Las Positas College

Follow-Up Report

Submitted by:

Las Positas College
3000 Campus Hill Drive
Livermore, CA 94551

Submitted to:

Accrediting Commission for Community and Junior Colleges,
Western Association of Schools and Colleges

March 1, 2017

To: Accrediting Commission for Community and Junior Colleges,
Western Association of Schools and Colleges

From: Dr. Barry Russell, President

Las Positas College
3000 Campus Hill Drive
Livermore, CA 94551

I certify there was broad participation/review by the campus community and believe this Report accurately reflects the nature and substance of this institution.

Signatures:

Jannett N. Jackson 2/24/17
Dr. Jannett Jackson, Chancellor, Chabot-Las Positas Community College District (Date)

Barry Russell 2.27.17
Dr. Barry Russell, President, Las Positas College (Date)

2/24/17
Dr. Hal Gin, President, CLPCCD Board of Trustees (Date)

Roanna Bennie 2/22/17
Roanna Bennie, Accreditation Liaison Officer (Date)

2/23/2017
Melissa Korber, President, Las Positas College Academic Senate (Date)

2/22/17
Heidi Ulrech and Amanda Ingold Co-Presidents, LPC Classified Senate (Date)

2/22/2017
Eric Pineda, President, Associated Students of Las Positas College (Date)

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Statement of Report Preparation

The Accrediting Commission for Community and Junior Colleges, Western Association of Schools and Colleges acted in January 2016 to reaffirm Las Positas College's accreditation for eighteen months and to require a Follow-Up Report. The college has resolved the identified deficiencies and now meets the Standards noted in the Commission's Recommendations 2, 3, 4, 5, and District Recommendation 5 (IN.1). This Follow-Up Report affirms that the college demonstrates academic quality, institutional effectiveness and sustainability in all accreditation Standards.

The college has worked to establish regular processes that have brought Las Positas College (LPC) into compliance with ACCJC Standards. In the spring of 2016, the Las Positas College (LPC) Accreditation Liaison Officer (ALO) created an ongoing Accreditation Steering Committee with guidance from the Academic Senate and approval of the College Council. A standard governance committee document was developed; it includes the charge, responsibilities, membership and terms of service (IN.2). The ALO's goal was to build formal structure in order to create sustainable institutional processes to meet the Standards. In previous years, the College Council was generally responsible for accreditation activity and developed Steering Committees in an ad-hoc manner.

The membership of the new Accreditation Steering Committee is as follows:

- Accreditation Liaison Officer (appointed by the President)
- Faculty Lead (recommended by the ALO / appointed by the Academic Senate)
- Director of Institutional Research
- Faculty Member (appointed by the Academic Senate)
- Document/Archivist Lead.

The membership structure of the Accreditation Steering Committee allows for its expansion to support the various stages of the report-writing and Team Visit preparation needs of the accreditation cycle.

In response to the Recommendations made to the college and district, the first expanded Accreditation Steering Committee was formed and started meeting in spring 2016. Its members, approved by the Academic Senate and College Council, have institutional expertise in the areas to which the recommendations referred, including the co-coordinators of the Student Learning Outcomes Committee, a counselor involved with Distance Education support, and faculty who had previously worked on the Self-Evaluation Report.

Listed on the following page are the members of the Accreditation Steering Committee and their roles:

Table 1: Lead people involved in preparing the Follow-Up Report 2017

Name	Title	Responsibilities	FTEF Assigned	Phone
Roanna Bennie	Vice President of Academic Services	Accreditation Liaison Officer Recommendation #4	n/a	925-424-1103
Elena Cole	English Faculty	Faculty Lead and Writer, Editor	0.2	925-424-1250
Ann Hight	Biology Faculty SLO Committee	Recommendation #2 and #3	0.1	925-424-1307
John Ruys	Psychology Faculty, SLO Committee	Recommendation #2 and #3	0.1	925-424-1267
Joel Gagnon	Counseling Faculty	Recommendation #5	0.2	925-424-1439
Tina Inzerilla	Library Faculty	Recommendations for Improvement (#1, #6-#9)	0.07	925-424-1158
Rajinder Samra	Institutional Researcher	Recommendation #3 and advise as needed	n/a	925-424-1027
Krista Johns	Vice Chancellor of Educational Services	District Recommendation #5	n/a	925-485-5244

In addition to creating and supporting an expanded Accreditation Steering Committee, the college provided reassigned time for each of the Accreditation Steering Committee faculty members and the four faculty members who served as Student Learning Outcomes (SLO) Liaisons for the four academic divisions. These SLO Liaisons were tasked with supporting and facilitating dialogue about course and program SLO assessment within each division and discipline (IN.3, IN.4, IN.5, IN.6, IN.7, IN.8).

The expanded Accreditation Steering Committee organized and propelled the college's work to address and capture evidence of its progress. Throughout the preparation of this Report, each of the expanded Accreditation Steering Committee members was responsible for working with, and reporting to, college constituents as appropriate. In addition, the ALO provided regular updates on the progress of the tasks for the Follow-Up Report at the monthly Town Hall meetings, and reports were made at Division meetings in spring and fall 2016 (IN.9, IN.10).

The expanded Accreditation Steering Committee met, on average, twice a month, from August through November 2016, to provide updates on the college's work to address the Recommendations and Standards. The meeting time was also used for editing and revising the Follow-Up Report. In addition to the expanded Accreditation Steering Committee meetings, individual committee members met with the Institutional

Researcher, the ALO, or the Faculty Lead to discuss the collecting of evidence and assist in writing the Report. Finally, the ALO and the Faculty Lead met weekly from August through December. (IN.11, IN.12, IN.13)

In addition to the college processes, upon receipt of the District recommendation, a team comprised of the Chief Technology Officer, the Vice Chancellor of Facilities, and the Vice Chancellor of Educational Services and Student Success (District ALO) met to guide the process of ensuring that long range planning included total cost of ownership (TCO) projections for facilities and equipment. There were several steps identified as necessary for building TCO into planning and implementation efforts in a systematic and ongoing basis, including revision of the policy on institutional planning, creation of an administrative procedure on TCO, and formalizing the TCO plan in a report that would guide facilities and equipment decisions through the remainder of Measure B, the newly approved Measure A, and any other facilities processes.

The policy and administrative procedure were drafted and presented for first reading to the Board of Trustees in accordance with Board Policy. The Chancellor's Council, the governance group charged with reviewing and providing constituent input, completed its review. Constituents from the colleges and the district provided input, and the Board of Trustees adopted the final policy as revised through the input process. The development of the Total Cost of Ownership Report involved a year-long study with recommendations by facilities experts, presentation and review by the college and district-wide facilities committees, review by the Chancellor's Council, and approval by the Board of Trustees. The District's response to Recommendation 5 was provided in draft form to the colleges, and was posted and reviewed along with the colleges' Follow-Up Reports. Individuals at the district level also reviewed and provided input, prior to finalization of the Recommendation 5 section for inclusion in the LPC Follow-Up Report.

The LPC Follow-Up Report was vetted in accordance with the college's and district's governance processes. The Accreditation Steering Committee set up a site on the LPC website that allowed the college community and others to read drafts of the Report and provide feedback. This feedback, reviewed by the Accreditation Steering Committee, guided revisions of the Follow-Up Report. The Report was presented to and approved by the governing bodies as noted in Table 2.

Table 2: Accreditation Steering Committee review and approval dates for the ACCJC Follow-Up Report 2017

Group	Date	Notes
Associated Students of Las Positas College (ASLPC)	November 4th	First review
Classified Senate	November 10th	First review
College Council	November 17th	First review
Associated Students of Las Positas College (ASLPC)	November 18th	For approval
Academic Senate	November 30th	First review

Classified Senate	December 8th	For approval
Due to President's Office	December 9th	Preparation for Executive Staff
Executive Staff	December 13th	Review for submission to the Board
Academic Senate	December 14th	For approval
College Council	December 15th	For approval
Board of Trustees meeting	January 17th	First reading
Board of Trustees meeting	February 21st	Board approval
Steering Committee	February 22nd	Send to ACCJC
ACCJC	March 1st	Due date

The work to address the Recommendations made by the Visiting Team and to meet the Standards drove innovative institutional changes at the college. The new Accreditation Steering Committee and the SLO Liaisons, both supported by reassigned time, provided the structure needed to propel sustainable, quality change in this timely accreditation work. Communication about the direction and progress was facilitated by the Accreditation Steering Committee members and the SLO Liaisons. The Steering Committee members and the SLO Liaisons provided regular reports to various college constituencies and actively sought feedback about the Report through a systematic review and approval process.

Evidence

IN.1 – Report - External Evaluation Visit Team Report - 2-10-16

IN.2 - Minutes 4b - College Council - 4-28-16

IN.3 - Minutes - #11 SLO Liaison - SLO Committee - 9-12-16

IN.4 - Other Document - SLO Liaison Report Template - 9-20-16

IN.5 - Other Document - SLO Liaison Position - 9-12-16

IN.6 - Report - SLO Liaison Report CATSS Division - Fall 2016

IN.7 - Report - SLO Liaison Report BHAWK Division - Fall 2016

IN.8 - Report - SLO Liaison Report A&H Division - Fall 2016

IN.9 - Agenda – Town Hall - 9-17-16

IN.10 - Agenda – Town Hall - 10-5-16

IN.11 - Agenda - Accreditation Steering Committee - 2-29-16

IN.12 - Agenda - Accreditation Steering Committee - 12-9-16

IN.13 - Agenda - Accreditation Steering Committee - 10-28-16

Recommendation 2

In order to meet the standard, the team recommends that all full-time and part-time faculty assess instructional SLOs and communicate these outcomes, regardless of delivery modality, on all course syllabi and official course outlines of record after engaging in a collegial self-reflective dialogue about outcomes and improving student learning. (II.A.6)

Narrative Analysis

In response to the Commission Action Letter, Las Positas College faculty, full-time and part-time, are engaged in assessing instructional SLOs and communicating these outcomes, regardless of delivery modality, on all course syllabi and official course outlines of record. Full-time and part-time faculty are engaged in collegial, self-reflective dialogue about outcomes and improving student learning. This dialogue has primarily been facilitated by the Student Learning Outcome (SLO) Committee. In support of its work to address this recommendation, the college has developed additional institutional structures for ongoing outcomes assessment work so that college practice demonstrates sustained compliance with the Standards.

Institutional Support

Much of the structural work that was needed to support the collegial dialogue, the outcomes assessment work, and the efforts to improve student learning came from the leadership and efforts of the SLO Committee. First, the SLO committee developed new training and support tools. Second, along with the Instructional Technology Coordinator, the committee led the upgrade to a new version of eLumen to assist with recording and analysis of assessment data. Third, the college hired a new support position, a Curriculum and SLO Specialist who supports the SLO Committee and the faculty, staff, and administrators using eLumen and CurricUNET.

The SLO Committee has created training tools that provide clear guidelines, which can be used for evaluating SLOs. The draft guidelines started with a Flex Day workshop in the fall 2015 (R2.1). The SLO coordinator ran a workshop that gave faculty the opportunity to improve their SLOs using improved terminology and examples from other colleges. The draft guidelines outlined in the workshop formed the foundation of information given to all faculty in an SLO Handbook (R2.2). The SLO Handbook now serves as the college's major source of information and guidance for faculty as they develop and assess SLOs. The SLO Handbook makes a clear distinction between measurable objectives and course SLOs (see Table 3); it gives examples of strong course and program SLOs (see Table 4 for program SLOs); it discusses methods of assessing SLOs; and it describes the types of analysis that can be performed using SLO data. This document is used for common understanding in trainings and Division Meetings (R2.3).

To illustrate this new shared understanding, the following Table identifies the relationship between course objectives and course outcomes.

Table 3: Examples of wording differences between course objectives and their related CSLOs

Course Objective	Related Student Learning Outcome
1. Distinguish between the goals of scientific psychology and common sense 2. Evaluate the various psychological research methods 3. Discuss the important ethical principles in research	Upon completion of this course, students should be able to critique psychological research studies.
1. Evaluate drawings orally using correct terminology related to concepts, materials, and techniques. 2. Evaluate drawings in writing using correct terminology related to concepts, materials, and techniques. 3. Critique finished drawings and receive criticism from others in a group setting	Evaluate and critique student drawings and receive criticism from others.
1. Write essays that apply the principles of exposition and argument, including: • the logical organization of ideas; • the focus and limitation of subject, thesis building, and support of thesis by example or argumentation; • the use of specifics to support generalizations; • unity, awareness of audience, and appropriateness of tone and style; 2. Plan, organize and write in-class essays;	Write unified, coherent documents while also demonstrating adequate research skills, using discipline appropriate styles, such as MLA
1. Discuss the theory of homeostasis. 2. Describe the body systems that follow homeostatic principles. 3. Recognize common pathologies caused by homeostatic failure.	Upon completion of this course, students should be able analyze the homeostatic mechanisms maintaining the human body.

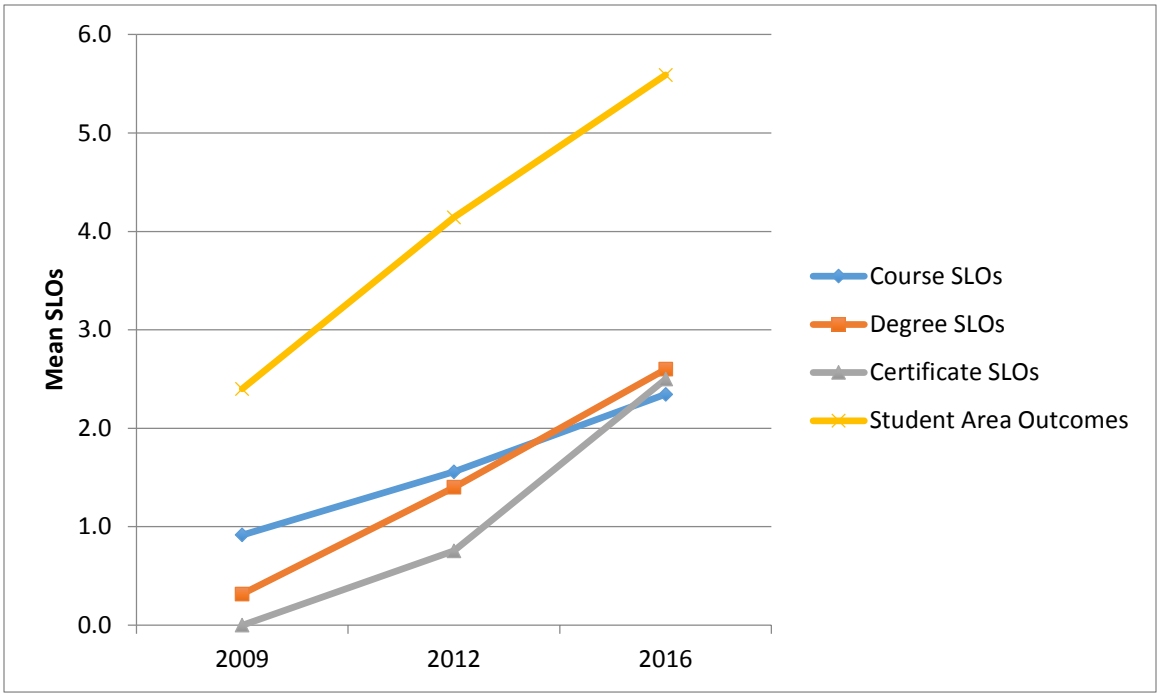
This work toward a common understanding of outcomes began with support for opportunities in which faculty and administrators could have shared training and develop expertise in communicating about developing effective outcomes and assessing and analyzing SLO data. This has resulted in significant and ongoing dialogue about how all faculty and those directly responsible for student learning conceptualize SLOs and meaningfully assess student learning. During the spring 2016 semester, faculty leaders and administrators from LPC attended two ACCJC workshops. The first, Fundamentals of Assessment, presented by Dr. Amy Driscoll, gave an introduction to SLO assessment and detailed multiple activities that could be brought back and shared with college faculty and staff (R2.4).

Table 4: Examples of Program-level Student Learning Outcomes for degrees and certificates.

Program-level Student Learning Outcomes
Upon completion of the AAT in philosophy, students will be able to develop and present formal philosophical arguments using effective logical argumentative technique and avoiding logical error and fallacies.
Upon completion of the AAT in philosophy, students will be able to respond to philosophical writing and ideas of historical and contemporary philosophers by describing philosophical arguments, evaluating those arguments, and applying them with accuracy and creativity to contemporary conditions.
Upon completion of an AAT degree in anthropology, students will be able to contrast the fundamental ways in which cultures differ from one another.
Upon completion of an AAT degree in anthropology, students will be able to analyze the ethical responsibilities and concerns in the conducting of anthropological research.
Upon completion of an AA degree in music, students will demonstrate a working knowledge of musical analysis and harmonic theory applicable to their area of specialization.
Upon completion of an AAT degree in psychology, students will be able to use basic research methods in psychology including research design, hypothesis testing, and data interpretation.
Upon completion of an AS degree in mathematics, students will use mathematical reasoning to solve problems and a generalized problem solving process to work word problems.
Upon completion of the AA degree in theater arts, students will be able to evaluate the work performed by theatre practitioners, with special attention to the skills involved in acting, directing, and designing.
Upon completion of the AA degree in theater arts, students will be able to integrate acting skills and techniques in the preparation and performance of dramatic literature.
Upon completion of the certificate in automotive mechanics, students will be able to diagnose, repair, and replace electrical and electronic systems and components.
Upon completion of the certificate in automotive mechanics, students will be able to diagnose, repair, and replace brake systems and components.
Upon completion of the certificate in early childhood development, students will implement a wide array of developmentally appropriate approaches, instructional strategies, and tools to connect with children and families.
Upon completion of the certificate in medical assisting, students will be able to perform clinical office responsibilities such as vital signs, exam room preparation, patient data collection, simple dressing changes, lab tests, phlebotomy, and EKGs.

The second workshop, Taking Assessment to the Program Level, presented by Linda Suskie, gave strong examples of program outcomes, went over examples of how PSLO data could be analyzed and used in decision-making, and allowed members to apply the lessons learned to a program at their own college (R2.5). Attendees brought back materials and offered an overview of each workshop to SLO Committee (R2.6, R2.7). Using the information and materials from the ACCJC workshops, members of the SLO Committee offered workshops at an English discipline meeting and at fall's Flex Day 2016 (R2.8, R2.9). In addition, a College Day workshop for all faculty on writing SLOs was headed by Ginni May from Academic Senate of the California Community Colleges (R2.10). These workshops facilitated dialogue, which led to clearer distinctions between outcomes and objectives as well as providing a structural framework by which faculty could evaluate the quality of the SLOs. The trainings have resulted in faculty creating a more diverse set of SLOs for courses, degrees, certificates, and student service areas. The mean number of SLOs per course, degree, certificate, and student service area has continued to increase overtime, partially as a result of the recent trainings (see Chart 1). The trainings have resulted in faculty creating over one hundred new SLOs during the fall 2016 semester alone (R2.11, R2.12). Not only has training resulted in a greater number of SLOs being created, but the SLOs are of high quality.

