

Program Review Update Division Summary Fall 2017

Dean/Administrator	Program Review Committee Reader(s)	SLO Committee Reader(s)
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Division/Area	Programs
MSEPS	Administration of Justice Astronomy Biology Chemistry Emergency Medical Services Engineering/Engineering Technology Environmental Science Environmental Studies Fire Service Technology Geography Geology Horticulture Occupational Safety and Health Physics Radiation Safety Viticulture/Winery Technology

Executive Summary: Please describe the most important themes, trends, and developments in your division or area. Your summary should identify accomplishments, plans and obstacles to success. Your summary should be approximately 250-500 words in length.

Major themes arise from the analysis of 12 Program Review Updates, representing 16 disciplines in Math, Science, Engineering, and Public Safety.

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- Faculty and staff continue to develop and deliver **outstanding learning opportunities** for students, whether in the classroom and lab or through a wide range of student activities and opportunities to support student goals, including Honors Projects, Independent Study, student clubs, honor societies, internships, seminars, conferences, poster exhibits, transfer, scholarships, and learning communities.
- This has been a year of **hiring** (especially for replacements), **facilities** envisioning, expanded opportunities for **professional development**, and **curriculum** updates and innovation.
- Faculty and staff increasingly struggle with the **lack of adequate time and resources** to complete their many non-teaching tasks and to create comprehensive, thoughtful progress on several fronts: curriculum; SLOs; staff development and other training within and between departments, facilities, student support; and K-20, community and industry outreach.
- As programs have grown and modernized, there is the significant need for increased access to three types of **resources—funding, space, and people**.

Other main themes:

- This was the year for curriculum updates. All programs have updated **curriculum**, with hundreds of course outline updates, new courses, and multiple new or revised degrees and certificates. Some disciplines are exploring different modes of delivery, such as non-credit, co-requisite, hybrid, OEI, DE, and Emporium model. There are still some course outlines in need of revision, especially in departments with one or no full-time faculty.
- The division reached 100% compliance with an accreditation requirement to have **SLOs** on syllabi. Programs continue to revise, discuss, and assess SLOs, and wish to engage more with their part-time faculty, although it remains a scheduling challenge is to bring together FT and PT faculty for meaningful dialogue on SLOs. Several programs report pedagogical improvements based on SLO results.
- Many programs and individuals have received extensive **professional development**, but the distribution of professional development opportunities is not evenly distributed among faculty and programs, for multiple reasons. There is desire for more professional development.
- Several programs have reached capacity in existing spaces, while others are in outdated facilities. The division has spent a significant amount of time envisioning its long-term facilities needs and done an excellent job creating thoughtful and data-informed plans. **New and renovated facilities** are required to meet the teaching, learning, personnel, and storage space needs of various programs—these include a Public Safety Training facility, a new science building, renovation of Buildings 1800 and 1850, dark-sky space, student learning center, more computer labs for math, and a horticulture facility and a teaching winery/viticulture building. There is broad support for keeping CTE programs close to the center of campus, so that CTE is not physically isolated from other programs.

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- Programs emphasize the importance of the Library and other specialized **learning spaces** such as the Integrated Learning Center, Open Math lab, Biology Learning Center, and Maker Space. These specialized facilities require increased funding, staffing, space, and equipment improvements.
- **Some disciplines continue to need additional FT faculty and increased classified professional support.** Smaller departments with one or no full-time faculty are disproportionately affected by the amount of work required of faculty.
- Programs have been successful in using the Instructional Equipment Request process to improve instruction. There is sustained need for funding for **supplies and equipment**. Maintenance of current and future facilities must be sustainable.
- There are currently several successful **community relationships and partnerships**. An additional event/lecture venue would support community outreach, since existing spaces are impacted. Programs are responding to **external and other factors**, such as accreditation and state initiatives. Work-based learning specialists have had a positive impact on programs.
- **A part-time faculty pool is highly desired by multiple programs.**
- A **proctoring center** will help all programs.
- **Technology needs** include software and hardware updates.

Recommendations: Please list your most important recommendations for planning in your division or area. Note any recommendations that are connected to our College's Planning Priorities or Educational Master Plan.

