO (Program Learning Outcome):

9 Responses

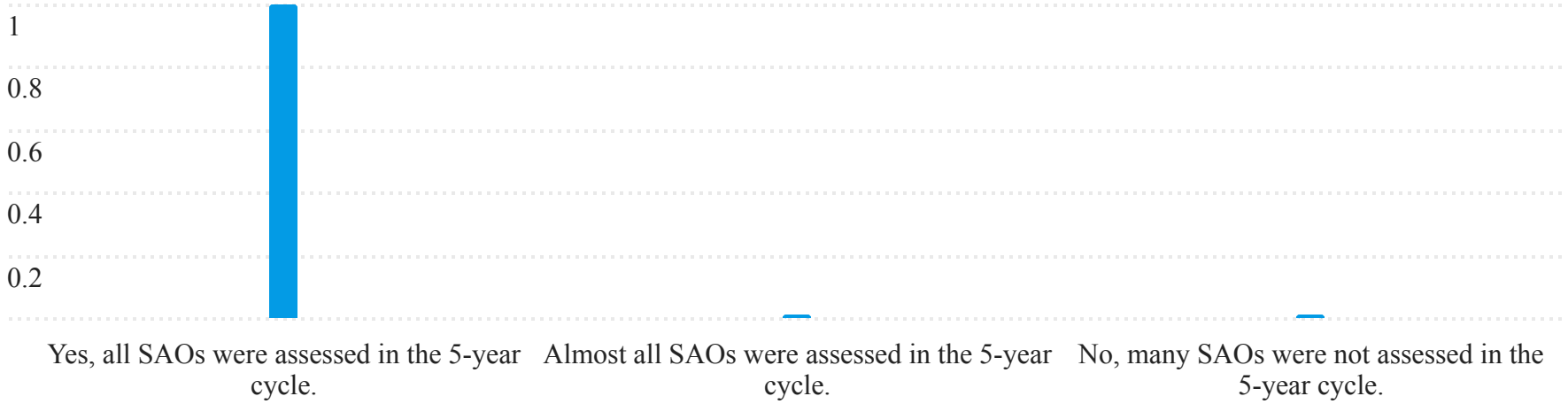
Name of Program/Area	If your program/discipline has not completed PLO assessments in the five-year assessment cycle, please explain why.
Astronomy	N/A
Chemistry	N/A
Computer Science	N/A

Earth and Environmental Sciences	The PLO's for ENSC and GEOS will first be evaluated in the 2027-2028 cycle, as these programs both started (or significantly re-started in the 2022-2023 academic year. Please note that the GEOS program does not even appear on the PLO spreadsheet.
Engineering	N/A
Life Sciences	The two degrees that would be up for assessment this academic year are no longer active. The Public Health Science AST has been deactivated and the Biological Sciences: Allied Health AA was deactivated and replaced by Biological Sciences: Health Science AS. The new degrees and the new certificate will be assessed on their stated schedule.
Math	N/A
MESA TRIO STEM	N/A
Physics	We do not currently have a degree or certificate program in physics

Services Area Outcome (SAOs)

Were all your Service Area Outcomes (SAOs) assessed in the 5-year cycle?

1 Responses



9 Responses

Name of Program/Discipline/Area/Service	If your program/area has not completed SAO assessments in the five-year assessment cycle, then please explain why.
Computer Science	N/A
MESA TRIO STEM	N/A
Life Sciences	N/A

Earth and Environmental Sciences	N/A
Math	N/A
Astronomy	N/A
Physics	N/A
Chemistry	N/A
Engineering	N/A

Rationales for Resource Requests

9 Responses

Name of Program/Area	Question: Which of your PAR goals, plans for improving student learning, and/or plans for reaching SAOs will need additional or new resources?
Astronomy	In addition to the A.V. upgrade for the planetarium, we would like to have a color printer/scanner for the planetarium back room that can network into the desktop computers in the lectern. We would also like better signage around campus to find the planetarium if we are to resume community shows. We would also like to explore additional red lighting in the hallway just outside of the planetarium to allow folks to be able to see but preserve their dark-adapted vision. We would like a consistent funding source for faculty, staff, and custodial services to hold planetarium shows for the community outside of normal working hours (evenings and weekends).
Chemistry	N/A
Computer Science	No additional resources are needed.