Chart 1: The number of SLOs per course, program, and student service area has increased as faculty and staff have received additional SLO training.



Ensuring that dialogue results in high quality SLOs is the purview of SLO Committee, and, in response to this recommendation, the SLO Committee has made strides in providing the college with more institutionalized support for developing, assessing and analyzing SLOs by reviewing and providing feedback to faculty as they write new Course or Program Student Learning Outcomes.

The college's support for the SLO work has been strengthened by its choice to upgrade to the new version of eLumen. While this upgrade has taken a significant amount of time and effort, the college is now able to easily enter assessment data and analyze results because of the increased functionality of the new eLumen software. In April 2014, the SLO Committee decided to upgrade to version 5 of the eLumen software (R2.13). In September 2014, the SLO Committee became concerned about the impact of the software upgrade on faculty work on SLO assessments prior to the Accreditation site visit and the SLO committee decided to delay the upgrade until after the Accreditation site visit (R2.14). During that time, the eLumen software was redesigned and version 6 became available. The SLO Committee saw the new version of eLumen and agreed with the previous decision by the SLO Committee to upgrade (R2.15).

The upgrade to eLumen version 6 took longer than anticipated and affected SLO data reporting in spring and summer of 2016. In December 2015, a tentative timeline was developed and presented to the SLO Committee (R2.16, R2.17). The timeline included moving existing data to the new version of eLumen and allowing faculty to use the new system by February 2016. There were a number of delays during the spring and summer semester (R2.18, R2.19). Due to the number of delays and the need to begin collecting SLO data, the SLO Committee recommended to division faculty that the college move forward without moving the data over from the old system. The old data would be made available to faculty when it was needed (R2.20). When the information was presented to faculty at division meetings, most were in favor of moving forward without the data from the old system (R2.21). During the summer of 2016, the college began work on setting up the new eLumen site. The site was made available to faculty at the beginning of the fall 2016 semester. Trainings were first offered at College Day just prior to the beginning of classes (R2.22). The SLO Committee, working with the Staff Development Committee, has offered numerous workshops in using the new eLumen at varied dates and times so that full-time and part-time faculty are able to attend. (R2.23, R2.24, TLC Website http://laspositascollege.edu/staffdevelopment/workshop_description.php). Now that the software is in place, the college has an effective system to capture SLO assessment data and to allow users to more easily visualize course, program, and institutional data. The new system has helped the SLO committee to make institutionalized changes to its processes. To support and ensure the development of high-quality SLOs, the SLO Committee reviews all SLOs when they are created or revised using eLumen (R2.25, R2.26, R2.27). When SLOs are created or revised, the SLO committee compares the new SLOs to existing SLOs and to the course outline of record (R2.28). The SLO Committee sets clear deadlines for updating of SLOs to assist in the accurate communication of SLOs to students in course syllabi and the College Catalog (R2.29). The college is confident that this will allow faculty and others directly responsible for student learning to more fully engage in collegial dialogue about assessment results.

The third piece of institutional support to SLO work came from the decision to hire a new Curriculum and SLO Specialist. This decision was developed based on the college's integrated planning process. In fall 2015, the program review updates and dean's summaries of these updates revealed that faculty needed help in working on curriculum

and assessment projects. As the college's planning priorities include curriculum, student learning outcomes, and accreditation, in response to this need, the college prioritized hiring a Curriculum and SLO Specialist (R2.30, R2.31, R2.32). The Curriculum and SLO Specialist helps train faculty and staff who use eLumen, provides regular reports to the SLO committee about assessment progress, supports the SLO and curriculum coordinators, and provides support for eLumen and CurricUNET (R2.33. R2.34, R2.35). This position has been essential in supporting SLO work at the college by assisting faculty to update SLOs, enter assessment data, and access SLO data in the previous version of eLumen.

Increased Communication

As a result of the training and the dialogue about outcomes assessment and improving student learning, the college is more clearly communicating SLOs to students and external stakeholders. The Curriculum and SLO Specialist posts all course-level SLOs (CSLOs), program-level SLOs (PSLOs), service area outcomes (SAOs), and institutional-level SLOs (ISLOs) on the SLO webpage (*http://laspositascollege.edu/slo/slolists.php).* An example of science and math CSLOs is provided in Appendix 3. PSLOs can also be found in the college catalog for each degree and certificate program that is offered at Las Positas College (R2.35). The college has developed a process to ensure that all faculty, full-time and part-time, are communicating student learning outcomes, regardless of delivery modality, on all course syllabi. For example, as of fall 2015 (contract ratified – September 10, 2015), the faculty contract references SLO work as a part of faculty professional responsibility:

> (1) Participate in program and subject area improvement tasks such as creating and assessment of Student Learning Outcomes (SLOs), Service Area Outcomes (SAOs), Course Learning Outcomes (CLOs) and Program Learning Outcomes (PLOs), program review, and curriculum development. (Article 18.I.VII.c.1) **(**R2.36).

Along with the new contract language, extensive efforts have been made to emphasize the importance of communicating CSLOs on all course syllabi, regardless of the delivery modality of the course. All new faculty now receive training on their obligations regarding communication and assessment of SLOs (R2.37). Also, the faculty handbook describes the information that needs to be included on all course syllabi, including CSLOs (R2.38). The need to communicate CSLOs to students on course syllabi was explicitly described to all faculty in an email from deans and during orientation trainings for full-time faculty and part-time faculty (R2.39). After expressing the importance of clearly communicating CSLOs to students on course syllabi, the deans' offices confirm that syllabi have all the required information on them, including CSLOs. If syllabi do not have the correct SLOs, the dean's office staff contacts faculty and requests that they update the syllabus with the correct CSLOs, and if this does not produce the change, the dean will contact the faculty member. This standardized process is designed to ensure that CSLOs are the same between different sections of the same course and that all students are aware of the CSLOs. As a result of this work, Las Positas College is communicating CSLOs to students through course syllabi.

From a sampling taken by the Visiting Team in the fall of 2015, it was determined that approximately 55% of all syllabi contained the communication of CSLOs. Since that time, a tracking process has been effectively developed and implemented at the division offices. Their document information is forwarded to the office of the Academic Vice President and compiled. It was verified that over 96% of course syllabi communicated the course SLOs in the fall of 2016 (R2.40). As of February 9, 2017 93.8% of course syllabi for spring have CSLOs on them (R2.41). Those syllabi that do not have SLOs will go through the same process of follow-up by the division office staff and, if needed, the dean. This information has been part of the ongoing Accreditation updates presented at Town Hall meetings in the fall, September, October, and December (R2.42, R2.43, R2.44).

Table 5: SLOs communicated to students on syllabi

	# of Course Sections	# with SLOs	%
Fall 2016	**1319**	**1269**	**96.2%**
Spring 2017	981	920	93.8%

Note: The number of courses sections does not include Independent Study courses, or Alternate Study contracts. Fall figures do not include Student Services courses though spring figures do include Student Services courses.

Table 6. Disciplines showing all their courses have SLOs on syllabi

Administration of Justice	English	Nutrition
American Sign Language	English as a Second Language	Occupational Safety & Health
Anatomy/Biology	Engineering	Philosophy
Arts	Environmental Studies	Physics
Art History	Fire Service Technology	Political Science
Anthropology	French	Religious Studies
Astronomy	Geography	Sociology
Biology	Geology	Spanish
Chemistry	Health	Speech
Computer Information Systems	History	Visual Communication
	Horticulture	Viticulture
Computer Network Technology	Humanities	Welding
	Interior Design	Women's Studies
Computer Science	Italian	Work Experience
Dance	Library	
Early Childhood Education	Marketing	
Emergency Medical Services	Math	

The SLO Committee and the Curriculum Committee discussed the best way to ensure that all CSLOs were included on the official course outline of record (R2.45, R2.46). A system was developed that would minimize unnecessary work for members of both committees but also make sure that CSLOs were reviewed and kept current in the two systems that house the college's SLO assessment data and course outlines of record, eLumen and CurricUNET, respectively. The SLO committee reviews all student learning outcomes for quality and the Curriculum and SLO Specialist enters the newly revised CSLOs onto the course outlines of record. The SLO Committee also keeps track of all new curriculum to make sure every new course, degree, and certificate has SLOs.

The college certifies that course-level SLOs are comparable to award credit for incoming transfer students through its course equivalency process. Students submit one of two forms, depending on whether they want a waiver of a prerequisite, a course substitution, or a waiver of a program requirement. The forms entitled "Request for Course Substitution or Waiver of Program Requirement" or "Prerequisite Challenge Form" require the student submit a course syllabus or course outline of record as part of the paperwork for approval. The course syllabus or course outline of record will contain CSLOs, allowing the evaluator to certify comparability in order to award credit (R2.47).

Assessment and Dialogue about Outcomes and Improving Student Learning

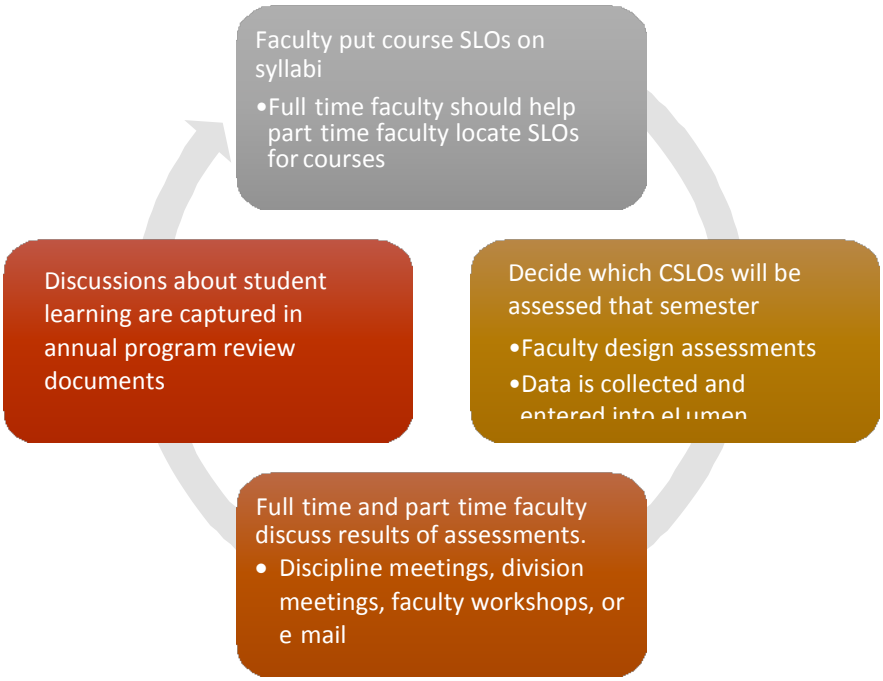
The new structural support for SLO assessment and analysis led to meaningful dialogue and stronger communication about SLOs, all of which has deepened faculty investment in SLO assessment and analysis at the college. In March of 2015, a small group of faculty leaders gathered in a Common Ground meeting to develop a mutual language for discussing course-level outcomes (R2.48). In fall 2016, the campus-wide dialogue about SLOs is an indication of the college's vast progress. The new terminology for the various types of SLO data is one such indicator. First, the SLO Committee renamed the different levels of SLOs so that the relationship between them is more logical and obvious: course-level SLO's are now CSLOs; program-level SLOs are PSLOs; institutional-level SLOs, previously named "Core Competencies," are now ISLOs (R2.49).

Table 7: New terminology has helped clarify the relationship between the different kinds of SLOs.

New Terminology	Previous Terminology
Course Student Learning Outcomes (CSLO)	Student Learning Outcomes
Student Area Outcomes (SAO)	Student Area Outcomes
Program Student Learning Outcomes (PSLO)	Program Outcomes
Institutional Learning Outcomes (ISLO)	Core Competencies

Second, the SLO Committee clarified language describing the process of assessing SLOs: SLOs are continually assessed as part of a practice of continual improvement (R2.50, R2.51).

Figure 1: The assessment cycle for Course-level SLOs during a single semester. This cycle has helped clarify faculty responsibilities.



The clarification of the assessment cycle helped faculty communicate CSLOs to part-time faculty, plan assessment activities, and capture dialogue about assessment data. Other changes have also supported this critical work. The new faculty contract containing language describing the professional responsibilities of faculty includes entering SLO assessment data and recording dialogue about the results in eLumen.

The new terminology and the new version of eLumen has clarified the relationships between CSLOs, PSLOs, and ISLOs. The clearer mapping matrix of CSLOs to PSLOs to ISLOs is easily accessible on the SLO website (R2.52). As part of the annual Program Review Update, faculty were asked to review and discuss the mapping of CSLOs and PSLOs for degrees and certificates in their discipline. PSLO assessments are now captured in the college's comprehensive program review template where the timeline is clear: CSLOs and PSLOs are regularly and systematically analyzed in the annual Program Review (R2.53). To facilitate this work, the SLO Committee has worked with the Program Review Committee to offer multiple workshops on how to write the Program Review Update for fall 2016, focusing on the importance of SLO data analysis and mapping (R2.21). In addition, the Fall Flex Day schedule allowed time for discipline faculty to work together on SLOs and Program Review Updates, as noted earlier. The college's effort in providing numerous SLO training opportunities and dedicated time for

discipline SLO work underscores its commitment to full-time and part-time faculty having meaningful dialogue about outcomes and student learning.

The ISLOs serve as the college's General Education SLOs. In fall 2016, faculty, staff, and administrators undertook a college-wide review of the ISLOs (R2.54, R2.55). During the spring 2017, faculty from across the college began reviewing the mapping of CSLOs to the ISLOs as part of the college's annual review of ISLOs. The ISLOs will be assessed and analyzed annually by set-standards determining satisfactory performance for student achievement developed in the Institutional Planning and Effectiveness Committee (IPEC). The analysis of ISLOs is captured in the college's annual Institutional Report, and the IPEC Chair communicates this analysis to the SLO Committee and the Town Hall meeting**,** facilitating collegial, self-reflective dialogue about ISLO assessment with the broader college community (R2.56).

In addition, SLO Liaisons were assigned to support each division, and they have focused on communication about SLOs, helping all faculty, full-time and part-time, engage in meaningful, self-reflective dialogue about outcomes and student learning. As evident in the report from the Arts and Humanities Liaison, the direct support of an SLO expert heightened faculty investment in SLO work:

> The Arts & Humanities Division has largely been in the process of revising program-level and course-level student learning outcomes so that they align with the recommendations of the SLO Committee. This process has also led several disciplines to revise course curriculum as well as create new curriculum, and the division has also moved forward with implementing and/or advocating for changes within the classroom, department, division, and college based on student learning outcome assessment, analysis, and discussion of data collected in previous semesters. For example, the English department has followed through with ten strategies to improve student success based on recommendations that rolled out of analysis and discussion of student learning outcome data that assessed student skill level integrating source material in the English sequence (English 104, 1A, 4/7). The Music department has identified classroom design/construction as a barrier to students reaching learning outcomes in performance classes, and has addressed this concern by requesting updates to performance classrooms in program review. SLO discussions in the ESL department have led to creating new outcomes that focus on reading in appropriate classes. The Foreign Language department has noted the lack of reassigned time for its only full-time faculty/coordinator as a barrier to meaningful collaboration and discussion of outcomes across the different foreign language disciplines. And SLO discussions in the Mass Communications department have resulted in revising program outcomes for the Certificate of Achievement. It should also be noted that support from the division SLO Liaison

has been valuable to the progress made with streamlining meaningful assessment of learning outcomes within the division, and particularly valuable to new full-time faculty within the Humanities cluster (R2.57).

The SLO Liaisons have been central to the college's vast improvement in assessing and analyzing SLO data. They have helped discipline faculty who were still engaging in dialogue about SLOs at the developmental level in fall 2015 to shift their discussions so that they now have a focus on assessment results and analysis of CSLO and PSLO data. (R2.58, R2.59). The SLO Liaisons also supported all disciplines in writing about SLOs in their Program Review Updates for 2016.

The new requirement that disciplines capture PSLO data, in addition to CSLO data, in the annual Program Review Update, along with mapping CSLO data to PSLO data, is ensuring that all disciplines have meaningful dialogue about not only CSLOs, but also PSLOs (R2.60). The following are some examples from the Program Review Updates and SLO Liaison Reports of how PSLO assessment has driven meaningful analysis based on self-reflective dialogue:

Computer Studies - The Computer Studies department's analysis of PSLO data helped them identify successful curricular innovations and staffing efforts. Analysis of the computing studies discipline's PSLO, "Upon completion of the AS in computer programming students will be able to direct computer operations by writing detailed instructions using computer programming languages," demonstrated "increased student interest and engagement when robotic technologies were introduced into Computer Science courses." The program plans to increase "the use of robotic technologies to enhance the learning environment in CS courses." The department notes that the addition of a second full-time instructor further stimulated dialogue about the student experience and active engagement with part-time instructors (R2.61).

English - The English department's analysis of their PSLOs provided a new framework in which to examine student success. The department rewrote PSLOs for both AA and AA-T degrees in spring 2016 to better match the outcomes of required English courses, and they plan to examine PSLO data to see if new trends emerge as a result of this change. Considering the fact that most students who take English courses are not English majors, the English department plans to pay special attention to PSLOs mapped to literature courses, which are attended by a higher number of English majors (R2.62).

Mass Communication: In the Mass Communications discipline, the revisions of CSLOs and PSLOs have led to program improvements that have impacted student success.

Removal of a co-requisite to MSCM 17 – Express Editorial Board has increased student access to the course. Also, the department has revised the PSLOs for the Certificate of Achievement – Journalism to make the PSLOs more specific and aligned to the goals of students in the certificate program. Specific goals for the future that have emerged from assessment and dialogue about SLOs are to update newspaper classes to include a hybrid component, to increase literary anthology classes to three units, and to decrease the magazine production course to three units (R2.63).

Philosophy - The Philosophy department's PSLO analysis also led to program improvement in assessment and planning. Assessment and dialogue of the PSLOs for the Philosophy AA-T resulted in faculty plans to craft a new PSLO that focuses on dialogue and respectful communication, an outcome that is in line with the goals of the program but not currently reflected in its outcomes. Faculty are also considering the addition of an argumentation and rationality PSLO that maps to Philosophy 6; the course faculty have agreed to view it as the capstone for the AA-T in Philosophy (R2.64).

Psychology - The Psychology department's PSLO data analysis helped them identify successful curricular innovations. They analyzed the following PSLO: "Upon completion of the AA-T in psychology, students will demonstrate an understanding of and apply basic research methods in psychology including research design, hypothesis testing, and data interpretation." Their assessment results showed that more students were becoming proficient in the PSLO (from 77% in spring 2014 to 91% in fall 2015). This improvement is attributed to students having increased access to a computer lab and the development of a new course that is required to complete the AA-T (PSYC 25 - Research Methods) (R2.65).