Recommendations continue to be:

- Support curriculum processes (departmental review, curriculum committee) to encourage regular review of curricular needs in course outlines, certificates, and degrees. (Planning Priority-Curriculum; Educational Master Plan-Educational Excellence)
- Dedicate resources, including training, to assist faculty with collaborative work on curriculum and SLOs. (Planning Priority-Curriculum, SLOs; Educational Master Plan-Supportive Organizational Resources)
- Support evaluation and prioritization of Measure A/Facilities Master Plan to reflect the specific needs of programs; encourage user groups to form and begin more detailed analysis of needs. (Planning Priorities-Tutoring Services and Student Success)
- Support departments in engagement of part-time faculty in more program work. (Planning Priority-Curriculum, SLOs; Educational Master Plan-Organizational Effectiveness)

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- Facilitate professional development opportunities within and outside LPC. (Planning Priorities-ACCJC Standard, Professional Development; Educational Master Plan-Educational Excellence, Organizational Effectiveness)
- Support departments in identifying and requesting sufficient resources for staffing, equipment, supplies, and technology. (Educational Master Plan-Educational Excellence, Supportive Organizational Resources)
- Continue development of part-time faculty pools. (Educational Master Plan-Supportive Organizational Resources, Organizational Effectiveness)
- Support cross-disciplinary work on optimizing scheduling. (Educational Master Plan-Educational Excellence)
- Streamline and standardize processes institutionally to alleviate time demands on faculty and staff. (Educational Master Plan-Supportive Organizational Resources, Organizational Effectiveness)
- Shift allocated college time towards more opportunity for shared work on program needs. (Flex day, 2nd hour of Town Meeting, Convocation/college day, etc). (Educational Master Plan-Supportive Organizational Resources, Organizational Effectiveness)
- Provide institutional support and funding of various specialized student learning spaces and programs (Integrated Learning Center, Open Math Lab, Biology Learning Center, Math Jam, Maker Space). (Planning Priorities-Tutoring Services and Student Success; Educational Master Plan-Educational Excellence)
- Support program outreach to the community and external agencies. (Educational Master Plan-Community Collaboration)

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Category	Themes, Accomplishments and Challenges
<p>Community Relationships and Partnerships</p> <p>Such as outreach, recruitment, internships, industry collaborations.</p>	<p>Themes: Within this set of programs, there are many instances of community partnerships. Many are with the K-12 system to either support high school students or to improve the pathway from high school to college. Some programs have been accredited from outside entities. Other are creating new degrees/certificates for specific populations by partnering with community agencies or schools. Similar to last year’s update, faculty and staff need time and support to develop community relationships and partnerships. Opportunities for outreach and partnerships occur on a regular basis; many are turned down due to lack of resources such as faculty who have the capacity to lead the effort.</p> <p>Accomplishments:</p> <ul style="list-style-type: none"> • AJ: Tri-Valley ROP Justice Academy – creates a pipeline from K-12 to college to employment. • Bio: Working with advisory board to create a degree/certificate in Computational Biology; host several community partnership/outreach events such as camps and youth horizons; held Biotech Bootcamp for the first time to engage local high schools • Chem: Participating in Major’s faire and high school health fairs, and participating with the high schools through the HSI program • EMS: Paramedic program was accredited through the CAAHEP; has articulation agreements with Tri-Valley ROP and wants to increase community partnerships and outreach • Engineering Technology: formed many connections with local employers to provide internships and opportunities for Engineering Technology Learning Community, now in its 4th cohort • Fire Services technology to create contract with Livermore Pleasanton Fire Department to pursue recognition for “Fire Fighter I” preparatory training as an approved ALA facility. • Hort: Created Adaptive Horticulture Program in conjunction with Sunflower Hill, Pleasanton Unified and other agencies to serve those with mild to moderate disabilities. • Math: offering Math 3 at a local high school • Math Department and Livermore Valley Joint Unified School District has formed a tutoring program for high school students. 3 Faculty and 6 student tutors are helping 50 students who are enrolled in a non-credit TUTR200 course. Paid for by a two year grant. • All MSEPS departments participated in the Spotlight Series events. • LLNL/LPC Seminar is in its 8th year, furthering a strong partnership with LLNL. Having a STEM Coordinator has helped move this effort and several others to an institutional level; however, this position is grant-funded and will need to be folded into general funds. <p>Challenges:</p>