Earth and Environmental Sciences	The PAR goals that will need significant new resources are the hiring of a second full time faculty (Goal 3) and a classified lab tech (Goal 4). Among our ongoing Goal 2 of increasing research opportunities at Chabot college, we will need new resources when the funding from the NSF IUSE ITYC is exhausted (2027-2028 academic year), in order to support the sustainability of developed programs; this will largely support equipment / supply costs, student stipends and student / faculty travel expenses. Finally, within the new Goal 5, as more classes come online with associated increases in enrollment, we will require more funding for dedicated STEM E counselors to recruit students into our program and guide them in completing their degrees. We will also eventually need more funds for supplies and equipment used in these courses, as our offerings expand.
Engineering	Need additional FTEF to offer non-credit and dual enrollment classes. More coordination time for curriculum, SLO’s, articulation, SST’s Full time engineering faculty Full time engineering lab tech 6 student assistants-outreach, lab support, tutoring

Life Sciences	Biology AST Degree, Biological Science - Emphasis on Health Science AS Degree PLOs Goal 1 - Develop competency with standard equipment and techniques of biosciences We will need an increase in our budget to provide supplies for instructional and laboratory needs with increased course offerings. If we expand into new areas like biotechnology, these materials are costly for each semester they are offered. Historically, the maintenance costs for water purification systems, microscopes, autoclaves, and other specialized equipment has been paid out of a separate bond budget. Lately, these costs have instead been deducted from our equipment budget. This depleted the equipment budget and makes it impossible to purchase vital equipment to replace items which break. We also will need an additional lab technician to help support the increased lab offerings as we move to a larger space and can return to the number of sections we offered before the demolition of 2100 (the old biology building) in 2024.
Math	Create teaching resources for instructors and learning resources for students.
MESA TRIO STEM	n/a

Physics	We want to continue to provide students with seamless opportunities for interactive and collaborative learning. We would like to create organized supply boxes for each lab group that contain often needed learning materials like white board markers, colored pencils, rulers, tape, styli, and highlighters. We would also like to expand our portable whiteboard supply to fully outfit both of our PHYS lab rooms so that simultaneous classes have full access to necessary supplies. We would like to upgrade our printers in both lab rooms and ensure that the department laptops can have network access to print to the classroom printers so students can print graphs, data tables, and lab reviews in class. Often, when students need to print something for their lab reports, they leave class and go to the STEM center. Physics lab work often involves electronic media (graphs, data tables), hand-drawn media (diagrams), and mathematical derivations (can be typed or written). Printers can allow electronic media to merge with physical paper media for physical lab reports, and styli can allow students to digitize hand-drawn or handwritten work for electronic submission. Building our supplies for both will allow for flexibility and choice for students.

Optional: Campus-Wide Reflection on Current Issues

9 Responses

Name of Program/Area	Chabot College will implement the compressed calendar (e.g., 16-week semester, the timing of the new block schedule and/or college hour, etc.) beginning in Academic Year 2026–27. As we prepare for this transition, what insights or suggestions do you have to share with the campus community?
Astronomy	Our ASTR courses are relatively unaffected by this change, except for the ASTR 30 lab course, which will lose one lab meeting.

Chemistry	The lack of a dedicated Final Exam week will cause difficulties in administering Final Exams of appropriate length. For Chemistry courses with double lecture sections, the Final Exam will have to be given either in two parts or else as two different Finals. Biology also has double lecture sections of many courses and will face similar challenges. Having a dedicated Final Exam week, as most other institution do, will eliminate this problem.
Computer Science	We do not anticipate significant challenges transitioning to the compressed calendar. CSCI class times can be adjusted to fit within the new time blocks. Also, hybrid format classes minimize potential overlaps with classes in other disciplines. The compressed calendar has the benefit of course offerings during winter intersession (e.g. CSCI 41 or CSCI 8). That would need to be done thoughtfully; otherwise, the short timeline might impact success rates.
Earth and Environmental Sciences	In general, since our program is so small with relatively few majors, we do not anticipate significant challenges with the compressed calendar. Rather, we will aim to coordinate with larger departments across the Science and Math Division for class scheduling, both for room assignments and lab technician daily workload, as well as for ensuring that students can enroll in classes as per their SEP—as those departments and their scheduling logistics are much more affected by the compressed calendar. For benefits, I think that in general, students may be more focused in the 16 week semester, and that having only one college hour a week may make it easier to schedule laboratory classes throughout the week. Additionally, the winter intersession will allow our program to offer more courses over the academic years. We are doing as much as we can within our program to accommodate the switch to the compressed calendar.
Engineering	Engineering has challenges with scheduling. As we only offer many courses once per year and engineering students require a variety of many classes to transfer, it has been difficult to schedule engineering classes without overlapping other required courses in a 3-year plan. Due to this, many sections require asynchronous components to allow students to transfer in a timely manner. Labs will be directly impacted. Although additional class time is given, the 16 week schedule will require cutting out at least two labs for each class. A general college challenge will be moving twice a week college hour to once a week college hour in late afternoon. Benefits include adding an additional winter semester and ability to offer two 8 week courses during the fall and spring semesters.