Speech - The Speech Department's PSLO analysis provided a new framework in which to examine student pathways. The department re-evaluated all of their CSLOs and mapped them to PSLOs for the AA-T in Speech. The department notes that Speech 1, 46, and 48 in particular help students to achieve all program outcomes, but also observes that the limited offerings of Speech 2A, 5, 10, and 11 (once per year) create a challenge for students trying to obtain the degree and transfer from the college within two years, so dialog has begun to address this concern (R2.66).

These examples are a snapshot of the meaningful SLO work that is taking place throughout the campus as a result of better structure, deeper dialogue and broader communication.

Conclusion

The college has addressed the Recommendation and now meets the II.A.6 Standard. Full-time and part-time faculty assess instructional SLOs and engage in collegial self-reflective dialogue about outcomes and improving student learning. The divisions and Academic Vice President's office are working together to ensure the communication of Course SLOs on all syllabi while the Curriculum Committee has worked with the SLO Committee to ensure the presence of SLOs on all Course Outlines of Record. Institutional supports have been put in place to improve communication and dialogue concerning outcomes assessment so that the work can be sustained.

Evidence

R2.1 - Agenda - Fall Flex Day - 09-15-15

R2.2 - Other Document - SLO Handbook - spring 2016

R2.3 - Other Document - SLO Talking Points - May 2016

R2.4 - Training Materials - Driscoll Fundamentals of Assessment – 4-15-16

R2.5 - Training Materials -Suskie Taking Program Assessment, Next Level - 3-3-16

R2.6 - Minutes - #8 - SLO Committee - 3-7-16

R2.7 - Minutes - #6 - SLO Committee – 5-2-16

R2.8 - Agenda - Flex Day - 9-26-16

R2.9 - Minutes - English Department - 4-29-16

R2.10 - PowerPoint - Ginni May SLOs and Objectives - 8-16-16

R2.11 - Agenda - #12 - SLO Committee - 10-24-16

R2.12 - Agenda - #7 SLO Committee – 11-28-16

R2.13 - Minutes - # VII - SLO Committee - 4-7-14

R2.14 - Minutes - # VII - SLO Committee - 9-8-14

R2.15 - Minutes - #4 - SLO Committee - 11-2-15

R2.16 - Email - Melissa Kubrick, eLumen Update - 11-18-15

R2.17 - Minutes - #4 - SLO Committee Item - 12-7-15

R2.18 - Minutes - #4 - SLO Committee - 2-1-16

R2.19 - Minutes - #6 - SLO Committee - 3-21-16

R2.20 - Other Document - Talking Points - SLO Committee - 5-18-16

R2.21 - Email - No migration of SLO data - 5-18-16

R2.22 - Agenda - Convocation & LPC College Day - 8-15-16

R2.23 - Website - Workshop Sign-Up Form - fall 2016

R2.24 - Website - Workshop Descriptions - fall 2016

R2.25 - Minutes - #7 - CSLO & PSLO Review - SLO Committee - 11-14-16

R2.26 - Minutes - #7, 8 - SLO Committee 11-28-16

R2.27 - Minutes - #10, #11 - SLO Committee - 10-10-16

R2.28 - Other Document - CSLO Review - fall 2016

R2.29 - Report - SLO Report to MSEPs Division - 11-16-16

R2.30 - Form - Curriculum and SLO Specialist -Non-Instructional Position Request - fall 2015

R2.31 - Other Document - Non-Instructional Positions Ranking - fall 2015

R2.32 - Other Document - #IIa Classified Hiring - Board Packet Item - 6-21-16

R2.33 - Minutes - #4 - SLO Committee - 8-22-2016

R2.34 - Minutes - #6c - Curriculum Committee - 9-22-16

R2.35 - Other Document - College Catalog - 2016-17

R2.36 - Newsletter – pg. 2 - CLPFA professional responsibility of adjuncts - 10-2016

R2.37 - Agenda - New Faculty Orientation - 8-11-16

R2.38 - Other Document - Full Time Faculty Handbook pg C-6 - 2016-17

R2.39 - Email - SLOs on Syllabus - MSEPS Interim Dean - 8-16-16

R2.40 - Other Document - List of Syllabi with CSLOs - fall 2016

R2.41 - Other Document - List of Syllabi with CSLOs - spring 2017

R2.42 - PowerPoint – Town Hall - September 2016

R2.43 - PowerPoint – Town Hall - October 2016

R2.44 - PowerPoint – Town Hall - December 2016

R2.45 - Minutes - #9 - SLO Committee - 3-21-16

R2.46 - Minutes - #7b - Curriculum Committee Item - 3-14-16

R2.47 - Form - Course Equivalency Request - 9-22-16

R2.48 - Minutes - Common Ground Meeting - 3-27-15

R2.49 - Minutes - #8 - SLO Committee - 9-12-16

R2.50 - Minutes - # 4 - SLO Committee - 9-12-16

R2.51 - Email - SLO Language-Marty Nash-8-23-16

R2.52 - Report - PSLO Mapping - spring 2016

R2.53 - Form - Program Review Update Template - 8-25-16

R2.54 - Agenda - Town Meeting Agenda and Announcements - 10-5-16

R2.55 - Other Document - ISLO Workgroups Draft - 10-11.16

R2.56 – PowerPoint – Institutional Set Standards – 11-2-16

R2.57 - Other Document - SLO Liaison Report A&H Division - fall 2016

R2.58 - Other Document – SLO Liaison Position – 9-12-16

R2.59 - Minutes - #15 - SLO Liaison Responsibilities - MSEPS Division - 9-21-16

R2.60 - Minutes - #5 - MSEPS Division - 10-19-16

R2.61 - Program Review Update - Computing Studies – fall 2016

R2.62 - Program Review Update – English – fall 2016

R2.63 - Program Review Update - Mass Communications – fall 2016

R2.64 - Program Review Update – Philosophy – fall 2016

R2.65 - Program Review Update – Psychology – fall 2016

R2.66 - Program Review Update - Speech – fall 2016

Recommendation 3

In order to meet the standard, it is recommended that the instructional and administrative units engage in a systematic and ongoing assessment and analysis of course, program, and general education outcomes in which the results are used for improvement and effective integrated planning processes including program review. (II.A.1.c, II.A.2.f, II.A.2.i, II.A.3)

Narrative Analysis

In response to the Commission Action Letter, Las Positas College has undertaken numerous activities to ensure that all instructional units are engaging in assessment and analysis that is systematic and ongoing for course, program and general education learning outcomes. Through the primary vehicle of the program review process, these outcomes are used for improvement; they are also used for effective integrated planning processes and resource allocation.

Prior to the team visit in fall 2015, SLO assessment mainly focused on capturing and analyzing course-level assessment data using an outdated version of eLumen software and reporting analysis through the college's burgeoning program review process. The methods and goals of analysis were often left up to faculty to determine. Guidelines and instructions for SLO assessment and analysis were in their infancy and often implicit. Since the team visit, Las Positas College has created structures that support sustainable institutional work on outcomes assessments. These structures have resulted in more systematic, widespread use of course-, program-, and institutional-level SLO data for program improvement and integrated planning. The program review process includes the administrative units of instruction and student services as a means to review, summarize, and move information forward in the use of outcomes data for those units although these are referenced neither in Standard II.A nor in the Recommendation.

Structural Elements that Support Sustained Institutional Work

The college has been investing in a variety of new structural elements that support sustained institutional work. First, the college's decision to upgrade to eLumen version 6 is providing faculty with a better tool for capturing on-going assessment and analysis of SLO data. In spring 2014, the SLO Committee identified the need to upgrade from eLumen version 4 but decided to delay the update until after the accreditation site visit in fall 2015 (R3.1). In fall 2015, the SLO Committee reaffirmed the need to upgrade and adopted eLumen version 6. While the transition to the newest version of eLumen has posed some challenges, this new version of eLumen is a better tool for capturing SLO data, being easier for faculty to use and simplifying the reporting and analysis of course-, program-, and institutional-level SLO data.

In addition, the college hired a new Curriculum and SLO Specialist, a decision that emerged from the college's integrated planning processes driven by SLO data as captured in program review. In fall 2015, the program review updates and dean's summaries of these updates revealed that faculty needed help in working on curriculum and assessment projects. As the college's planning priorities include curriculum, student learning outcomes, and accreditation, in response to this need, the college prioritized hiring a Curriculum and SLO Specialist (R3.2, R3.3). The need was so great that the position was ranked second out of twenty non-instructional position requests put forward in 2015-16 (R3.4). The Curriculum and SLO Specialist helps train faculty, staff, and administrators who use eLumen, provides regular reports to the SLO Committee about assessment progress, supports the SLO and curriculum coordinators, and provides support for eLumen and CurricuNET (R3.2).

Since the team visit in fall 2015, Las Positas College has also provided tools in the form of training, handbooks, and reassigned time to support ongoing assessment and analysis of SLOs. As mentioned previously, prior to the team visit, guidelines and instructions for SLO assessment and analysis were in their infancy and often implicit. The trainings and handbook have communicated explicit guidelines regarding analysis of course, program, and institutional-level SLO data. In the spring of 2016, faculty and administrators attended two ACCJC workshops. Attendees brought back materials and offered an overview of each workshop to the SLO Committee (R3.5, R3.6, R3.7, R3.8). The materials from these workshops continue to provide a basis for widespread training workshops at the college (R3.9, R3.10, R3.11; see Table 1). The SLO Committee has also created a SLO Handbook that provides clear definitions, standardized SLO language and definitions, and assessment methodology to steer SLO work (R3.12 and Appendix 2).

Table 8**: Examples of workshops offered by the SLO and Program Review committees to provide training and guidance on SLO work.**

Workshop Title	**Location**	**Date**
SLOs and Course Objectives	Lecture Hall Room 2420	Aug 16 9:00-10:30am
Developing and Writing Program SLOs	Lecture Hall Room 2420	Aug 16 10:30-12:00 noon
Introduction to eLumen	Computer Lab Room 2416	Aug 16 10:30-12:00 noon
Program Review Training	Teaching & Learning Center Room 2410	Aug 31 2:30-4:00pm
Program Review Training	Teaching & Learning Center Room 2410	Sept 1 2:30-4:00pm
eLumen as an Instructor	Teaching & Learning Center Room 2410	Sept 8 5:30-6:30pm
eLumen as a Coordinator	Teaching & Learning Center Room 2410	Sept 14 2:30-3:30pm
eLumen as an Instructor	Teaching & Learning Center Room 2410	Sept 14 3:30-4:30pm
Program Review Training	Teaching & Learning Center	Sept 15 2:30-4:00pm

	Room 2410	
Program Review Training	Teaching & Learning Center Room 2410	Sept 19 2:30-4:00pm
eLumen as an Instructor	Teaching & Learning Center Room 2410	Sept 19 5:30-6:30pm
eLumen as an Instructor	Teaching & Learning Center Room 2410	Sept 22 5:30-6:30pm
eLumen as an Instructor	Computer Lab Room 2414	Sept 27 8:00-9:00am
Putting SLOs into practice: Mapping SLOs to your Course Assignments	Computer Lab Room 2414	Sept 27 9:10-10:10am
eLumen as a Coordinator	Computer Lab Room 2414	Sept 27 10:20-11:20am
Program Review Training	Teaching & Learning Center Room 2410	Oct 3 2:30-3:30pm
eLumen as an Instructor	Teaching & Learning Center Room 2410	Oct 3 2:30-3:30pm
eLumen as a Coordinator	Teaching & Learning Center Room 2410	Oct 3 3:30-4:30pm
eLumen as an Coordinator	Teaching & Learning Center Room 2410	Oct 4 2:30-3:30pm
eLumen as an Instructor	Teaching & Learning Center Room 2410	Oct 4 3:30-4:30pm

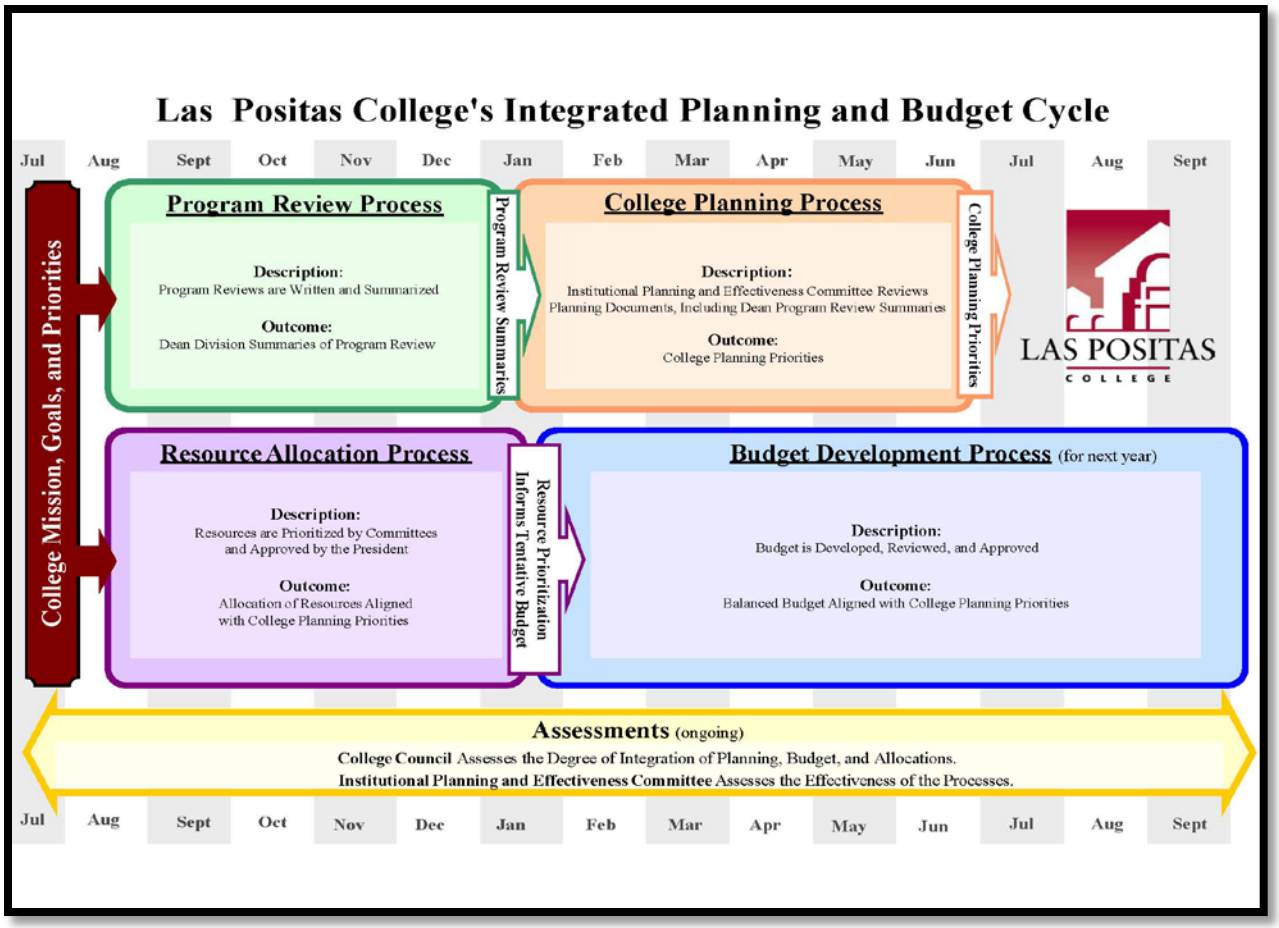
Finally, the college is investing in more reassigned time for SLO work. The SLO Committee Coordinators, who also serve on the Accreditation Steering Committee, received 0.4 FTEF for propelling SLO work on campus. This is an increase of 0.2 FTEF since fall 2015. This time has allowed the SLO Coordinators to set up the new eLumen, provide trainings in eLumen and writing Program Review Updates, and drive innovative work in the development of CSLOs, PSLOs, and ISLOs (R3.13, R3.14, R3.15, R3.16). The college has also supported reassigned time for four SLO Liaisons, one assigned to each academic division. Receiving 0.07 FTEF each, these faculty members work with faculty one-on-one to help them with SLO assessment and analysis as well as reporting about SLOs to the entire division and attending SLO meetings (R3.17, R3.18, R3.19, R3.20, R3.21).

Integrated Planning using Course and Program SLO data

SLO assessment and analysis are now systematic and ongoing, as captured and communicated through the vehicles of program review and dean's summaries. Since the team visit in fall 2015, the analysis of course, program, and general education outcomes is more broadly used for the improvement of integrated planning processes and resource allocation. Program reviews are written each fall and read by the Program Review Committee, SLO Committee, and division deans. The deans and committee members collaborate to write program review division summaries. Each dean summary is reviewed by members of the division, who may suggest revisions. The final drafts of the

dean's summaries are sent to the Institutional Effectiveness and Planning Committee (IPEC) for use in creating college planning priorities that guide the allocation of college resources (R3.22, R3.23). As described in the Integrated Planning and Budget Cycle diagram (see Figure 1), essential to the college's effective planning processes is the synergistic relationship between program review, which systematically records and communicates course- and program-level SLO data, and the college's planning priorities, mission and goals. Programmatic needs emerge from the program reviews and are described in the dean's summaries. Ultimately, this information is used to drive the college's planning priorities, align with the mission and goals, and guide resource allocation.

Figure 1: Diagram of the integrated planning process that is used to develop college planning priorities that guide resource allocation.



Now that faculty are engaging in more regular and robust SLO assessment and analysis, the results of course- and program-level data are widely used for both program improvement and in requests for resource allocation across disciplines. The following are some examples from the 2015-2016 and the 2016-2017 Program Review Updates. These examples showcase the expansive, ongoing, and systematic way SLO data analysis results are being used for program improvement based on faculty dialogue.

Academic Services: SLO data analysis and programmatic need led to the decision to hire a fourth dean. The dean position was described in the Non-Instructional Position Request Form 2015-2016 as crucial to supporting the institutional structure and SLO work:

> At both the District and the College, the Dean is part of the structure that supports the Planning Priorities and the Goals outlined for the year by the Educational Support Services Committee (ESS). Specifically, the Dean is involved in the Planning Priorities by being part of the institutional support for curriculum development by working with faculty and attending the meetings. The Dean is also part of the institutional structure that supports accreditation work and advancing the work of SLOs in the Division (R3.60).

The position was approved and, in spring 2016, a new dean was hired (R3.4, R3.24).

Anthropology: The Anthropology department used SLO data to drive a staffing request. The department identified a need to hire an archeologist to address the breadth of classes offered in the new Anthropology AA-T degree (R3.25). A position request was ranked by the Faculty Hiring Prioritization Committee, approved by the president and posted in spring 2016 (R3.26). Unfortunately, the position was advertised but the hiring was delayed due to lack of funding. It will be advertised again in the 2016-17 academic year.