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	<ul style="list-style-type: none"> • The Engineering Technology program faces a serious challenge with the lack of a permanent position and/or fully-institutional support mechanisms for the learning community. This learning community is in its fourth cohort, and will need dedicated staff and student services support to match the support given to other learning communities. • As mentioned above, having a STEM Coordinator has helped support many partnerships; however, this position is grant-funded and will need to be folded into general funds. • All program would benefit from more marketing and more opportunities to engage with high schools and potential industry partners. • AJ requests release time to market their program to local high schools to combat low enrollment. • EMS and most STEM programs would benefit from a more diverse student population (e.g., more women in EMS and Fire) to see more women enrolled; perhaps this can be addressed by marketing? FST perhaps needs better marketing, to compete with inferior “private sector” companies who market well. • Geography needs better marketing to attract more students to the major.
<p>Enrollment Management</p> <p>Changes to section offerings, such as adding/removing sections or increasing/lowering class size.</p>	<p>Themes: Programs are actively engaged in their enrollment management processes and utilize discipline plans effectively to prioritize the needs of students. Many programs are requesting more coordination time due to the number of projects being coordinated within disciplines and many non-instructional commitments. Several programs have been able to add new course sections to meet student demand. Many programs have impacted classes and long waitlists, and several have responded to immediate changes to course offerings based on demand.</p> <p>Accomplishments:</p> <ul style="list-style-type: none"> • Multiple programs noted challenges with block scheduling. • Astronomy: increase in enrollments and high productivity. • Bio: adding more sections of courses to meet student demand (4 since last PRU). May need to increase sections of Bio 30 if needed for the Public Health degree • Chem: increased course offerings (4 new sections). • EMS: Offered an additional section of EMT. • EVST continues to fill its single course offering of EVST 5. • FST has grown in enrollments, especially because Delta College shut down their FST program. • HORT has shown excellent growth in program due to offering 3 courses per term to ensure students can complete their program. • Math: offering more sections to meet high student demand; Math has increased enrollment in upper-level/transfer courses. CEMC has approved additional sections for Fall and will offer additional sections in Spring. Students are placing higher in math classes. • Phys: increased number of sections for Physics 1 & 2 series. Possibly related to Chabot eliminating their Physics 2 Sequence. Students also coming from Engineering Technology. <p>Challenges:</p>

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	<ul style="list-style-type: none"> • AJ: Lower enrollments. Lack of coordination time for marketing – program partially sees the reduction in release time in 2011 to lowered enrollments (and new ADT degree); offered fewer classes due to workload – students were negatively impacted. • Bio: lack of facility space means students go to other colleges for completion – need to add more classes to meet demand; both pathways in biology majors and Allied Health are growing. • Geography has not added sections because it would cost productivity. • GEOL wants to offer more online classes due to student demand. • Hort: needs continuing support to offer an additional class per semester to allow students to complete their degrees and certificates in a timely fashion. • Math: Consider funding for faculty reassign time to coordinate the Math Emporium. • Phys: some decrease in enrollments. • Vit: low enrollments in one course has resulted in cancellation 3 semesters in a row.
<p>Curriculum</p> <p>Changes made through the curriculum committee, such as changes to course outlines, degrees and DE status.</p>	<p>Themes: All of the programs are working on curriculum projects at this time, with several creating new certificates or degrees. The Division has successfully updates more than a hundred courses. Several are updating curriculum to meet changing needs in industry. Others are changing units or sequencing based on student success.</p> <p>Accomplishments:</p> <ul style="list-style-type: none"> • BIO is looking into developing several new degrees and certificates to prepare students for employment in clinical laboratories and hospitals, as well as in environmental and biotechnology industries. • CHEM: some courses due for update; want to introduce more modern labs that use instrumentation and modern technologies. • EMS: The paramedic program has its first credit-based cohort (vs. fee-based in past). • EVST has updated their curriculum and degree this year, and plans to work on new certificates and lab courses in the future. • FST plans to update curriculum to reflect the latest guidelines from accrediting bodies and the State Fire Service Board. • GEOL updated all course outlines, wants to create a certificate program in geology, developed safety procedures for students in lab, needs to offer Historical Geology 3 & 3L to meet the Geology AS-T degree requirements, and is also considering offering one or more courses online through the OEI. • HORT needs to revise curriculum so all required courses can be offered within a 2 year period; created non-credit Adaptive Horticulture Program, but that has not yet been implemented. Horticulture. Also plans to implement a 5 course Adaptive Horticulture program with internship. Some of those classes would be non-credit classes. • Math: changes names of some courses and reducing units in one course; added a lab to another and reduced the lecture hours: deactivating a course and revamping two others, Prerequisite for Math 1 is redesigned. Math 65 becomes Math 110 in Fall 18. Math 55 will emphasize STEM applications in the course. providing an accelerated pathway to Calculus and offering a technical mathematics pathway for Auto & Welding; would like to fast-track