Life Sciences	There is a tremendous amount of work that is required to move to a compressed calendar. There are no clear deadlines, training on how to do this effectively, financial support for those doing the work, or any real acknowledgement of the work you are asking of faculty in redesigning the entirety of their course material. This will impact lecture content, but it is much more impactful on laboratory classes as experiments/activities have to be completely redone to fit into the new time blocks. You cannot simply take an activity from one lab and move it to another one, as you can with lecture material. This redesign process could result in different materials needed, different lab tech schedules, and changes in facility needs. The provided block schedule did not take into account courses that have both a lecture and lab time block. Keeping these blocks together is important for both student learning and for student schedules. So, continuing to run them back-to-back creates very long class blocks with only 5-10 minutes in between for both students and instructors. We plan to start at 7:45 am to be able to provide our students and staff time for a brief lunch break in between classes. In addition, the chosen day/time for the college hour is very disruptive to scheduling courses with labs that have long time blocks. For example, biology majors have multiple lab courses each semester that only have a single lecture option. Since there is only one class offered (sometimes with two labs) each semester, these are typically taught by FT faculty due to the coordination work needed for lab activities. Not having the ability to have one of these courses on M/W afternoons made creating a student-friendly schedule that avoids course conflicts extremely difficult and time consuming. More feedback across the college would have been beneficial in picking a day/time that would work better. We are very concerned that having to start evening courses at 5:00 pm instead of 5:45 pm will negatively impact this group of students who are already disadvantaged in terms of the availability of services in the evening. We are also concerned that we will have difficulty staffing these courses because 1) those PT faculty who have daytime jobs will not be able to get to campus just before 5:00 pm, and 2) the afternoon and evening classes will now overlap meaning the same instructor cannot teach both sections, which is frequently done by both FT and PT faculty in order to cover our staffing needs.
Math	The town hall in the middle of the afternoon on Wednesdays reduces a block that FT faculty can teach to make load, especially for high unit math and science classes, when the number of blocks decreases in compressed calendar. If the town hall was 11:20a-1:20p on Fridays, then there can still be morning (8-11:10a) and afternoon (1:30-4:40p) labs on Fridays as there currently are now, while not affecting the schedule for the rest of the week. Fridays need to be better utilized.

MESA TRIO STEM	One challenge that the compressed calendar will add to is finding a common time on STEM student's schedules to hold academic workshops. It is already difficult, but with the compressed calendar, there is even less time between classes for students to take advantage of outside of classroom resources. In addition, the compressed calendar does not include a designated finals week. This may pose time-management issues for students during the end of the semester. On the beneficial side, having a winter session may make time available to hold longer preparatory workshops.

Physics

We anticipate multiple upcoming challenges in addition to the challenges that we have already been working to overcome. Some of the issues that we are preparing for are listed below:

1)We currently have one lab meeting each week. While we do not lose lab minutes, a laboratory experience cannot be broken up across class meetings in the same way that lecture content can. This means we will lose at least one lab (perhaps 2) for all of our STEM classes. The second lab lost could potentially be caused by holding the final exam during the last lab period so that students have the additional time normally allowed during a final exam before eliminating finals week.

2) The block schedule does not work well with lab blocks because there are gaps in available lab blocks due to the Town Hall time. This results in fewer schedule choices, and longer student schedules (more hours a student is on campus in a day). In addition, there are fewer staffing options for those classes.

3) The compression of finals week will be a challenge for students with less time for studying and multiple finals in a single day.

4) Losing the Wednesday off before Thanksgiving will likely result in many students missing class. We anticipate low enrollment on that day, which is a challenge to plan for.

Some of the opportunities we foresee are listed below:

The shorter semester may prevent burnout and mental fatigue in students and staff. 18 weeks can feel like a real marathon.

The intercession may be helpful for students that would benefit from a noncredit workshop or other support course.

Our Part-time Faculty will benefit from the intersession financially because they can have a larger total teaching load in each academic year.

Services, faculty and staff availability could increase on Fridays, which will benefit students and staff who have been historically coming to campus on Fridays and finding a decreased campus presence.