Biology: The Biology department also used SLO data to drive a staffing request, specifically the hire of a new biologist in spring 2016. The Biology department based their request on their observation that they were "seeing negative effects on student success, attitude, work ethic, and lab skills in subsequent courses in the Biology majors and Allied Health pathways." They argued that, "In order to ensure consistent and quality instruction, it is crucial to have an additional full-time instructor teaching this foundational course of the Biology curriculum." (R3.27).

Business: The Business department noted consistent performance in PSLO data among all business degrees. The overall success rate of 70% in fall 2015 data will be compared with spring 2016 data, which is still being entered due to eLumen downtime (R3.19, R.28).

Computing Studies: The Computer Studies department identified positive outcomes at the program level based on the acquisition of robotic technologies and the employment of additional staff. The department observes that the AS in Computer Programming "increased student interest and engagement when robotic technologies were introduced into Computer Science courses." They were addressing the PSLO, "Students will be able to direct computer operations by writing

detailed instructions using computer programming languages." The department plans to increase "the use of robotic technologies to enhance the learning environment in CS courses" and notes that the addition of a second full-time instructor further stimulated dialogue about the student experience and active engagement with part-time instructors (R3.29).

Economics: The Economics department made curricular improvements based on SLO data. They noticed "mastery" of an ECON 10 SLO was achieved by only seven students, which was much lower than the number who achieved mastery in the course's other SLOs. To help more students achieve mastery, more class time will be allocated to the SLO and results of this change will be analyzed when they become available (R3.19).

English as a Second Language: The ESL department used SLO data to drive program improvements. Starting in the fall 2014, the ESL department implemented a common final for all grammar classes. They have been regularly revising and refining grammar exams based on ongoing student learning outcomes assessment, analysis, and dialogue. Their efforts have led to steady improvements in student success over time. For example, SLO assessment and analysis for ESL130B has revealed continuous student improvement working with verb forms. This is a result of action taken by the department to revise verb form lists and homework assignments as well as providing online access to the answer keys for quizzes, which were also revised based on analysis and discussion of SLO data. Furthermore, the ESL faculty have been in continuous discussions about revising SLOs in eLumen and designing reading-specific SLOs for applicable courses, a project on which they are currently working (R3.30).

Foreign Language: In the Foreign Language department, assessment and analysis of the SPAN 1A SLO led to curricular improvements. The data revealed that some students relied too heavily on basic phrases learned during the first couple weeks of class. The instructor revised activities to include written assignments for each lesson covered so that students would have more practice processing new vocabulary and grammar structures in writing as they progress through the course (R3.31).

Geography: In the Geography department, SLO data analysis led to curricular innovations and resource requests. The Geography AAT degree requires students to be able to "assemble and analyze spatial information using traditional and modern mapping technology methods." Based on this program outcome, all courses now have a spatial component, and the program has been successful in teaching spatial mapping. To date, the program is using maps and Google Earth and has identified a need to invest in more elaborate software and hardware to help student success (R3.32).

Health: In the Health department, SLO data analysis led to curricular improvements. The Health 1, fall 2014, assessment of a SLO involving students' ability to locate and evaluate sources of relevant health information in a database showed no students achieving mastery. As a result, LPC Library orientations were arranged in several sections of Health 1, and online students were directed to the LPC Health 1 Library Guide. A tutorial or assignment is being planned for online Health 1 students so that they are not at a disadvantage to students in face-to-face classes that have a physical library orientation (R3.33)

Humanities and Philosophy: In Humanities and Philosophy, past SLO analysis and faculty dialogue led to pedagogical changes that have improved student success. For example, a 2015 assessment of the Aesthetics SLO for PHIL 3 resulted in the scheduling of an extra day of rough-draft workshops and expanding the evaluation instructions; this change impacted student success positively as the 2016 class showed a large increase in proficiency with the Aesthetics SLO (R3.34).

Kinesiology: The Kinesiology department's SLO analysis led to curricular improvement and equipment requests. In KIN 15 (CPR & First Aid), the assessment of the CSLO, "Demonstrate the ability to perform CPR with an AED and rescue breathing," showed 96.9% competency. Of this 96.9%, 51.6% showed mastery. Because this is a skill that saves lives, the department wishes to increase the number of students who demonstrate mastery of this SLO. As a result, the instructional videos have been updated to focus more on concepts and applications rather than mimicry of procedures, which was the emphasis of past videos. Faculty predict changing the focus will result in greater understanding of the process, not just memorization of skills (R3.35).

In addition, in 2015, Kinesiology requested funds for equipment essential to students' ability to achieve CSLOs. They identified a need for a water polo timing system with nets and lane lines in order to help students meet several CSLOs in various Water Polo classes. For example, a CSLO for KIN WP1 (Water Polo 1) states students will be able to "demonstrate basic water polo skills: dribbling, passing, and shooting." The acquisition of nets and lanes lines allows students to meet this outcome. Similarly, a CSLO for KIN WP3 (Water Polo 3) says students will be able to "evaluate various competitive situations and integrate possible solutions." Without the timing system, nets, and lanes lines, students would not be able to meet this outcome as successfully. The acquisition of these items allows for students to meet several other CSLOs in various Water Polo classes (R3.36). This request was approved by the Resource Allocation Committee and then by the college President on December, 12, 2015 (R3.37). Subsequently these items have been purchased are in use.

Library: The Library's acquisition of resources led to improved student learning. The Library reports that in assessing the CSLO of LIBR 7, "Students will develop and refine search strategies to locate eight appropriate information sources using the Internet for an approved topic," the results show an increase in student engagement, and student outcome shows a 100% success rate on this specific SLO (R.38). This improvement is due to the purchase of white boards (purchased with instructional equipment funds), on which librarians may visually represent the research process, including developing search strategies based on a topic (R3.39). The Library plans to expand the use of white boards to library orientations.

Mass Communication: In the Mass Communications discipline, the revisions of CSLOs and PSLOs have led to program improvements that have impacted student success. Removal of a co-requisite to MSCM 17 – Express Editorial Board has increased student access to the course. Also, the department has revised the PSLOs for the Certificate of Achievement – Journalism to make the PSLOs more specific and aligned to the goals of students in the certificate program. Specific goals for the future that have emerged from assessment and dialogue about SLOs are to update newspaper classes to include a hybrid component, to increase literary anthology classes to three units, and to decrease the magazine production course to three units (R3.40).

Music: In the Music department, the results of SLO analysis have led to equipment requests. The Music department was granted a request for wireless locks with tracking capability in an effort to not only protect musical equipment but also to monitor students' practice habits, with particular respect to tracking practice lab hours, a practice that allows the department to facilitate meaningful assessments of CSLOs in five music courses (R.41, R3.42).

Psychology: In the Psychology department, the analysis of the Psychology AA-T PSLO, "Demonstrate an understanding of and apply basic research methods in psychology including research design, hypothesis testing, and data interpretation," resulted in program improvement. The assessment results showed that students who were proficient on the PSLO increased from 77% of all students in spring 2014, 78% in fall 2014, 91% in spring 2015, and 91% in fall 2015. The department attributes the increase in proficiency to a curriculum modification. Psychology added a 3-hour lab to its Research Methods course to help students to gain a better understanding of research methodology (R3.43).

Speech: In the Speech department, analysis of SLO data led to program improvements**.** The 2015-2016 SLO assessment and analysis for Speech 1 and Speech 10 revealed a 100% student success rate, leading faculty to have meaningful dialogue focused on reevaluating the academic rigor reflected in the CSLOs for these course. The department plans to reassess CSLOs for these courses in the current academic year, during which they also plan to assess Speech 2A, 5, 11, 46, and 48. The department has also recently evaluated all CSLOs and mapped them to PSLOs for the AA-T in Speech. The department notes that Speech 1, 46, and 48, in particular, help students to achieve all PSLOs, but also notes that the limited offerings of Speech 2A, 5, 10, and 11 (once per year) creates a challenge for students trying to obtain the degree and transfer from LPC within two years (R3.44).

Theater Arts: The Theater Arts department SLO data analysis led to two equipment requests. They identified the need for and received sound equipment necessary for the proper training of students to achieve learning outcomes related to the recording and set up of sound gear. The department noted that a lack of proper sound equipment had been a barrier to student success with the following learning outcomes: 1) "Serve as a member of a creative design process, simulating the complexities of creating live performance"; and 2) "Recognize crew organization, hang and focus lights, record a sound effect, or set up a microphone." The Theater Arts department was also granted a request for four LED lighting fixtures with up-to-date lighting technology. This equipment was necessary for the department to move forward with their goal of offering a certificate program in Technical Theater since training students using current technology will better prepare them for the workforce. While updated lighting technology helped students to achieve many learning outcomes specific to the theater program, especially those requiring students to participate creatively in productions, it also helped students achieve the following outcome in a manner consistent with current practices in the workforce and at larger institutions: "Students will be able to create a lighting plot for an assigned production" (R3.45, R3.46).

Welding Technology: Welding Technology department states that their AS & Certificate PSLO, "Demonstrates safety awareness in the welding workplace," witnessed significant success (99%

Success vs. 1% No Success). The program will continue to emphasize safety as the "most important task" for students (R3.47).

These examples of resource requests being driven by regular and systematic SLO data assessment and analysis are illustrative of a shift in the college's new approach to using SLO data results. The college's more systematic, structured approach to SLO assessment and analysis has made the SLO assessment process more valuable, which, in turn, is making its integrated planning processes more effective.

Since the fall 2015 team visit, there have been also been some macro-level changes to the college's planning processes as a result of SLO assessment and analysis. The centrality of SLO data in the planning process led the SLO Committee to meet twice instead of once a month. More frequent meetings had become necessary to facilitate a smoother integration between SLO work and the work of other college committees, supporting the systemic and ongoing nature of SLO work (R3.48).

Another improvement in the college's integrated planning processes was the combining of two committees, the Integrated Planning Committee (IPC) and the Institutional Effectiveness Committee (IEC), into a single committee, the Integrated Planning and Effectiveness Committee (IPEC) (R3.49, R3.50). Driving this decision was the recognition that it is through the integration and analysis of a wide variety of data, including SLO data, that effective planning and resource allocation occurs.

Assessment/Analysis of Institutional Learning Outcomes

In fall 2015, during the team visit, the college's institutional learning outcomes were referred to as "Core Competencies." However, since the team visit, the SLO Committee has renamed the Core Competencies; they are now "Institutional Student Learning Outcomes" or ISLOs, the name more logically identifying their relationship to program-level outcomes, PSLOs, and course-level outcomes, CSLOs (R3.51)

ISLOs serve as the college's general education learning outcomes. These are a significant systematic and ongoing measure of student learning at Las Positas College. Prior to the site visit in fall 2015, the IEC and the IPC were responsible for reviewing the ISLO data annually. Unfortunately, these committees did not have a clear standard to compare ISLO performance data against, which led to problems in meaningful analysis ISLO data. Since the site visit, Las Positas College has made significant improvements to the ISLOs and the methods of analyzing ISLO data. These improvements allow the college to more meaningfully and regularly use ISLO data to make institutional improvements and achieve more effective integrated planning processes.

In the new structure, the IPEC annually evaluates evidence, including data on institution set-standards for ISLOs, to determine if there is a need for new college planning priorities. Institution-set standards for ISLO performance are determined in the same way that that set standards are determined for student success in courses. The set standards for ISLOs use a five-year average of performance in each of the five ISLOs. That average is compared to the most

recent year of ISLO data. (R3.52, R3.53, R3.54). If the College does not meet its standard for ISLO achievement in a given year, then IPEC will recommend a College planning priority around the deficient ISLO in order to ensure the College meets its standard in the following year. This is a new method of evaluating ISLO data that the college is confident will enable the IPEC to use ISLO data for institutional improvements and more effective integrated planning (R3.52, R3.55).

Table 9: Achievement on the 5 ISLOs has remained high as shown by examining the institution set standard for each ISLO. The development of the set standard allows us to track student progress on the ISLOs annually.

Institution-Set Standard for Core Competency Achievement Rates

Data Used to Evaluate Academic Year 2014-15

Core Competencies	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	Institution-Set Standard	Met Standard?
OVERALL								
Total Assessments	18,409	17,485	30,691	21,695	22,061	25,077		
Num. Proficient	16,079	15,190	27,267	19,080	18,915	21,527		
Pct. Proficient	**87.3%**	**86.9%**	**88.8%**	**87.9%**	**85.7%**	**85.8%**	**82.8%**	**Yes**
Communication								
Total Assessments	3,635	3,443	6,255	4,717	4,413	5,554		
Num. Proficient	3,164	2,872	5,565	4,106	3,602	4,810		
Pct. Proficient	**87.0%**	**83.4%**	**89.0%**	**87.0%**	**81.6%**	**86.6%**	**81.8%**	**Yes**
Critical Thinking								
Total Assessments	12,406	10,534	17,426	13,743	13,148	15,515		
Num. Proficient	10,773	9,146	15,397	12,026	11,342	13,197		
Pct. Proficient	**86.8%**	**86.8%**	**88.4%**	**87.5%**	**86.3%**	**85.1%**	**82.5%**	**Yes**
Creativity and Aesthetics								
Total Assessments	665	645	1,460	724	660	799		
Num. Proficient	625	589	1,356	687	595	766		
Pct. Proficient	**94.0%**	**91.3%**	**92.9%**	**94.9%**	**90.2%**	**95.9%**	**88.6%**	**Yes**
Respect and Responsibility								
Total Assessments	1,269	1,862	2,328	1,191	2,172	1,501		
Num. Proficient	1,119	1,708	2,127	1,107	1,973	1,328		
Pct. Proficient	**88.2%**	**91.7%**	**91.4%**	**92.9%**	**90.8%**	**88.5%**	**86.2%**	**Yes**
Technology								
Total Assessments	434	1,001	3,222	1,320	1,668	1,708		
Num. Proficient	398	875	2,822	1,154	1,403	1,426		
Pct. Proficient	**91.7%**	**87.4%**	**87.6%**	**87.4%**	**84.1%**	**83.5%**	**82.0%**	**Yes**

Notes: Proficiency includes assessment scores of "Mastery", "Above Average", and "Average".
The institution-set standard is meeting or exceeding 95% of a 5-year rolling average.
Core Competencies are also known as General Education Outcomes or Institutional Learning Outcomes (ILOs).

At LPC, CSLOs are mapped to ISLOs and each ISLO contains a small number of subcategories to describe what constitutes each ISLO. For example, the Communication ISLO contains four subcategories (Read Critically, Write Effectively, Communicate Orally, and Communicate Visually and Symbolically). The SLO committee recognized that the ISLOs are too broad to meaningfully analyze the causes of a decrease in ISLO performance longitudinally. However, the SLO committee also realized that the existing subcategories in ISLOs might aid in the analysis of ISLO data. This would be possible if the CSLOs were not only mapped to the ISLOs but also to the ISLO subcategories. To start that process, a large group of faculty, staff, and administrators broke into five workgroups to refine the language of the five ISLOs and review the subcategories at a Town Hall meeting (R3.15). In order to capture feedback from everyone on campus, the ISLOs then were presented at division meetings and summarized at the SLO Committee (R3.56). Finally, workgroups were reformed to finalize the new ISLO language (R3.57). The new ISLO language was presented to the Academic Senate for approval in the spring semester (R3.58). In the spring semester, faculty will also begin mapping CSLOs to the new ISLOs. The newly mapped ISLO data will be analyzed in the fall 2017 semester. The improved ISLO language and the ISLO set standards will allow the college to systematically and regularly evaluate ISLO data. Those results will be used for institutional improvements and more effective integrated planning processes.

Assessment and Analysis of Student Learning Outcomes by Administrative Units

Instructional and student services administrative units have engaged in a systematic and ongoing assessment and analysis of course, program, and general education outcomes through the program review cycle that moves the results to the IPEC where the information is use for improvement and effective integrated planning.

As part of the annual program review, each instructional and student services program reports on CSLOs for their areas; deans of administrative units that serve these programs assess and analyze their student learning outcomes as a component of the annual dean program review summaries; these summaries are used by the college's planning committee to inform the integrated planning process. More specifically, dean program review summaries are used to help inform the college's planning priorities (R3.22).

The dean program review summaries are an integral part of the planning process at the college. Based primarily on dean program review summaries, the IPC recommended the following planning priority, which was adopted by the college in spring 2015, around student learning outcomes: "develop processes to facilitate ongoing meaningful assessment of SLOs/SAOs and integrate assessment of SLOs/SAOs into college processes." In order to ensure the college appropriately addresses the learning outcomes planning priority, the Vice President of Academic Services coordinates the steps to address this priority and makes regular progress reports about the priority to the college's planning committee (R3.59).

Conclusion

The college has addressed the Recommendation and now meets the IIA Standards. The instructional and administrative units are engaged in assessment and analysis of course, program, and institutional outcomes that are systematic and ongoing as evidenced by the full program review process. Program review documents capture how outcomes are used for improvement, and they effectively inform the Institutional Planning and Effectiveness Committee in the integrated planning processes.