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	<p>some courses; adding co-requisite support courses; submitting curriculum for Math Jam and the high school tutorial classes; Math plans to offer two certificates for Math Jam to keep it free for students but faculty should receive appropriate compensation.</p> <ul style="list-style-type: none"> • Phys: Changed the numbering and order of courses to help students choose courses successfully. • Vit: in process of creating a new Career Certificate in Wine Hospitality. <p>Challenges:</p> <ul style="list-style-type: none"> • Non-credit is an issue. Math and Hort have programs that need resolution on the non-credit compensation issue. • AJ: students choosing to pursue ADT means some courses being low-enrolled or canceled. • EVST, as a major, needs interdisciplinary support from faculty, and a dedicated lab course, which may coordinate with other disciplines (like BIO). • GEOL: Low enrollments are an issue in some courses required for majors (3, 3L, 7), so program will need support to develop a clear pathway for students to increase enrollment; program is experimenting with combining it with GEOL 1 • VWT: staying up to date with curriculum is especially challenging due to having only one full-time instructor.
<p>External Factors</p>	<p>Themes: Multiple programs have active advisory boards that have helped programs move to meet industry needs. Several programs identified obstacles to program success because of District or College processes. Hiring timelines, the downgrading of positions by HR, lack of movement on payment for non-credit courses and scheduling were specifically called out. Others are impacted by outside grants ending. Some identified that community perceptions about the discipline (career choice) are resulting lowered enrollments. Regional growth offers both opportunities (more program partnerships, and students) and also challenges (traffic, cost of living affecting recruitment). For-profit college programs are a competitor for some programs.</p>
<p>Such as state/ accreditation mandates or advisory board directives.</p>	<p>Accomplishments:</p> <ul style="list-style-type: none"> • Multiple programs are now meeting regularly with their advisory boards (AJ, Bioscience, EMS, Engineering/Engineering Technology, Fire, Horticulture, Viticulture). • EMS: Paramedic program is now accredited. <p>Challenges:</p> <ul style="list-style-type: none"> • AJ: Perception of law enforcement is contributing to lowered interest in this career; additional non-instructional requirements from state and college reduces time to complete tasks; many retirements across the county due to changes in CalPERS retirement benefits – creating potential job shortage. • Bio: HR downgraded the laboratory tech position and this has resulted in high turnover, negatively impacting biology and chemistry programs as a whole. Also, the PT/10-month nature of these positions also increases turnover. Increases in pay and time are required for these positions. • Engr: Grant funding of STEM coordinator and Student Support Specialist leaves Engineering Tech Learning community program in precarious situation of not having institutionalized support.