Evidence

R3.1 - Minutes - #VII - SLO Committee - 9-8-14

R3.2 - Form – Non-Instructional Position Request – Curriculum and SLO Specialist – fall 2015

R3.3 - Other Document – #IIA Classified Hiring - Board Packet - 6-21-16

R3.4 - Other Document - Non-Instructional Positions Ranking - fall 2015

R3.5 - Minutes - #VIII - SLO Committee - 3-7-16

R3.6 - Minutes - # 6 - SLO Committee - 5-2-16

R3.7 - Other Document - Course Mapping - fall 2016

R3.8 – Power Point - Putting Course SLOs into Practice - 9-27-16

R3.9 - Other Documents - Workshops Sign-In Sheets - fall 2016

R3.10 - College Day Sign in Sheets from SLO Presentation – fall 2016

R3.11 - Other Document - Flex Day Schedule - 9-27-16

R3.12 - Other Document - SLO Handbook - Spring 2016

R3.13 - Agenda - Flex Day - 9-26-16

R3.14 - Agenda - Convocation & LPC College Day - 8-15-16

R3.15 - Agenda - Town Meeting Agenda and Announcements - 10-5-16

R3.16 - Website - Workshop Descriptions - fall 2016

R3.17 - Minutes - #15 - SLO Liaison Responsibilities - MSEPS Division - 9-21-16

R3.18 - Other Document - SLO Liaison Position - 9-12-16

R3.19 - Report - SLO Liaison Report BHAWKS Division - fall 2016

R3.20 - Report - SLO Liaison Report CATSS Division - fall 2016

R3.21 - Report - SLO Liaison Report A&H Division - fall 2016

R3.22 - Minutes - #4A vi - Integrated Planning Committee - 4-17-16

R3.23 – Minutes - #4C - Dean Summaries – Integrated Planning Committee – 3-10-16

R3.24 - Minutes - #3.3 Management Personnel – Board Packet - 7-19-16

R3.25 - Form - #7, 8 - Full-Time Faculty Position Request - Anthropology - fall 2015

R3.26 –Other Document - Faculty Hiring Prioritization, Anthropology - 2015

R3.27 – Form - pg. 4 – Full-Time Faculty Position Request - Biology - fall 2015

R3.28 Program Review Update – pg. 12 - Business – fall 2016

R3.29 Program Review Update – pgs. 6, 7 - Computing Studies – fall 2016

R3.30 Program Review Update – pg. 7 - ESL – fall 2016

R3.31 Program Review Update – pg. 5 - Spanish – fall 2016

R3.32 Program Review Update – pg. 5 - Geography – fall 2016

R3.33 Program Review Update – pg. 6 - Health – fall 2016

R3.34 Program Review Update – pg. 6 - Philosophy – fall 2016

R3.35 Program Review Update – pg. 6 - Kinesiology – fall 2016

R3.36 - Form – pgs. 2, 3 - Instructional Equipment Request - Kinesiology - fall 2015

R3.37 - Other Document - Instructional Equipment Ranking - fall 2015

R3.38 Program Review Update – pg. 9 - Library – fall 2016

R3.39 - Form – pg. 2 – Instructional Equipment Request - Library whiteboards - fall 2015

R3.40 Program Review Update – pgs. 12, 13 - Mass Communications – fall 2016

R3.41 - Form – pg. 6 – Instructional Equipment Request - Music wireless locks - spring 2016

R3.42 Program Review Update – pg. 7 - Music – fall 2016

R3.43 Program Review Update – pg. 6 - Psychology – fall 2016

R3.44 Program Review Update – pgs. 6, 7 - Speech – fall 2016

R3.45 - Form – pg. 5 – Instructional Equipment Request - Music Sound Equipment - spring 2016

R3.46 - Form – pg. 5 – Instructional Equipment Request - Theater LED lighting - spring 2016

R3.47 – Program Review Update – pg. 10 - Welding – fall 2016

R3.48 - Minutes - #VIII - SLO Committee - 5-4-15

R3.49 - Minutes - #4a - College Council - 5-19-16

R3.50 - Minutes - #4.a - College Council - 8-25-16

R3.51 - Minutes - #8 - SLO Committee - 9-12-16

R3.52 - Minutes -#3a Core competency Results – Institutional Planning Committee - 4-14-16

R3.53 - Minutes - #8 - SLO Committee - 3-21-16

R3.54 - Minutes - #7 - SLO Committee - 5-2-16

R3.55 - Minutes - #7 - SLO Committee - 3-7-16

R3.56 – Minutes - #8 SLO Committee – 10-24-16

R3.57 - Email - ISLO workgroups - 11-28-16

R3.58 – Agenda – #6.1, 6.2 - Academic Senate - 01-25-17

R3.59 - Report - Planning Priority 3 - fall 2016

R3.60 – Form – #2b, 2c - Dean, Academic Services - Non-Instructional Position Request – fall 2015

Recommendation 4

In order to meet the standard, the team recommends that the College include the Academic Freedom statement in the college catalog. (II.A.7, II.B.2.a)

Narrative Analysis

The LPC Academic Catalog (catalog) is typically produced once every two years, with an addendum in alternating years, and this Recommendation was in reference to the 2014-16 catalog (R4.1). In response to the Recommendation for inclusion of an Academic Freedom Statement, conversations on the campus began in two arenas: the production of the catalog and the Academic Senate on how to best represent the Academic Freedom Statement in the catalog.

The production of the catalog is managed through the Academic Services Office with an ad-hoc workgroup that meets for this task bi-yearly. The group agrees on a timeline and tasks, led by the Vice President of Academic Services (R4.2). During the fall 2015 meeting, she suggested that the college would be served to produce the full catalog each year, beginning in 2016-17. This would give more opportunity to publish changes and would increase visibility of the updates of the curriculum, courses, and program outcomes; it could also include publishing the Academic Freedom Statement. The workgroup welcomed the idea and agreed to move the request forward; it was then considered at an Executive Staff meeting. Executive Staff agreed that for the short-term it would be advantageous to publish a catalog each year, rather than alternating with an addendum, and that the costs would be absorbed by the Academic Services Office (R4.3).

The Academic Senate President first put this Recommendation on the Academic Senate Agenda in December of 2015 for discussion (R4.4, R4.5). Because there are several places that Academic Freedom is addressed, such as Board Policy (R4.6), the Full-Time Faculty Handbook (R4.7) and the Agreement between the Chabot-Las Positas Community College District and Chabot-Las Positas Faculty Association (R4.8) (R4.9), an Academic Senate work group, of three members, was formed to consider the options for submission to the Catalog (R4.10). The work group met and submitted drafts to the Academic Senate (R4.11) with substantial conversation to craft it for the context and to reflect the Senate's views (R4.12). The language was reviewed by the Faculty Association Executive Board members and their attorney (R4.13), and shared broadly at Division Meetings (R4.14). The Academic Freedom Statement was approved by the Academic Senate on March 23, 2016 (R4.15). It was included in the LPC Academic Catalog 2016-17 production and can be found on page 5 (R4.16).

Conclusion

Las Positas College had addressed Recommendation 4, in order to meet the Standards as identified. The college acknowledges the need for a catalog that provides accurate and current information including an Academic Freedom Statement. The Academic Freedom Statement was reviewed and approved by the Academic Senate and published in the 2016-17 LPC Academic

Catalog. It exemplifies a commitment to the free pursuit and dissemination of knowledge and fully meets the Standards.

Evidence

R4.1 – LPC Academic Catalog – 2014-16

R4.2 - Agenda – Catalog Work Group Timeline for 2016-17 – November 18, 2015

R4.3 - Agenda – Exec Staff – informal notes – December 1, 2015

R4.4 - Agenda – #6.3 New Business, Academic Freedom – Academic Senate – 12-9-15

R4.5 - Minutes – #6.3 Academic Freedom topic introduced – Academic Senate – 12-9-15

R4.6 - Policy – Academic Freedom – CLPCCD Board Policy 4030

R4.7 - Handbook – Full-Time Faculty Handbook 2016-17, page A-10

R4.8 - Contract – CLPCCD Faculty Agreement – Article 23, page 249-257

R4.9 - Contract – CLPCCD Faculty Agreement – Appendix, page A-5

R4.10 - Email – Work group exchanges and drafts – February-March, 2016

R4.11 - Minutes – #5.7 Academic Freedom Statement discussion – Academic Senate – 2-27-16

R4.12 - Minutes – #5.2 Academic Freedom Statement discussion – Academic Senate – 3-9-16

R4.13 - Email – Exchange with Faculty Association Exec. Board and attorney – March, 2016

R4.14 - Other Documents – Academic Senate Talking Points for Division Meeting – 3-15-16

R4.15 - Minutes – #2.1 Approval of Academic Freedom Statement – Academic Senate – 3-23-16

R4.16 – LPC Academic Catalog – 2016-17, page 5

Recommendation 5

In order to meet the standard, the team recommends that student services evaluate:

a. The method by which Student Services determines and monitors learning support needs they provide or need to provide DE students; and,

b. The comparability of face-to-face counseling and tutorial services with online counseling and tutorial services. (II.B.3)

Narrative Analysis:

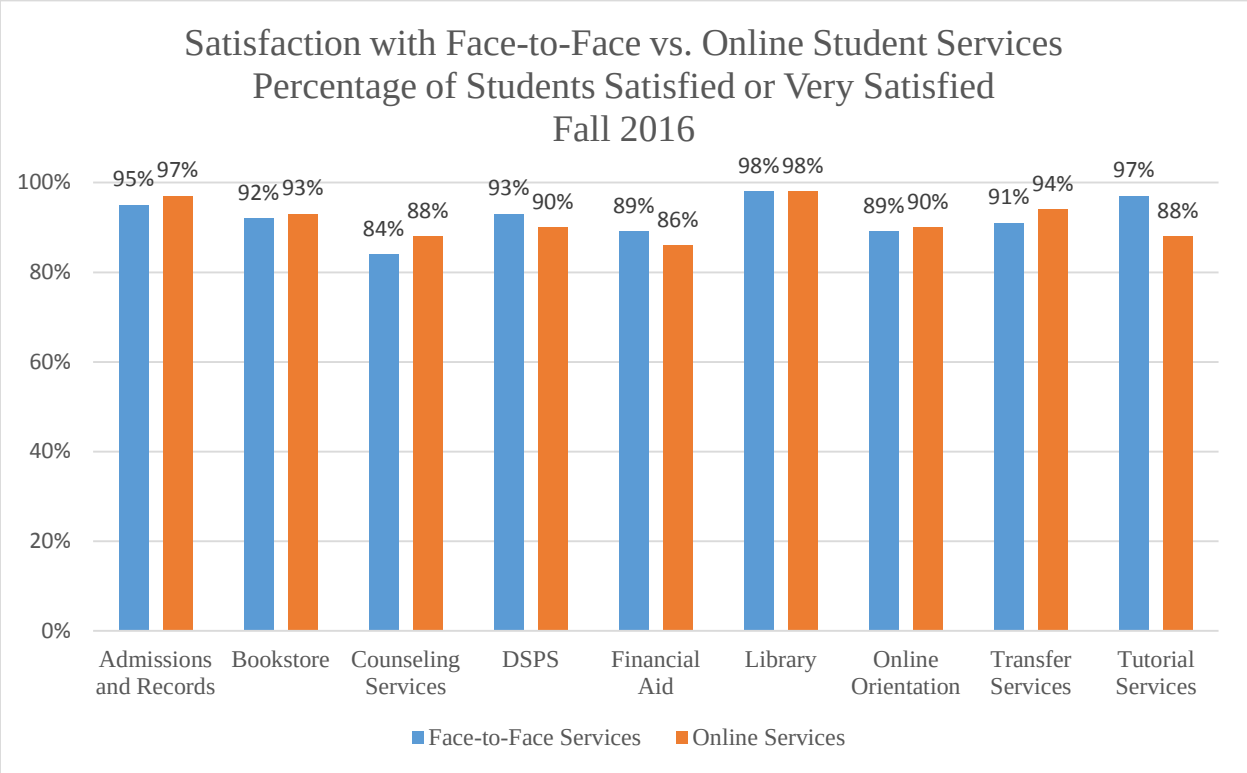
The Student Services division at Las Positas College has a variety of ways in which it determines and monitors the learning support needs of all its students, including Distance Education (DE). The college administers two surveys, a Student Satisfaction Survey (R5.1) (administered biennially) and a DE Survey (R5.2) (administered annually), with the intent of better understanding all student learning needs. The DE Committee meets regularly and is active under their charge, which reads, "To explore and recommend policies, procedures, and tools to enhance student learning and services in the delivery of distance education." Furthermore, individual departments are evaluating their own DE services during the college's annual Program Review process and are thoughtfully working to improve those services (R5.20). In addition, several Student Services programs including Counseling and the Veterans Resource Center, have department-specific assessments monitoring their DE students at the point of contact (R5.3, R5.4). In response to the above recommendation, the Accreditation Steering Committee worked to evaluate the methods for DE student monitoring and support, and subsequently improved them to meet the Standard as noted by the Team Report.

The Accreditation Steering Committee coordinated the evaluation of DE student monitoring and support across campus, drawing on the expertise and knowledge of administrators, faculty and staff across the Student Services Division and on the Distance Education Committee. The Student Services representative on the Steering Committee first elicited responses from the DE Committee Chair, the Campus Researcher, the Student Services Deans, and all department leads/chairs regarding what process were already in place to both monitor and support DE student learning. The collective responses were shared at the Accreditation Steering Committee, whose members worked to identify gaps in the monitoring of DE students and ways in which the campus could better coordinate its efforts. In evaluating the various ways by which DE students' needs were being assessed, the Accreditation Steering Committee recommended several improvements to the process, with implementation of the recommendations occurring in fall 2016.

The most notable change in the assessment of student learning needs came in the re-writing of the DE Survey. The first change to the survey aimed to isolate 100% DE students from those who take both online classes and face-to-face classes (R5.2; Question #2). This change enabled

Student Services programs to compare their face-to-face support services with those provided online. The second and most substantive change involved the addition of a student services satisfaction question (R5.2; Question #9) isolating individual student services departments and assessing DE students for satisfaction with each service. The data obtained from this survey (R5.19) has been distributed to the leads of each of the identified student services department and the Dean of Student Services, then used to guide conversations in department and division meetings (R5.5). As each student service department received results from the DE student services satisfaction data, they were able to compare that data with student satisfaction data for face-to-face students to measure comparability of services (R5.6; see Chart 2).

Chart 2 – Face-to-Face vs. Online Comparability Data



As a result of the comprehensive assessment of DE students, and more specifically with their learning support needs involving student services, departments across the division are working to improve the DE services that they provide. Some of the most notable changes have taken place within Counseling, the Veteran's Resource Center and Tutoring. While Counseling developed and implemented an e-counseling program in the spring of 2015 (R5.7), great strides have been made to both improve the existing program and to expand DE counseling to utilize a web-based, real-time communication software, Cranium Café (R5.8). The spring 2015 roll-out of e-counseling offered restricted services to DE students, but continued development and implementation of additional distance counseling interventions has led to more comprehensive services being offered. Counseling has now grown the e-counseling (email based-counseling) program to allow for degree audits, pre-requisite overrides, goal setting and more. With the acquisition of Cranium Café, DE students are now able to access one-hour web-based counseling

appointments designed to mirror the experience of face-to-face counseling appointments. DE students are given equal access in scheduling counseling appointments, and can obtain comparable counseling services (e.g. career counseling, goal setting, transcript evaluation, student educational planning, transfer services, etc). Counseling offices have been outfitted with web-cams, speakers, and headsets that allow counselors to seamlessly move between face-to-face counseling and DE counseling (R5.9). The Counseling office is currently offering DE appointments to those students who are enrolled 100% online (~10% of our student body) (R5.10) though the long-term plan is to offer both DE counseling and face-to-face counseling to all students.

The Veterans Resource Center is another strong example of where the DE services offered are comparable to those available to face-to-face students. They began piloting a web-based real-time communication software called Zoom in fall 2016. This program allows the veterans counselor and coordinators to fully serve DE student veterans with all available veterans counseling services. The program has begun serving a small segment of our veteran student population, but is in the process of developing marketing material (R5.11) with plans to expand DE services in a substantial way that will allow for the service of student veterans beyond our current population (R5.12).

Tutorial Services has also been working to expand the level of services it provides to DE students. The current program primarily consists of email tutoring for math (including statistics) and English (R5.13). The tutorial email address is maintained by the LPC DE Coordinator who trains tutors how to access the corresponding site, answer and archive emails. Two peer tutors are hired to check this site daily and answer any questions found at the address. The tutors may also suggest students view helpful videos on the topic or problem, as well. English email tutoring is handled by faculty in the Reading and Writing (RAW) Center. The RAW faculty regularly check the website (http://www.laspositascollege.edu/RAW/EmailTutoring.php) for papers submitted by students and provide needed feedback and support.

In an effort to evaluate the effectiveness of the existing tutoring services, the DE coordinator administers a weekly survey (R5.14) to assess satisfaction with DE math tutoring, while the RAW Center administers an automated survey (R5.15) at the conclusion of DE writing tutoring. The data from these surveys is then aggregated and reported at monthly DE committee meetings, and used to evaluate how to improve tutoring services to DE students. Several changes have been implemented as a result of the student survey data including expanding the availability of DE tutoring earlier in the semester and into the evenings. Those changes increased the availability of tutoring to DE students, and the DE Committee, led by the DE Coordinator, teamed up with the Tutorial Center Coordinator to present a demo of an online tutoring platform, NetTutor®. NetTutor® was then purchased and implemented in January 2017 to further expand DE tutoring services and meet the increasing demands of the college's growing DE program (R5.16).

One of the major benefits of NetTutor® is that it is available twenty-four hours a day, seven days a week, making tutoring more available to our students at times when they may need it. Additionally, Net-tutor does not use LPC peer tutors, which allows for around-the-clock support in all forms including traditional tutoring, question drop-off, and paper/essay review. NetTutor® is available through the Online Education Initiative (OEI) at a reduced cost, and was determined

to be the best DE tutoring option for our college moving forward. The DE committee and Tutorial Center recommended that tutorial services purchase Net-Tutor to enhance the campus DE tutoring offerings, and this recommendation was then supported by the Vice President of Student Services. In support of the acquisition of NetTutor®, the college increased the Tutorial Center Faculty Coordinator position from 50% to 100% for the spring of 2017 (R5.17 College Council minutes 10/16). NetTutor® was purchased in fall 2016 and implemented at the outset of the spring 2017 semester (R5.18).

In summary, departments throughout Student Services have more thoughtfully evaluated their DE services, and subsequently increased their awareness of the learning support needs of DE students. All departments continue to utilize what is learned in the assessment process to drive improvement in services to DE students across the division.

Conclusion

Las Positas College has addressed Recommendation 5 in order to meet the standard. This is evidenced by the college's evaluation of the methods by which it assesses the DE student learning support needs and the resulting improvements made to that process. These improvements include a more robust and thoughtful DE survey and department specific point-of-contact surveys for DE students offered in Counseling, The Veterans Resource Center, and Tutorial Services. The college further meets the recommendation by evaluating the comparability of face-to-face counseling and tutorial services with online counseling and tutorial services, and using the results of those evaluations to make improvements to its programs.

Evidence

R5.1 - Surveys – Student Satisfaction Survey – fall 2016

R5.2 - Surveys – Distance Education Student Survey – fall 2016

R5.3 - Surveys – Online Counseling Survey

R5.4 - Surveys – Zoom Survey Veterans

R5.5 - Minutes – DE Data Discussion – Division Meeting – 2-7-17

R5.6 - Data – DE v Face-to-Face Comparability Data

R5.7 - Reports – E-Counseling Usage Data – 2015-2016

R5.8 - Minutes – #4 Comparable Services to DE Students - Dean/Counselor Meeting – April, 2016

R5.9 - Minutes – #4.h Cranium Café - Dean/Counselor Meeting – August, 2016

R5.10 - Emails – DE Student Demographic Data – 10-18-2016

R5.11 - Emails – DE Counseling Marketing Email – 1-19-2017

R5.12 - Emails – Zoom Implementation at the LPC Veterans Resource Center – 10-18-2016

R5.13 - Website – Online Tutoring

R5.14 - Survey – Weekly Math DE Tutoring Survey – fall 2016

R5.15 - Survey – Reading and Writing Center DE Tutoring Survey – fall 2016

R5.16 - Memo – Online Tutoring Summary – 10-12-2016

R5.17 - Minutes – #5.e. Integrated Planning Information – College Council - October, 2016

R5.18 - Email – Net-Tutor Dean Email – 12-5-16

R5.19 - Data – DE Survey Student Services Data – fall 2016

R5.20 - Program Review Update – Section C, E - Counseling – fall 2016

District Recommendation 5

To meet the Standard, the Colleges and District should update and integrate their long range facilities planning process to reflect the total cost of ownership projections of facilities and equipment. (III.B.2.a, ER 19)

District Narrative Analysis

During the comprehensive evaluation team visit in fall 2015, the Las Positas College and Chabot College teams noted that the District and colleges effectively plan and evaluate facility and equipment resource needs on a regular basis, taking space utilization and programmatic needs into account. Ongoing and deferred maintenance, as well as technology and infrastructure replacement, have been a regular part of the multi-year Measure B bond implementation. The team also noted that the Institutional Planning and Budget Committees for Facilities and Sustainability (colleges and district), and the Technology Committee at each college, and the District Technology Coordinating Committee, have a short-range prioritization and planning process that considers newly identified or prioritized maintenance and equipment needs, as well as a new software system that allows for more effective assessment of capacity/load ratios. However, the teams noted that in order to meet the standards, the long-range facilities planning process needed to reflect the total cost of ownership projections of facilities and equipment.

The Facilities Master Plan is the institutional long-range planning document that captures the results of the facilities planning process. The Technology Plan is completely separate but aligns with the facilities plan and is part of the District's Facilities Master Plan. The Resource Allocation Committee ensures that capital equipment funds are allocated for purchases that are linked to institutional planning; the Comprehensive Evaluation Teams noted that the District and colleges have used their long-range capital planning to advance the colleges and reach their institutional improvement goals.

The Facilities Master Plan (with the Technology Plan) is linked to ongoing program reviews and the Educational Master Plan, and is used in resource allocations for maintenance and construction. Capital construction projects are further identified in the District's Five-Year Construction Plan which is updated annually and submitted to the California Community College Chancellor's Office, Facilities Planning Unit. That plan includes a comprehensive list of capital projects for both State-funded and locally-funded projects, shown in priority and sequence order. Progress in meeting the long-range Facilities Master Plan goals, as well as meeting current short-range needs, is reviewed each year by the District and colleges' Committees for Facilities and Sustainability. Student needs and support for the mission are integral in facilities planning, and the District and colleges collaborate effectively to address issues that are identified through planning processes that fall outside the Facilities Master Plan, such as during program review.

While the teams commended the colleges and District for successful implementation of facilities bond measure projects to support institutional improvement goals, the teams noted, however, that total cost of ownership was not defined and used in long-range planning and budget development. While elements of total cost of ownership have been included in facilities and

equipment discussions and decision-making for a number of years, there had not been, as noted by the teams, a formalized total cost of ownership consideration process. The teams found a need for the colleges and District to update long-range planning procedures to reflect the total cost of ownership in the projections of new facilities and equipment. .

In order to update and integrate its long-range processes to include total cost of ownership (TCO) considerations for facilities and equipment, CLPCCD reviewed its policies and procedures for necessary changes. While District practices had included total cost of ownership considerations, it was determined there needed to be a formal recognition and requirement to ensure ongoing and long-term inclusion of TCO in District and college planning processes. Board Policy 3250, Institutional Planning, was updated to reflect facilities planning and total cost of ownership. In addition, a new Administrative Procedure 3253, Total Cost of Ownership, was created to define total cost of ownership and its implementation. The revised Board Policy and draft Administrative Procedure were presented, in accordance with Board Policy and Administrative Procedure 2410, to senior leaders of the district and to the Chancellor's Council, and were approved for first reading by the Board of Trustees. Constituents from the colleges and the district provided input, which was used to revise the drafts prior to their final adoption by the Board of Trustees.

The development of the Total Cost of Ownership Plan involved a year-long study by facilities experts working with college and District professionals, resulting in recommendations concerning TCO. The Plan provides the TCO data and standards which are applied in facilities and equipment planning and are a part of the Facilities Master Plan process. The Total Cost of Ownership Plan was presented to and reviewed by the college and districtwide facilities committees, reviewed by the District Council, and approved by the Board of Trustees. The Plan now informs the application of TCO in facilities and equipment planning, and in implementation of those plans.

Thus, in order to address the Team Recommendation and to meet the Standard, as well as to enhance facilities and equipment planning at CLPCCD including resource allocation, the District's Board Policy on Institutional Planning was revised to include Total Cost of Ownership (TCO) as an element of Facilities Master Plan implementation. A related Administrative Procedure was created to set forth the elements and principles of TCO considerations in all facilities planning. A current CLPCCD Total Cost of Ownership Plan has been completed and presented to the Board of Trustees. The policy, procedure and Plan are currently being used and providing the means whereby CLPCCD has formalized and integrated TCO in its long range planning for facilities and equipment.

District Conclusion

The District and colleges have addressed District Recommendation 5, and now meet the Standard. Since the Comprehensive Evaluation Team visit, effective practices have been maintained in facilities and equipment planning. In addition, the Board Policy on Institutional Planning has been revised to include Total Cost of Ownership in the implementation of the Facilities Master Plan. An Administrative Policy has been added which sets forth the principles for implementation of TCO considerations, and a current Total Cost of Ownership plan has been completed and presented to the Board of Trustees.

Evidence

DR5.1 - Minutes – Board of Trustees BP3250 Institutional Planning approved – 12-6-2016

DR5.2 - Procedure – Administrative procedure AP3253 Total Cost of Ownership

DR5.3 - Policy and Procedure – Board of Trustees BP 2410 adopted – 4-16-2016

DR5.4 - Procedure – Administrative Procedure AP2410 approved – 3-19-2016

DR5.5 - Report - CLPCCD Total Cost of Ownership Plan - 2017

Appendices

APPENDIX 1
Table of Evidence

Evidence: Introduction – Report Preparation

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IN.2 - Minutes 4b - College Council - 4-28-16
IN.3 - Minutes - #11 SLO Liaison - SLO Committee - 9-12-16
IN.4 - Other Document - SLO Liaison Report Template - 9-20-16
IN.5 - Other Document - SLO Liaison Position - 9-12-16
IN.6 - Report - SLO Liaison Report CATSS Division - fall 2016
IN.7 - Report - SLO Liaison Report BHAWK Division - fall 2016
IN.8 - Report - SLO Liaison Report A&H Division - fall 2016
IN.9 - Agenda – Town Hall - 9-17-16
IN.10 - Agenda – Town Hall - 10-5-16
IN.11 - Agenda - Accreditation Steering Committee - 2-29-16
IN.12 - Agenda - Accreditation Steering Committee - 12-9-16
IN.13 - Agenda - Accreditation Steering Committee - 10-28-16

Evidence: Recommendation 2

R2.1 - Agenda - Fall Flex Day - 09-15-15
R2.2 - Other Document - SLO Handbook - spring 2016
R2.3 - Other Document - SLO Talking Points - May 2016
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R2.10 - PowerPoint - Ginni May SLOs and Objectives - 8-16-16
R2.11 - Agenda - #12 - SLO Committee - 10-24-16
R2.12 - Agenda - #7 SLO Committee – 11-28-16
R2.13 - Minutes - # VII - SLO Committee - 4-7-14
R2.14 - Minutes - # VII - SLO Committee - 9-8-14
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R2.20 - Other Document - Talking Points - SLO Committee - 5-18-16
R2.21 - Email - No migration of SLO data - 5-18-16
R2.22 - Agenda - Convocation & LPC College Day - 8-15-16

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R2.24 - Website - Workshop Descriptions - fall 2016
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R2.27 - Minutes - #10, #11 - SLO Committee - 10-10-16
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R2.30 - Form - Curriculum and SLO Specialist -Non-Instructional Position Request - fall 2015
R2.31 - Other Document - Non-Instructional Positions Ranking - fall 2015
R2.32 - Other Document - #IIa Classified Hiring - Board Packet Item - 6-21-16
R2.33 - Minutes - #4 - SLO Committee - 8-22-2016
R2.34 - Minutes - #6c - Curriculum Committee - 9-22-16
R2.35 - Other Document - College Catalog - 2016-17
R2.36 - Newsletter – pg. 2 - CLPFA professional responsibility of adjuncts - 10-2016
R2.37 - Agenda - New Faculty Orientation - 8-11-16
R2.38 - Other Document - Full Time Faculty Handbook pg C-6 - 2016-17
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R2.46 - Minutes - #7b - Curriculum Committee Item - 3-14-16
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R2.50 - Minutes - # 4 - SLO Committee - 9-12-16
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R2.52 - Report - PSLO Mapping - spring 2016
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R2.54 - Agenda - Town Meeting Agenda and Announcements - 10-5-16
R2.55 - Other Document - ISLO Workgroups Draft - 10-11.16
R2.56 – PowerPoint – Institutional Set Standards – 11-2-16
R2.57 - Other Document - SLO Liaison Report A&H Division - fall 2016
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R2.63 - Program Review Update - Mass Communications – fall 2016
R2.64 - Program Review Update – Philosophy – fall 2016
R2.65 - Program Review Update – Psychology – fall 2016
R2.66 - Program Review Update - Speech – fall 2016

Evidence: Recommendation 3

R3.1 - Minutes - #VII - SLO Committee - 9-8-14
R3.2 - Form – Non-Instructional Position Request – Curriculum and SLO Specialist – fall 2015
R3.3 - Other Document – #IIA Classified Hiring - Board Packet - 6-21-16
R3.4 - Other Document - Non-Instructional Positions Ranking - fall 2015
R3.5 - Minutes - #VIII - SLO Committee - 3-7-16
R3.6 - Minutes - # 6 - SLO Committee - 5-2-16
R3.7 - Other Document - Course Mapping - fall 2016
R3.8 – Power Point - Putting Course SLOs into Practice - 9-27-16
R3.9 - Other Documents - Workshops Sign-In Sheets - fall 2016
R3.10 - College Day Sign in Sheets from SLO Presentation – fall 2016
R3.11 - Other Document - Flex Day Schedule - 9-27-16
R3.12 - Other Document - SLO Handbook - Spring 2016
R3.13 - Agenda - Flex Day - 9-26-16
R3.14 - Agenda - Convocation & LPC College Day - 8-15-16
R3.15 - Agenda - Town Meeting Agenda and Announcements - 10-5-16
R3.16 - Website - Workshop Descriptions - fall 2016
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R3.18 - Other Document - SLO Liaison Position - 9-12-16
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R3.34 Program Review Update – pg. 6 - Philosophy – fall 2016
R3.35 Program Review Update – pg. 6 - Kinesiology – fall 2016
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R3.37 - Other Document - Instructional Equipment Ranking - fall 2015
R3.38 Program Review Update – pg. 9 - Library – fall 2016
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R3.41 - Form – pg. 6 – Instructional Equipment Request - Music wireless locks - spring 2016
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R3.45 - Form – pg. 5 – Instructional Equipment Request - Music Sound Equipment - spring 2016
R3.46 - Form – pg. 5 – Instructional Equipment Request - Theater LED lighting - spring 2016
R3.47 – Program Review Update – pg. 10 - Welding – fall 2016
R3.48 - Minutes - #VIII - SLO Committee - 5-4-15
R3.49 - Minutes - #4a - College Council - 5-19-16
R3.50 - Minutes - #4.a - College Council - 8-25-16
R3.51 - Minutes - #8 - SLO Committee - 9-12-16
R3.52 - Minutes -#3a Core competency Results – Institutional Planning Committee - 4-14-16
R3.53 - Minutes - #8 - SLO Committee - 3-21-16
R3.54 - Minutes - #7 - SLO Committee - 5-2-16
R3.55 - Minutes - #7 - SLO Committee - 3-7-16
R3.56 - Minutes - #8 – SLO Committee -10-24-16
R3.57 - Email - ISLO workgroups - 11-28-16
R3.58 – Agenda – #6.1, 6.2 - Academic Senate - 01-25-17
R3.59 - Report - Planning Priority 3 - fall 2016
R3.60 - Form – #2b, 2c - Dean, Academic Services - Non-Instructional Position Request – fall 2015

Evidence: Recommendation 4

R4.1 – LPC Academic Catalog – 2014-16
R4.2 - Agenda – Catalog Work Group Timeline for 2016-17 – November 18, 2015
R4.3 - Agenda – Exec Staff – informal notes – December 1, 2015
R4.4 - Agenda – #6.3 New Business, Academic Freedom – Academic Senate – 12-9-15
R4.5 - Minutes – #6.3 Academic Freedom topic introduced – Academic Senate – 12-9-15
R4.6 - Policy – Academic Freedom – CLPCCD Board Policy 4030
R4.7 - Handbook – Full-Time Faculty Handbook 2016-17, page A-10
R4.8 - Contract – CLPCCD Faculty Agreement – Article 23, page 249-257
R4.9 - Contract – CLPCCD Faculty Agreement – Appendix, page A-5
R4.10 - Email – Work group exchanges and drafts – February-March, 2016
R4.11 - Minutes – #5.7 Academic Freedom Statement discussion – Academic Senate – 2-27-16
R4.12 - Minutes – #5.2 Academic Freedom Statement discussion – Academic Senate – 3-9-16
R4.13 - Email – Exchange with Faculty Association Exec. Board and attorney – March, 2016
R4.14 - Other Documents – Academic Senate Talking Points for Division Meeting – 3-15-16
R4.15 - Minutes – #2.1 Approval of Academic Freedom Statement – Academic Senate – 3-23-16
R4.16 – LPC Academic Catalog – 2016-17, page 5

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R5.4 - Surveys – Zoom Survey Veterans
R5.5 - Minutes – DE Data Discussion – Division Meeting – 2-7-17

R5.6 - Data – DE v Face-to-Face Comparability Data
R5.7 - Reports – E-Counseling Usage Data – 2015-2016
R5.8 - Minutes – #4 Comparable Services to DE Students - Dean/Counselor Meeting – April, 2016
R5.9 - Minutes – #4.h Cranium Café - Dean/Counselor Meeting – August, 2016
R5.10 - Emails – DE Student Demographic Data – 10-18-2016
R5.11 - Emails – DE Counseling Marketing Email – 1-19-2017
R5.12 - Emails – Zoom Implementation at the LPC Veterans Resource Center – 10-18-2016
R5.13 - Website – Online Tutoring
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R5.15 - Survey – Reading and Writing Center DE Tutoring Survey – fall 2016
R5.16 - Memo – Online Tutoring Summary – 10-12-2016
R5.17 - Minutes – #5.e. Integrated Planning Information – College Council - October, 2016
R5.18 - Email – Net-Tutor Dean Email – 12-5-16
R5.19 - Data – DE Survey Student Services Data – fall 2016
R5.20 - Program Review Update – Section C, E - Counseling – fall 2016

Evidence: District Recommendation 5

DR5.1 - Minutes – Board of Trustees BP3250 Institutional Planning approved – 12-6-2016
DR5.2 - Procedure – Administrative procedure AP3253 Total Cost of Ownership
DR5.3 - Policy and Procedure – Board of Trustees BP 2410 adopted – 4-16-2016
DR5.4 - Procedure – Administrative Procedure AP2410 approved – 3-19-2016
DR5.5 - Report - CLPCCD Total Cost of Ownership Plan - 2017

APPENDIX 2

Student Learning Outcomes Handbook

Fall 2016

Las Positas Community College

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Las Positas College Mission, Vision, Values Statement

Mission Statement

Las Positas College is an inclusive learning-centered institution providing educational opportunities and support for completion of students' transfer, degree, basic skills, career-technical, and retraining goals.

Inclusive - welcoming of a diverse group of students including but not limited to DSPS, EOPS, CalWORKS, International, Multicultural, various Economic Backgrounds, Distance Education, and Lifelong Learners; all with varying skill levels and learning styles.

Learning-Centered - refers to courses, programs, disciplines, modes of delivery, learning communities, accounting for varying skills levels, creative and critical thinking, and having necessary and specialized facilities

Educational opportunities - include but are not limited to classroom and Distance Education (DE) instruction, athletics, field trips, guest speakers, student government, cultural opportunities, clubs, labs, internships, tutorial service, workshops, library research, and mentoring.

Support includes tutorial center, reading and writing center, counseling, office hours, Integrated Learning Center, Admissions and Records, advisory boards, Health Center, financial aid, BlackBoard, technology, enrollment management, assessment, tutorial services, Library, Computer Center, Student Services, Administrative Services; all provided by a dedicated group of administrators, faculty and classified professionals.

Vision Statement

Las Positas College strives to be California's premier Community College, setting the standard through opportunities for developing knowledge, skills, values, and abilities that foster engaged and contributing members of the society.

Values Statement

Las Positas College thrives as a collaborative teaching and learning community committed to integrity and excellence by:

1. Encouraging and celebrating lifelong learning
2. Responding to the needs of the ever-changing workplace
3. Demonstrating civic, social and environmental responsibility
4. Promoting ethical behavior, tolerance and mutual respect in a diverse community

5. Fostering a climate of discovery, creativity and personal development
6. Holding firm to the belief that each of us makes an astonishing difference.

Introduction to Student Learning Outcomes & Assessment

The central mission of Las Positas College is its commitment to student learning. To further that mission, the college recognizes the importance of evaluating progress towards that goal. Every sector of the college engages in informal and formal evaluation procedures. This document will focus on using formal assessment to assess student learning at the course-, program-, and college-level. Faculty across the college engage in continual assessment of student learning. Those assessment results are then discussed within each discipline and across the college.

Student Learning Outcomes (SLOs) are the observable or measurable results student achieve after completing a course or program. Assessment of SLOs are regularly done at the course-level (CSLO), program-level (PSLO), and institutional-level (ISLO). In regular cycles analysis of course-level, program-level, and institutional-level SLOs is completed for ongoing feedback and implementation of ideas for improvement. Assessment results are entered into eLumen by full-time and part-time faculty. Through the process, faculty dialog is central to SLO work. Collegial dialog about assessment results takes place at discipline meetings, division meetings, SLO committee meetings, and staff development workshops. Evidence of collegial dialog is found in meeting minutes and in program review documents. The assessment of student learning is a significant part of the program review and resource allocation processes at Las Positas College.

Establishing and assessing student learning outcomes (SLOs) has pedagogical value. Use of SLOs supports a learner-centered approach to teaching, focusing education on helping student achieve well-defined outcomes. Communicating SLOs to student will allow students to focus their time and attention on what needs to be learned in a course. Assessment of SLOs provides students with information about their strengths and weaknesses. Lastly, assessment of SLOs informs faculty about areas to improve program effectiveness.

The Accreditation Standards ask faculty and staff to articulate SLOs for each course and each degree/certificate that the school offers (see Appendix A). This is, in large part, a response to the U.S. Department of Education call for colleges and universities to engage in a process of continual self-examination and reflection with the goal of improvement. Faculty and staff must also define them for library, learning support services, and student support services [called Student Area Outcomes (SAOs)]. Then, assessment activities must be designed that provide students with an opportunity to demonstrate what they have learned.