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	<ul style="list-style-type: none"> • Fire: Has facilities requirements that need to be met to be recognized as an accredited training site. • Math: Funding the current pilot program for tutoring HS students will end in 1.5 years; lack of movement on compensation for non-credit prevents movement in putting through possible curriculum; block scheduling and lack of classroom space make it very difficult to schedule classes effectively and efficiently. • Phys: The district needs to streamline the hiring process; college can improve the scheduling process. • Vit: would like the college/district to go out for a winery bond to produce and/or distribute wine.
<p>Facilities, Supplies, and Equipment</p>	<p>Themes: Programs are growing rapidly and have robust enrollments. Programs are severely hampered by lack of lab and classrooms that meet specific disciplinary needs or just not enough classroom spaces and equipment and supplies for the continued program growth. Also, there are concerns about lack of storage for materials, lockers for students and even being able to meet OSHA requirements due to lack of space. Some programs are housed in subpar facilities, so the FMP process will be key to supporting sustained growth in these programs.</p>
<p>Purchasing or upgrading</p>	<p>Accomplishments:</p> <ul style="list-style-type: none"> • All departments actively reviewed and assessed their upcoming facility needs as the college prepares to start work use on Measure A funded projects and development for facilities master plan. • Several departments received funding for equipment through Instructional Equipment Grants. <p>Challenges:</p> <ul style="list-style-type: none"> • AJ/EMS/Fire: Measure A – will need extensive work toward new Public Safety Training Center in coming years. • Bio: Need more laboratory space before adding more anatomy classes; the greenhouse needs major maintenance; need for more space for classes – Allied Health program completion being negatively impacted, creates great difficulty in scheduling courses, faculty meeting load and not creating difficulty for students because required courses run concurrently with one another. Need more dedicated space for the Biology Learning Center. Not meeting OSHA requirements for Biology Food Storage. • Chem: Needs more lab spaces (2 new and 3 redesigned) and classroom near to those labs; increase number of student lockers; need waste room, storage and explosion proof volatiles/flammables room; Seeing an increased use of lab supplies and equipment due to 10% increase in classes offered; need to replace specific equipment that is outdated or broken; Would like to add another section but are severely hampered by classroom and locker space. Need to update the technology used for faculty webpages and Chemistry website. • EMS: Needs simulation lab and classroom due to less opportunities for students to have clinical placements. • EVST: Also need a new classroom for lab. Can be shared with physics/astronomy. Need a field research site, possibly a portion of mitigation land. • GEOG: Needs a new, dedicated classroom because of expanding program, that can fit both the lectures and GIS. • GEOL: Has an extensive list of items needed for supplies, from display cases to lab materials to laptops, printers

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	<ul style="list-style-type: none"> • Hort: Need dedicated classroom and lab space, additional storage space for small and large equipment, updated shade house. Has a new class but no space with the required specifications needed for this course. Need equipment to offer hydroponics and aquaponics courses; need to fix the irrigation equipment. • Math: need access to more classrooms and computer labs; need to update the Ethernet lines in the classrooms; want to have a centralized Academic Support Center; need more wireless hubs/hotspots, smartboards and/or wireless projectors. • Phys: needs 2 additional physics and astronomy lab rooms, along with additional storage; need lab equipment for 2 additional labs; need a dark sky site for observational equipment. • Vit: need space to store equipment inside; need additional teaching space; needs a dedicated production space and driveway access to the HORT/VWT yard needs to be maintained. • BIO, CHEM, PHYS all need additional lecture classrooms nearby the labs, as well as new lab rooms. • ENGR/GEOL/PHYS need more storage space, and a working elevator.
<p>Financial/ Budgetary</p>	<p>Themes: Nearly all programs report a need for increased budgets. Most have created robust and growing programs but cannot sustain excellence without appropriate increase in funding. Some have not been updated in years, while others have not been increased to meet the growing demand for supplies and materials based on number of students being served. A few programs want to find funding to meet specific professional development needs or to build and maintain relationships with their part time faculty who should be compensated for their time. Finally, others need funding to continue projects that may end if the current funding source sunsets.</p> <p>Challenges:</p> <ul style="list-style-type: none"> • Bio: budget has not grown despite increasing supplies and expenses; had to borrow from other budgets, which is not sustainable, and there is still unmet need. Working to secure funding for a start of semester workshop with all faculty to improve services to students, pedagogy and safety – compensate PT faculty. • Chem: Needs additional budget to accommodate growth in course offerings = more equipment, supplies and maintain existing equipment; College needs increased PD funding. • EMS: As the program moves from fee-based to for-credit, the costs of professional experts will be a challenge. • EVST needs funding to allow purchasing and maintaining future lab equipment not covered in instructional grant requests. • GEOG: Needs a new map set, as well as lab equipment. • GEOL: Needs increased funding (previously reduced) for maintenance of its supplies and equipment. • Math: Need to find source of funding to continue HS tutorial program once grant ends; more funding for Math Emporium support and permanent funding for Math Jam; funding to purchase more graphing calculators for the loan program.
<p>Program budgets or special funding.</p>	