The use of assessment results is meant to stimulate discussion and direct activities that can improve instructional delivery and support systems on campus. Results will not be used as the basis of evaluation or disciplinary action for individual faculty members. However, as part of the professional responsibilities of faculty, instructors are expected to participate in the SLO process.

The Student Learning Outcome Committee is responsible for organizing and facilitating our SLO efforts. The SLO Coordinator works directly with departments to assist in developing their outcomes, determining the means of assessment, compiling the results of that assessment, analyzing those results, and making changes to their program or unit if necessary in order to improve student learning. Please visit the SLO website for updated information on all aspects of SLO development and assessment: ***http://laspositascollege.edu/SLO/index.php.***

The charge of the SLO Committee: The SLO committee seeks to elicit broad perspectives and advice regarding learning goals for all Las Positas students, faculty, administrators, and staff. This group provides an advisory linkage to the Academic Senate on matters pertaining to the College's immediate and long range plans to integrate student learning outcomes and assessment at the course, program, and institutional levels. With the advice and consent of the Academic Senate, this group reviews institutional student learning outcomes for LPC students and develops strategies and timelines for incorporating and coordinating these competencies into continuous, informative, and useful assessment that is diverse in method, captures achievement over time, and focuses equally on learning outcomes and the experiences that direct students to those outcomes. The Student Learning Outcomes Committee works with the Curriculum Committee, establishing policies and procedures concerning the institutionalization of SLOs, which will be brought to the Senate for review and approval. The SLO committee also collaborates with the Staff Development Committee to provide support and materials needed for the development of SLOs and assessment. This group also works with the Program Review Committee to coordinate, collect, and archive assessment activities in all sectors and organizes campus dialogue process concerning student learning outcomes and assessment.

Course-level Student Learning Outcomes

SLOs are the observable or measurable results subsequent to a learning experience. They may involve knowledge (cognitive), skills (behavioral), or attitudes (affective) that provide evidence that learning has occurred. SLOs encompass students' ability to synthesize discreet skills using higher level thinking skills and produce something that applies what they have learned; this is exemplified through a gathering of smaller objectives and applies analysis, evaluation, and synthesis in more sophisticated ways.

Guidelines for course-level SLOs:

- Each course should have a limited number of SLOs that encompass the major areas of learning expected of students by the end of the course (2-6 outcomes per course as a general guide but standards specific to your program may require more than 6).
- SLOs should be written for students. Use language that your students can understand rather than technical language.
- Course-level SLOs should be consistent across multiple sections of the same course. The assessments used by faculty do not need to be the same across sections.
- SLOs must be communicated to students on all course syllabi and match to the official course outlines of record (COR).
- Course-level SLOs for a particular course are analyzed during the 3-year assessment cycle tied to our program review cycle.
- When a course with multiple sections is going to be assessed, we recommend that multiple sections be assessed. This will allow faculty to make stronger conclusions concerning assessment results. This is important when investigating differences between day, evening, online courses.

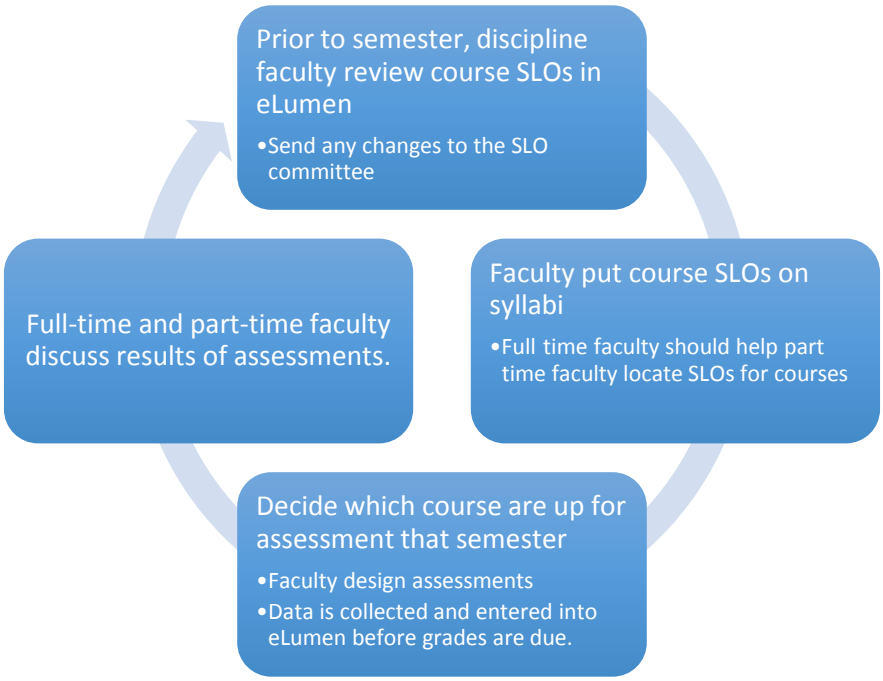

Figure 2: Assessment cycle for Course-level SLOs

Must SLOs be consistent across all sections?

Maintaining consistent SLOs across all sections helps faculty to analyze the results of SLO assessments and look for trends in student learning across time and across multiple sections. This also assures that all students will know what to expect when completing a course successfully. In addition, the ACCJC requirement is that each course has a single set of SLOs that is common to all sections of the course, no matter who teaches the section (see Appendix A).

Course-level Outcomes versus Course Objectives

There has been a lot of confusion, both locally and on the state level, about what differentiates SLOs from objectives. We are attempting to resolve this confusion in this section. Course SLOs and course objectives are intricately linked to one another. Course SLOs describe the broadest goals for the course, ones that require higher-level thinking abilities; require students to synthesize many discreet skills or areas of content; ask them to then produce something - papers, projects, portfolios, demonstrations, performances, art works, exams, etc., – that applies what they have learned; and require faculty to evaluate or assess the product to measure a student's achievement or mastery of the outcomes. The assessment of SLOs is useful in helping professors know where their teaching and learning activities have and have not been successful. SLOs also let students know what they can expect to attain as a result of completing the course.

Course objectives are on smaller scale, describing small, discrete skills or "nuts and bolts" that require basic thinking skills. Think of objectives as the building blocks used to produce whatever is assessed to demonstrate mastery of an outcome. Objectives can be practiced and assessed individually, but are usually only a portion of an overall project or application. Objectives guide how professors plan the class lessons or activities that will lead to the desired outcomes as stated in the SLOs.

Table 2: Some examples of wording differences between course objectives and their related SLOs

Course Objective	Related Student Learning Outcome (SLO)
1. Distinguish between the goals of scientific psychology and common sense 2. Evaluate the various psychological research methods 3. Discuss the important ethical principles in research	Upon successful completion of this course, students will be able to critique psychological research studies.
1. Discuss the theory of homeostasis. 2. Describe the body systems that follow homeostatic principles. 3. Recognize common pathological caused	Upon successful completion of this course, students will be able analyze the homeostatic mechanisms maintaining the human body.

Program-level Student Learning Outcomes

Program-level Student Learning Outcomes (PSLOs) are defined as the knowledge, skills, abilities, or attitudes that students have at the completion of a degree or certificate. Faculty within a discipline should meet to discuss the expected learning outcomes for students who complete a particular series of courses, such as those required for a certificate or a degree. PSLOs should be the BIG things you want students to get out of a degree or certificate. PSLOs should be developed throughout the program and in multiple courses. Discussions might also involve colleagues in other programs on prerequisites and transfer courses and with community stakeholders for job expectations. Program outcomes and assessment translate into the important role of institutional improvement. This level of outcomes assessment has the greatest potential to improve student pathways and overall achievement.

It is recommended that each program have 3-6 PSLOs. Discipline faculty members might to have a more comprehensive list based on the requirements of external stakeholders (employers, state requirements, etc.). PSLOs can be assessed in many ways but for most programs, PSLOs are only assessed through linked course-level SLOs. First, you might assess PSLOs in a capstone project or capstone course that many students complete when earning a certificate or degree. Second, you could assess development of a set of skills as students advance through different courses in your program (ENG 1A -> ENG 4 or 7). Third, programs could use assessment results from standardized tests developed internally or by outside organizations. You could compare longitudinal data across a three-year period to see if there have been any changes in student learning. Additionally, you might compare results between different groups of students (online and face-to-face).

Program-level outcomes should

1. **describe** what students are able to do after completing a degree or certificate;
2. be **limited** in number (3-6 outcomes);
3. be **clear** so that students and colleagues can understand them;
4. be **observable** skills (career-specific or transferable), knowledge, attitudes, and/or values;
5. be **relevant** to meet the needs of students, employers, and transfer institutions;
6. be **rigorous** yet realistic outcomes achievable by students

Why do we assess PLOs? We assess PLOs

1. to make sure students are prepared for further study in the program
2. to encourage and document faculty dialogue about student learning and achievement
3. to help faculty with program improvement
4. to communicate and clarify our expectations to students

Analysis of PLO data is reported during the annual Program Review process. Analysis requires all faculty understanding, contributing, and discussing the impacts of PSLO results. All PLOs for a certificate or degree should be assessed every 3 years (aligning with the 3-year program review process).

Table 3: Example Program-level Student Learning Outcomes for degrees and certificates.

Upon completion of an AA or AAT degree in anthropology, students will be able to analyze the ethical responsibilities and concerns in the conducting of anthropological research.
Upon completion of an AA degree in music, students will demonstrate a working knowledge of musical analysis and harmonic theory applicable to their area of specialization.
Upon completion of an AAT degree in psychology, students will be able to apply theories, concepts and findings in psychology for self-understanding, self-improvement, and lifelong learning.
Upon completion of an AAT degree in psychology, students will be able to use basic research methods in psychology including research design, hypothesis testing, and data interpretation.
Upon completion of an AS degree in mathematics students will use mathematical reasoning to solve problems and a generalized problem solving process to work word problems.
Upon completion of the AA or AAT degree in theater arts, students will be able to evaluate the work performed by theatre practitioners, with special attention to the skills involved in acting, directing, and designing.
Upon completion of the AA or AAT degree in theater arts, students will be able to integrate acting skills and techniques in the preparation and performance of dramatic literature.
Upon completion of the certificate in automotive mechanics, students will be able to diagnose, repair, and replace electrical and electronic systems and components.
Upon completion of the certificate in automotive mechanics, students will be able to diagnose, repair, and replace brake systems and components.
Upon completion of the certificate in early childhood development, students will implement a wide array of developmentally appropriate approaches, instructional strategies, and tools to connect with children and families.
Upon completion of the certificate in medical assisting, students will be able to perform clinical office responsibilities such as vital signs, exam room preparation, patient data collection, simple dressing changes, lab tests, phlebotomy, and EKG's.
Upon completion of the certificate in computer networking technology, students will be able to analyze simple business or technical problems relevant to programming, and prepare solutions to them.

Institutional-level Student Learning Outcomes (formerly Core Competencies)

Las Positas College's primary mission is to foster learning and student success. Students will develop cognitive, behavioral, and affective skills in five areas (communication, critical thinking, creativity and aesthetics, respect and responsibility, and technology) when completing the GE pathway as part of an AA, AS, AAT, AST degree.

Each of the five Institutional Student Learning Outcomes (ISLO) is evaluated annually by the Integrated Planning and Effectiveness Committee (IPEC). The IPEC reviews the ISLO data and identifies areas of improvement. IPEC communicates that information to the SLO committee and to the campus community at a Town Hall meeting. Suggestions from the campus community and the SLO committee are used to develop an action plan. For example, if across a 3-year period achievement on the Communication ISLO declines the SLO committee might separate out the results by program or course to better understand the cause of the decline.

Mapping Course-level SLOs to Program-SLOs and ISLOs

SLOs should be clearly mapped and aligned throughout a course sequence and between courses, programs, and the institutional student learning outcomes to achieve the most efficient and effective assessment.

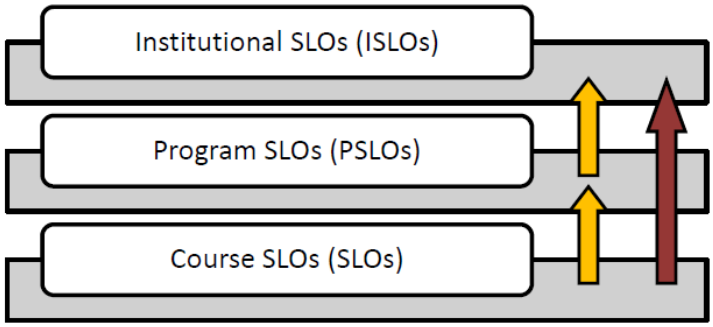

Figure 3: Course SLOs feed into program and institutional SLOs.

Alignment is the process of analyzing how explicit criteria line up or builds upon one another within a particular learning pathway. When dealing with outcomes and assessment, it is important to determine that course outcomes align or match up with program outcomes; that ISLOs align with the college mission and vision. In student services, alignment of services includes things like aligning financial aid deadlines and instructional calendars.

Assessment Guidelines

Defining (and Re-assessing) Assessment: A Second Try T. A. Angelo, (1995) AAHE Bulletin no.48, p.7. "Assessment is an ongoing process aimed at understanding and improving student learning.

Assessment involves

1. making expectations explicit and public;
2. setting appropriate criteria and high standards for learning quality;
3. systematically gathering, analyzing, and interpreting evidence to determine how well performance matches those expectations and standards; and
4. using the resulting information to document, explain, and improve performance.

The SLO committee encourages faculty to make use of your existing assignments to assess student learning. This is called embedded assessment. Embedded assessment occurs within the regular class or curricular activity. Class assignments linked to student learning outcomes serve as grading and assessment instruments (i.e., common test questions, CATs, projects or writing assignments). Specific questions can be embedded on exams in classes across courses, departments, programs, or the institution. Embedded assessment can provide formative or summative information for pedagogical improvement and student learning needs.

For managing the assessment cycle

A critical part of assessment is reflecting on assessment results to improve student learning through collegial dialog. It is part of the continuous cycle of collecting assessment results, evaluating them, using the evaluations to identify actions that will improve student learning, implementing those actions, and then cycling back to collecting assessment results. At Las Positas College the dialog about student learning and assessment takes place within disciplines and/or departments, within the SLO Committee, and the Institutional Effectiveness Committee. This dialog is captured in Program Review documents and in annual reports made by the SLO and IE Committees Appendix B contains a form to help discipline faculty capture that dialog and show program improvement.

Why we don't use grades as an assessment of Student Learning

Letter grades are a summation of many activities students have completed during a course. Letter grades can include components that are not about student learning. In addition, we want to be able to examine student learning of major course outcomes independent from one another and without the extraneous components.

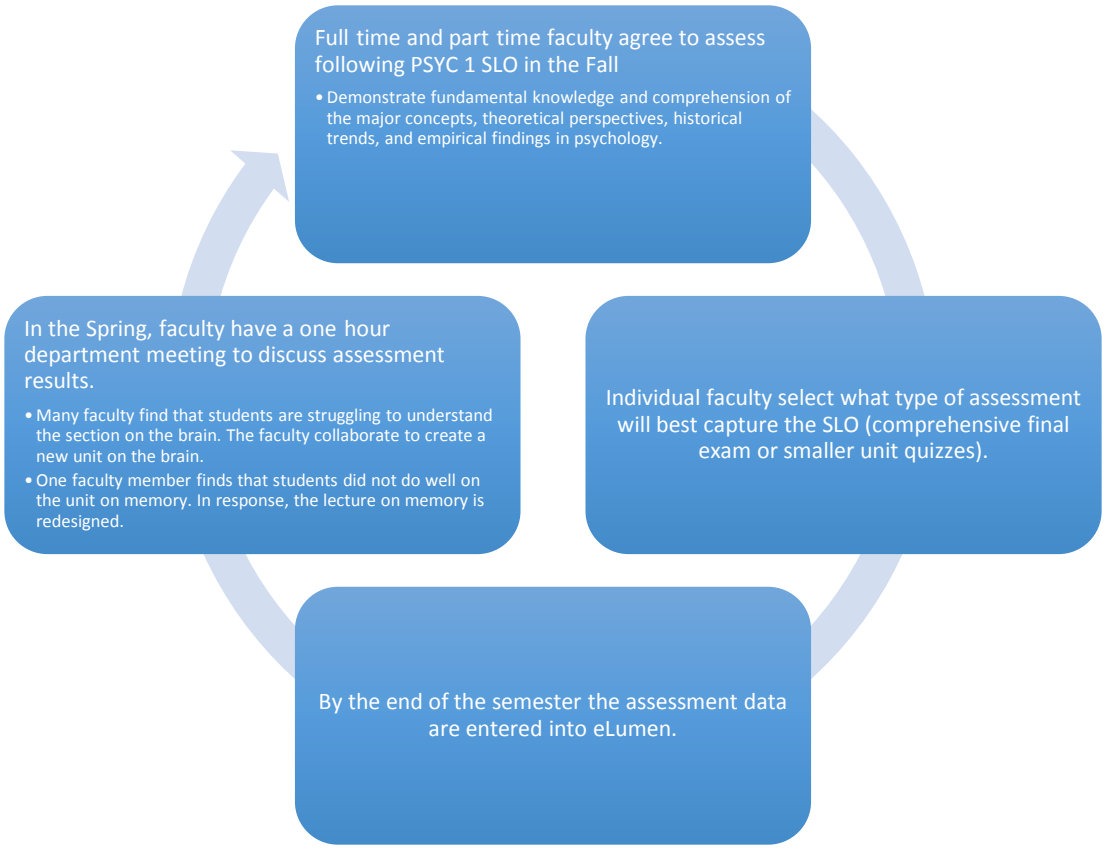

Figure 4: Example of how discipline faculty might set-up an assessment plan for a single course.

Types of Assessments

There are many approaches to assessing student learning. You might want to assess students' emotions or attitudes about an assignment by giving them a self-assessment. You might want to compare scores on a standardized assessment early and late in the semester. The following sections describe the various factors to consider when designing assessments.

Formative and Summative Assessment

Formative assessment. Formative assessment is a diagnostic tool implemented during the instructional process that generates useful feedback for student development and improvement. The purpose is to provide an opportunity to perform and receive guidance (such as in class assignments, quizzes, discussion, lab activities, etc.) that will improve or shape a final performance. This stands in contrast to summative assessment where the final result is a verdict and the participant may never receive feedback for improvement such as on a standardized test or licensing exam or a final exam.

This assessment is most important in its role as a diagnostic tool which allows you to

1. identify areas of deficiency;
2. prescribe alternative learning strategies; and
3. motivate the student to a deeper learning experience.

Summative assessment. A summative assessment is a final determination of knowledge, skills, and abilities. This could be exemplified by exit or licensing exams, senior recitals, capstone projects or any final evaluation which is not created to provide feedback for improvement, but is used for final judgments.