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	<ul style="list-style-type: none"> • Vit: No increase in program budget for 10 years; need increased budget for vineyard maintenance.
<p>Human Resources</p>	<p>Themes: Programs have been able to hire either staff or faculty, and almost all indicate need to make additional hires to meet program needs. Lab programs have been impacted by having only 10-month positions for their lab assistants/coordinators and also by the downgrading of position categories by HR (e.g., lab technicians are not offered a competitive salary, given their high level of technical expertise). STEM Coordinator position and Learning Community Support both need to be converted to a permanent position. Some programs may be unable to meet regulatory or contractual obligations without changes in staffing. Programs would like to support more part-time involvement in department activities and need financial support.</p>
<p>Hiring and staffing needs.</p>	<p>Accomplishments:</p> <ul style="list-style-type: none"> • AJ/EMS/Fire: hired a public safety programs manager. • Bio: Hired new FT faculty – replacement for vacant position; hired a shared position (new lead lab technician/safety officer) with chemistry. Hired multiple PT faculty. • Chem: Hired 4 PT faculty. • EMS: Hired new FT faculty/discipline coordinator. • Math: Hired some PT faculty, a new Senior Instructional Assistant, and a PT Instructional Assistant. • Vit: Hired a PT lab tech – has helped with the campus vineyard <p>Challenges:</p> <ul style="list-style-type: none"> • Bio/Chem: faced challenges of multiple retirements and resignations; this is partly a structural issue because salary scale and options for advancement are not competitive for lab technicians. • Bio: need more laboratory technician positions in general and FT specifically. ; need to add a late shift lab tech; lack of experience among student assistants is impacting learning. • Chem: Need to hire another FT faculty person; need to hire additional lab techs and increase existing to 12-month positions. Requests more release time for department coordinator. • ENGR and all STEM: STEM Coordinator and Student Support specialized functions need to be institutionalized into permanent roles. • GEOG: would like a lab technician with more geography knowledge. The current lab technician is more geared towards physics and astronomy, and perhaps move back to a social sciences division. • Vit: Vineyard maintenance staffing is required.

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<p>Learning Support</p>	<p>Themes: Programs excel in offering programs to support students such as through through clubs/honor societies, tutoring, mentoring, honors projects, faculty advising, and specialized learning spaces. Math and Chemistry have created a number of projects, in partnership with others, to provide learning support to students.</p>
<p>Services provided to support student learning, such as tutoring and library support.</p>	<p>Accomplishments:</p> <ul style="list-style-type: none"> • Open Math Lab (OML) has been renamed the Mathematics Learning Center (MLC). MLC will be housed under ILC. • Chem: Faculty advise clubs and mentor students and support honor’s projects; through an HSI grant supporting Latinx students to visit chemistry labs in the community. • Math: Implementation of Multiple Measures showing early success in students placing into higher levels of math; re-named the Open Math Lab to Mathematics Learning Center to lessen student confusion; looking to implement a reading Apprenticeship Program. <p>Challenges:</p> <ul style="list-style-type: none"> • BIO: Biology Learning Center needs a bigger facility to support large numbers of students needing extra support.
<p>LPC Planning Priorities</p>	<p>Theme: Programs have sought and received professional development support for some faculty and/or some programs, but not all programs are as active in these areas. There is a need for creating sustainable process for recording and assessing student learning.</p>
<p>Available here: https://goo.gl/LU99m1</p>	<p>Accomplishments:</p> <ul style="list-style-type: none"> • Accreditation: Several MSEPS departments increased work on SLOs and updated curriculum, which help maintain accreditation. • There is a substantial support from CTE Basic Skills and other grants funding for professional development in some areas. • Math: Extensive professional development around Math Emporium and Accelerated Math. <p>Challenges:</p> <ul style="list-style-type: none"> • Chem: Increase amount of SD funding so faculty can afford to attend conferences.
<p>Pedagogy/ Teaching Methods</p>	<p>Themes: Several programs are making changes to their teaching methods, curriculum, and services to students based on their assessments of student outcomes. They are working diligently to improve student success and to ensure their programs meet the needs of diverse student populations. The college can provide a more global</p>

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<p>The process of teaching students. Not limited to instructional programs/ areas. Might include teaching/counseling/ tutoring methodology, class activities or course design.</p>	<p>focus on pedagogy; faculty are often taken away from their teachings and students to work on administrative tasks.</p> <p>Accomplishments:</p> <ul style="list-style-type: none"> • AJ: modifications to the course based on assessment results have improved student success, including students' increased understanding of critical components of investigative report writing. • Bio: working in several ways to create cohesiveness among Ft/PT faculty and for improvement of classes and assessments, development of common tools; after reviewing assessment results faculty will provide additional support to students to make sure they understand assignments and devote enough time for completion. • Chem: Continuing to validate the chemistry assessment exam; more collaboration with PT faculty leading to improvements in better procedures and lab experiments; changing to a new textbook for Chem 1A/1B; students have high performance on American Chemical Society National Exam. • Geography and AJ modified pedagogy based on SLO results. • Geology is developing experiential lab exercise and activities and has transferred all courses from blackboard to Canvas. GEOL is building an augmented-reality sandbox. • Math: redesigned pre-requisites for some courses; created core activities for each Math course that could be modified; changing the textbook in one course. • Vit: new equipment has greatly improved student learning; based on assessment results, program redesigned the analysis labs; added more one-on-one instruction. • Phys: new equipment has made for smaller lab group sizes and more hands-on learning; developing new labs; investigating "flipped" classrooms; based on assessments instructors are making sure to review learning from courses earlier in the Phys sequence to support students learning the new information. <p>Challenges:</p> <ul style="list-style-type: none"> • EMS: Desires an increased focus on teaching for Flex Day. Would like increase number of Asian-American and African-American students in the program and the number of women overall • Math: Eliminated hybrid courses due to much lower success rates; program is evaluating the Math Emporium, which is in its pilot year. • Phys: considering moving Engineering Tech students into physics classes that may be more suitable, based on their lower success rates; having difficulty scheduling the lab classes due to lack of lab space.
<p>Professional Development</p>	<p>Themes: Some programs and faculty have had many opportunities for professional development; engagement in these programs should be more broadly inclusive and targeted. Programs identified professional development needs for full-time, part-time faculty, as well as lab techs and student workers.</p>

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<p>Activities and resources to enhance employee knowledge and skills.</p>	<p>Accomplishments:</p> <ul style="list-style-type: none"> • CTE and other grant funding sources have been utilized extensively to support professional development opportunities for some faculty and programs. • Bio: Building and maintaining an inclusive environment for full and PT faculty. • BIO, CHEM and PHYS faculty continue to attend professional development opportunities that improve teaching and student learning; ACS seminars, LLNL-LPC seminars, HSI STEM Conference, Guided Pathways Conference, NCASM, Transforming STEM Conference, Advanced Placement (AP) workshops, etc. • Math has many conference option – CMC3, CMC, AMATYC, NAPA, HACU, MMA, Golden Section, NCTM, Joint Mathematics Meetings, Student Success Conference, Northern CA Mathematics Conference. <p>Challenges:</p> <ul style="list-style-type: none"> • Bio: Student assistants need more training and experience to be effective; consider arranging safety/hazmat training, perhaps in conjunction with Chabot.
<p>Services to Students</p>	<p>Themes: Programs are creative in providing support to students to complete their certificate/degree/transfer goals in a timely fashion, have clearer professional paths, and/or providing students with access to information through department or faculty websites. Pathways are sometimes, but not always clear to students; there are many opportunities to improve this service to students. There are multiple services available to students: clubs, tutoring, honors projects, independent study projects, etc.</p>
<p>Non-instructional services provided to students. Not limited to Student Services programs/areas.</p>	<p>Accomplishments:</p> <ul style="list-style-type: none"> • AJ: New Public Safety Training Facility will be able to meet the need of people wanting to be reserve peace officers and do not need full academy. • Bio: Biology Club/Biology Honor Society is one of the most active student organizations on campus, and hosted a multi-state regional conference attended by many 4-year universities. • Math: Math Club – students attended conferences and help with exam competition. Math Jam is very successful Math Club offers help for student Math League Exam competition and CMC3 Tahoe conference. • Phys: More female students are enrolling; some lowering of success rates are being investigated. • Vit: has updated their website. <p>Challenges:</p> <ul style="list-style-type: none"> • Math: Need to move Math Jam to take place before Spring instead of within Spring academic term; institutionalizing courses for ECD and Engineering Tech has meant that these are no longer courses for students with a similar goal; rent out calculators – need more graphing calculators. • Several programs need revisions and updated websites.

Program Review Update Division Summary Fall 2017

<p>SLOs/SAO Process</p>	<p>Themes: Division program reached an important milestone, with 100% of syllabi including SLOs. Programs are in varying stages related to their process of collecting and assessing data, from needing support to find the best way to use the SLO process overall, to programs with specific cycles of recording and assessing SLO data, to programs working on PSLO reflection. There is a desire for more opportunities to engage part-time faculty in SLO discussion. eLumen and its cumbersome user interface and functionality continue to be a challenge. Some programs did not submit SLO analysis.</p>
<p>The process of creating, recording and assessing SLOs/SAOs (not the SLO findings; those could appear under pedagogy, curriculum, enrollment management, equipment, etc.)</p>	<p>Accomplishments:</p> <ul style="list-style-type: none"> • Chem: Working to create more comprehensive SLOs for two courses. There is a need to find opportunities to discuss SLOs among FT and PT faculty. • Geography updated SLOs and now assesses once per year. • GEOL updated 24 SLOs, and developed a 3-year plan for assessment. • Math: redesigned the rotation of their recording and assessment process. Math has 5 PSLOs (Multiple representation, communication, problem solving, modeling, technology) that map to all CSLOs, with a focus on one at a time. • Phys: has been revising SLOs. • Math and Physics programs will be analyzing their PSLOs. <p>Challenges:</p> <ul style="list-style-type: none"> • eLumen needs push notifications and improved functionality and user experience. • CHEM is frustrated by the constant changes in the SLO process. Changing to new version of eLumen disrupted ability to assess long term data. • Hort: need to work on how to assess SLOs meaningfully for this field. • Math: Data on Math Emporium may be incorrect or skewed due to unforeseen situations.
<p>Technology Use</p>	<p>Themes: Several programs are using technology to enhance student learning and to provide information for students via faculty/department websites. Some identified a need for new or upgraded technology. Institutional technology includes excellent but overworked staff.</p>
<p>How technology is used to instruct/serve students or for other college functions.</p>	<p>Accomplishments:</p> <ul style="list-style-type: none"> • AJ: Using new technology to support students in AJ54, leading to increased comprehension and success. • GEOL made a Canvas site with centralized information about their program to help keep part-time faculty in the loop. Geology is planning to construct Augmented Reality Sandbox for the program, a computer-generated light projection topographic mapping tool that utilizes sand • Viticulture has acquired a grape elevator, vibrating sorter, conveyor-sorting table, and bottling line.

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	<p>Challenges:</p> <ul style="list-style-type: none">• Some programs have outdated websites that may not be able to fully service students wanting timely information about their programs. Faculty need time and resources to update these.• CHEM would like to update their lab curriculum to include more modern technologies. CHEM wants help with their department website. Need to update the technology used for faculty webpages and Chemistry website.• Math: wants to use classroom-monitoring software in computer labs and investigate e-manipulatives.• Phys: would like to create an online inventory of all equipment and physics demos.
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