Indirect and Direct Assessments of Learning

Direct Assessments. Direct assessments provide evidence of student knowledge, skills, or attitudes for the specific domain in question and actually measuring student learning, not perceptions of learning or secondary evidence of learning, such as a degree or certificate. For instance, a math test directly measures a student's proficiency in math. In contrast, an employer's report about student abilities in math or a report on the number of math degrees awarded would be indirect data.

Indirect Assessments. Indirect assessments indirectly measure student performance. For instance, certificate or degree completion data provide indirect evidence of student learning but do not directly indicate what a student actually learned. Indirect assessments often use surveys or self-assessments of the learning process or the learning environment.

Quantitative and Qualitative Data

Qualitative data. Qualitative data are descriptive information, such as narratives or portfolios. These data are often collected using open-ended questions, feedback surveys, or summary reports, and may be difficult to compare, reproduce, and generalize. Qualitative data provide depth and can be time and labor intensive. Nonetheless, qualitative data often pinpoint areas for interventions and potential solutions which are not evident in quantitative data.

Quantitative data. Quantitative data are numerical or statistical values. These data use numbers such as scores, rates, or percentages to express quantities of a variable. Qualitative data, such as opinions, can be displayed as numerical data by using Likert scaled responses which assign a numerical value to each response (e.g., 4 = strongly agree to 1 = strongly disagree). These data are easy to store and manage providing a breadth of information. Quantitative data can be generalized and reproduced, but must be carefully constructed to be valid.

Classroom assessment techniques. Classroom assessment techniques (CATs) are

"simple tools for collecting data on student learning in order to improve it" (Angelo & Cross, 1993, p. 26). CATs are short, flexible, classroom techniques that provide rapid, informative feedback to improve classroom dynamics by monitoring learning, from the student's perspective, throughout the semester. Data from CATs are evaluated and used to facilitate continuous modifications and improvement in the classroom. For an overview of the different CATs go to the Field tested Learning Assessment Guide (FLAG): http://www.flaguide.org/cat/cat.php.

Table 4: A list of different types of assessment that are direct or indirect measures of student learning.

Method	Description	Direct or
Capstone Project or Course	A capstone project or course that integrates knowledge, concepts, and skills students are to have acquired during the course of their study. Capstones provide a means to assess student achievement within a program.	Direct
Clinical Evaluation	An evaluation of students' performance in a clinical setting. The clinical performance is scored using a rubric.	Direct
Competition (Juried)	An evaluation of students' performance or work based on the scoring or judging of external reviewers.	Direct
Demonstration/Presentation	An evaluation of students on a demonstration or presentation to the class or other audience. The demonstration or presentation is scored using a rubric.	Direct
Document Review	A review of course or unit documents for the purpose of determining if information is available and clear.	Indirect
Entrance/Exit Interviews	An assessment based on interviews conducted with students when they enter college and when they leave—either through graduation or early departure. These interviews can be designed to measure program- specific SLOs or to gather feedback on student services SAOs.	Direct/Indirect
Exam - Exit	A comprehensive exit exam given near the end of the student's academic career (usually during the final semester prior to graduation). The exam is generally given to determine a student's acquisition and application of a particular type or form of knowledge or skill, as well as the ability to integrate knowledge from various disciplines. The exam can be written, oral, or a combination.	Direct
Exam or Quiz – In Course	An exam or quiz that is administered by individual professors in their classes. It may be the entirety of the exam or embedded	Direct

Exam – Standardized/Licensure	A test that is developed outside the institution for use by a wide group of students using national, regional, or professional	Direct
Exhibit	An evaluation of students' work in a public exhibit. The exhibit is scored using a rubric.	Direct
Field Work	An evaluation of students on the demonstration of skills during field work. The skills demonstration is scored using a rubric.	Direct
Focus Group	A series of structured discussions with students who are asked a series of open-ended questions designed to collect data about beliefs, attitudes, and experiences.	Indirect
Frequency/Count	An assessment based on the number or frequency of things, such as usage of particular services.	Direct/Indirect
Group Project	An evaluation of students' work on an assigned group project. The work is scored using a rubric.	Direct
Institutional Data	A review of program and student data collected at the institutional level. Data may include program enrollment, retention, or student GPA.	Direct/Indirect
Internship	An evaluation of students' job performance during an internship or volunteer placement. The job performance is scored using a rubric.	Direct
Journal Review	An evaluation based on students' written journals. Entries can be used to determine students' overall engagement with the course material and to assess their understandings of	Direct
Lab Practicum	An evaluation of students' work during a lab practicum. The work is scored using a rubric.	Direct
Lab Report	An evaluation of students' work on a lab report. The work is scored using a rubric.	Direct
Observation/Interview Report	An evaluation of students' work on an observation or interview report. The work is scored using a rubric.	Direct
Outreach	An assessment of the successes, benefits, or quality of outreach activities.	Direct/Indirect
Participation	An evaluation of students on their course participation. Participation is scored using a rubric.	Direct
Performance	An evaluation of students during musical, theatre, athletic, communications, or other performance. The performance is scored using a rubric.	Direct

Portfolio	An evaluation of students' work collected in a portfolio and evaluated using a common rubric. Portfolios may contain research papers, reports, tests, exams, case studies, videos, personal essays, journals, self- evaluations, or exercises.	Direct
Pre/Post Testing	An exam administered at the beginning and at the end of a course or program to determine the progress of student learning.	Direct
Reflective Essay	Reflective essays used to determine students' opinions and perceptions.	Indirect
Survey - Alumni	An assessment based on the surveying of program alumni. Alumni surveys can provide information about program satisfaction, preparation (transfer or workforce),	Indirect
Survey - Student	An assessment based on the surveying of students designed to collect perceptions of their college experiences.	Indirect
Writing Assignment/Project	An evaluation of students' work on written assignments or essays. The work is scored using a rubric.	Direct

Closing the loop: The importance of dialogue in the assessment process

Closing the loop is often seen as the most valuable portion of assessment by faculty, administrators, and ACCJC but it is also the most problematic. If assessments are too generic or investigate processes at too high of a level, the data can not produce meaningful change. If the assessment looks at a part of the SLO that is too narrow, the results may only be applicable to your own section of a course. Discipline faculty should coordinate with other faculty teaching the same course to select the SLO(s) to be assessed and develop assessments.

At the course- and program-level, assessment results are shared with and discussed by discipline faculty at department meetings, division meetings, and through e-mail where decisions about improvement plans are also discussed. A brief summary of the dialogue should be documented in the comprehensive program review or annual program review update. Appendix B contains an example form that can be used to capture that dialogue.

Actions that result from the dialogue can be anything from concluding that student performance meets expectations to making major curriculum changes. Other actions may include changing specific assignments in a course, adding prerequisites, or providing support services such as tutoring. Another action could be to rewrite the SLO.

Definitions

Program: A program is an organized set of courses and/or services that lead to a defined objective(s) in support of student learning. There are three types of programs: educational, student services, and administrative.

Program Review: A process to examine the effectiveness of an academic, administrative, or student services program. The process provides feedback (a) to the unit primarily responsible for the program, (b) to the appropriate administrators, and (c) to external units in the form of confirmation of the existence of the program review process and in the form of summaries of the outcomes.

Educational Program: Educational program is an organized sequence of courses leading to a defined objective, a degree, a certificate, a diploma, a license, or transfer to another institution of higher education.

Student Learning Outcomes: SLOs are the observable or measurable results subsequent to a learning experience. They may involve knowledge (cognitive), skills (behavioral), or attitudes (affective) that provide evidence that learning has occurred. SLOs encompass students' ability to synthesize discreet skills using higher level thinking skills and produce something that applies what they have learned; this is exemplified through a gathering of smaller objectives and applies analysis, evaluation, and synthesis in more sophisticated ways.

ELumen Step by step instructions (Coming soon)

Logging into elumen

Entering SLOs into elumen

Running reports of course SLO data and program SLO data

Instructions for managers and administrators to verify entry of SLO data

Appendix A: Excerpts from the ACCJC Standards for Accreditation (as revised June 2014)

Standard I: Mission, Academic Quality and Institutional Effectiveness, and Integrity

The institution demonstrates strong commitment to a mission that emphasizes student learning and student achievement. Using analysis of quantitative and qualitative data, the institution continuously and systematically evaluates, plans, implements, and improves the quality of its educational programs and services. The institution demonstrates integrity in all policies, actions, and communication. The administration, faculty, staff, and governing board members act honestly, ethically, and fairly in the performance of their duties.

B. Assuring Academic Quality and Institutional Effectiveness

Institutional Effectiveness

5. The institution assesses accomplishment of its mission through program review and evaluation of goals and objectives, student learning outcomes, and student achievement. Quantitative and qualitative data are disaggregated for analysis by program type and mode of delivery.
6. The institution disaggregates and analyzes learning outcomes and achievement for subpopulations of students. When the institution identifies performance gaps, it implements strategies, which may include allocation or reallocation of human, fiscal and other resources, to mitigate those gaps and evaluates the efficacy of those strategies.

Standard II: Student Learning Programs and Support Services

The institution offers instructional programs, library and learning support services, and student support services aligned with its mission. The institution's programs are conducted at levels of quality and rigor appropriate for higher education. The institution assesses its educational quality through methods accepted in higher education, makes the results of its assessments available to the public, and uses the results to improve educational quality and institutional effectiveness. The institution defines and incorporates into all of its degree programs a substantial component of general education designed to ensure breadth of knowledge and to promote intellectual inquiry. The provisions of this standard are broadly applicable to all instructional programs and student and learning support services offered in the name of the institution.

A. Instructional Programs

1. All instructional programs, regardless of location or means of delivery, including distance education and correspondence education, are offered in fields of study consistent with the institution's mission, are appropriate to higher education, and culminate in student attainment of identified student learning outcomes, and achievement of degrees, certificates, employment, or transfer to other higher education programs. (ER 9 and ER 11)

2. Faculty, including full time, part time, and adjunct faculty, ensure that the content and methods of instruction meet generally accepted academic and professional standards and expectations. Faculty and others responsible act to continuously improve instructional courses, programs and directly related services through systematic evaluation to assure currency, improve teaching and learning strategies, and promote student success.

3. The institution identifies and regularly assesses learning outcomes for courses, programs, certificates and degrees using established institutional procedures. The institution has officially approved and current course outlines that include student learning outcomes. In every class section students receive a course syllabus that includes learning outcomes from the institution's officially approved course outline.

4. If the institution offers pre-collegiate level curriculum, it distinguishes that curriculum from college level curriculum and directly supports students in learning the knowledge and skills necessary to advance to and succeed in college level curriculum.

5. The institution's degrees and programs follow practices common to American higher education, including appropriate length, breadth, depth, rigor, course sequencing, time to completion, and synthesis of learning. The institution ensures that minimum degree requirements are 60 semester credits or equivalent at the associate level, and 120 credits or equivalent at the baccalaureate level. (ER 12)

6. The institution schedules courses in a manner that allows students to complete certificate and degree programs within a period of time consistent with established expectations in higher education. (ER 9)

7. The institution effectively uses delivery modes, teaching methodologies and learning support services that reflect the diverse and changing needs of its students, in support of equity in success for all students.

8. The institution validates the effectiveness of department-wide course and/or program examinations, where used, including direct assessment of prior learning. The institution ensures that processes are in place to reduce test bias and enhance reliability.

9. The institution awards course credit, degrees and certificates based on student attainment of learning outcomes. Units of credit awarded are consistent with institutional policies that reflect generally accepted norms or equivalencies in higher education. If the

institution offers courses based on clock hours, it follows Federal standards for clock-to-credit-hour conversions. (ER 10)

10. The institution makes available to its students clearly stated transfer-of-credit policies in order to facilitate the mobility of students without penalty. In accepting transfer credits to fulfill degree requirements, the institution certifies that the expected learning outcomes for transferred courses are comparable to the learning outcomes of its own courses. Where patterns of student enrollment between institutions are identified, the institution develops articulation agreements as appropriate to its mission. (ER 10)

11. The institution includes in all of its programs, student learning outcomes, appropriate to the program level, in communication competency, information competency, quantitative competency, analytic inquiry skills, ethical reasoning, the ability to engage diverse perspectives, and other program-specific learning outcomes.

12. The institution requires of all of its degree programs a component of general education based on a carefully considered philosophy for both associate and baccalaureate degrees that is clearly stated in its catalog. The institution, relying on faculty expertise, determines the appropriateness of each course for inclusion in the general education curriculum, based upon student learning outcomes and competencies appropriate to the degree level. The learning outcomes include a student's preparation for and acceptance of responsible participation in civil society, skills for lifelong learning and application of learning, and a broad comprehension of the development of knowledge practice, and interpretive approaches in the arts and humanities, the sciences, mathematics, and social sciences. (ER 12)

13. All degree programs include focused study in at least one area of inquiry or in an established interdisciplinary core. The identification of specialized courses in an area of inquiry or interdisciplinary core is based upon student learning outcomes and competencies, and includes mastery, at the appropriate degree level, of key theories and practices within the field of study.

14. Graduates completing career-technical certificates and degrees demonstrate technical and professional competencies that meet employment standards and other applicable standards and preparation for external licensure and certification.

15. When programs are eliminated or program requirements are significantly changed, the institution makes appropriate arrangements so that enrolled students may complete their education in a timely manner with a minimum of disruption.

16. The institution regularly evaluates and improves the quality and currency of all instructional programs offered in the name of the institution, including collegiate, pre-collegiate, career-technical, and continuing and community education courses and programs, regardless of delivery mode or location. The institution systematically strives to improve programs and courses to enhance learning outcomes and achievement for

students.

B. Library and Learning Support Services

1. The institution supports student learning and achievement by providing library, and other learning support services to students and to personnel responsible for student learning and support. These services are sufficient in quantity, currency, depth, and variety to support educational programs, regardless of location or means of delivery, including distance education and correspondence education. Learning support services include, but are not limited to, library collections, tutoring, learning centers, computer laboratories, learning technology, and ongoing instruction for users of library and other learning support services. (ER 17)
2. Relying on appropriate expertise of faculty, including librarians, and other learning support services professionals, the institution selects and maintains educational equipment and materials to support student learning and enhance the achievement of the mission.
3. The institution evaluates library and other learning support services to assure their adequacy in meeting identified student needs. Evaluation of these services includes evidence that they contribute to the attainment of student learning outcomes. The institution uses the results of these evaluations as the basis for improvement.
4. When the institution relies on or collaborates with other institutions or other sources for library and other learning support services for its instructional programs, it documents that formal agreements exist and that such resources and services are adequate for the institution's intended purposes, are easily accessible and utilized. The institution takes responsibility for and assures the security, maintenance, and reliability of services provided either directly or through contractual arrangement. The institution regularly evaluates these services to ensure their effectiveness. (ER 17)

C. Student Support Services

1. The institution regularly evaluates the quality of student support services and demonstrates that these services, regardless of location or means of delivery, including distance education and correspondence education, support student learning, and enhance accomplishment of the mission of the institution. (ER 15)

2. The institution identifies and assesses learning support outcomes for its student population and provides appropriate student support services and programs to achieve those outcomes. The institution uses assessment data to continuously improve student support programs and services.

3. The institution assures equitable access to all of its students by providing appropriate, comprehensive, and reliable services to students regardless of service location or delivery method. (ER 15)

4. Co-curricular programs and athletics programs are suited to the institution's mission and contribute to the social and cultural dimensions of the educational experience of its students. If the institution offers co-curricular or athletic programs, they are conducted with sound educational policy and standards of integrity. The institution has responsibility for the control of these programs, including their finances.

5. The institution provides counseling and/or academic advising programs to support student development and success and prepares faculty and other personnel responsible for the advising function. Counseling and advising programs orient students to ensure they understand the requirements related to their programs of study and receive timely, useful, and accurate information about relevant academic requirements, including graduation and transfer policies.

6. The institution has adopted and adheres to admission policies consistent with its mission that specify the qualifications of students appropriate for its programs. The institution defines and advises students on clear pathways to complete degrees, certificate and transfer goals. (ER 16)

7. The institution regularly evaluates admissions and placement instruments and practices to validate their effectiveness while minimizing biases.

8. The institution maintains student records permanently, securely, and confidentially, with provision for secure backup of all files, regardless of the form in which those files are maintained. The institution publishes and follows established policies for release of student records.

Appendix B: SLO Assessment Results Form

Table 1: Using assessment data from last year, describe the impacts of SLO practices on student learning, achievement, and institutional effectiveness. Describe the practices which led to the success.

Course:
Course SLO (CSLO):
Describe the quantitative or qualitative results:
Discuss any actions taken so far (and results, if known):
Discuss your action plan for the future:

Table 2: Using assessment data from last year, describe the impacts of SLO practices on student learning, achievement, and institutional effectiveness. Describe the practices which led to the success.

Student Services Area:
Student Area Outcome (SAO):
Describe the quantitative or qualitative results:
Discuss any actions taken so far (and results, if known):
Discuss your action plan:

Table 3: Using assessment data from last year, describe the impacts of SLO practices on student learning, achievement, and institutional effectiveness. Describe the practices which led to the success.

Degree/Certificate:
Program SLO (PSLO):
Describe the quantitative or qualitative results:
Discuss any actions taken so far (and results, if known):
Discuss your action plan:

Appendix C: The Genie in the Bottle: Disaggregation of Student Learning Outcomes Data

September 2015
Randy Beach, ASCCC Accreditation and Assessment Committee Chair

With the release of the revised ACCJC Standards in 2014, Standard I.B.6 has received a great deal of attention and prompted many discussions across the California Community College System, as well as an ASCCC resolution at the Spring 2015 Plenary (2.01 S15). This standard requires colleges to not only collect but also to disaggregate student learning outcomes (SLO) data, which is the practice of collecting an individual student's SLO data and linking his or her scores to student's demographic data, especially gender, ethnicity, and other metrics related to student equity and disproportionate impact. Colleges are required to then analyze SLO data for disproportionate impact among subpopulations and make program changes according to the results.

With this change, the idea of a genie in a bottle fits fairly well when discussing disaggregated data and student learning outcomes. The most famous version of the Persian folktale of Aladdin and the genie in the lamp is told in the **One Thousand and One Nights** in this way: After Aladdin discovers the lamp and releases the genie, the genie helps Aladdin to become wealthy and powerful, and even helps him to to marry the emperor's daughter Princess Badroulbadour, who was betrothed to another, and to build a grand palace. Other stories tell of genies, or the Jinn, whose intentions when released from the bottle are not benevolent but are very nefarious in the same vein as the "trickster" character in western literature. Even in the **One Thousand and One Nights** tale, a sorcerer tricks Aladdin's wife and steals the lamp only to command the genie to take away all the riches Aladdin has gained. Like in the tales, SLOs and disaggregation are fickle genies, and this duplicity raises the question of whether SLO data disaggregation will be a good genie, a bad one, or something in between.

The Good Genie

A 2012 brief by the National Center for Mental Health Promotion and Youth Violence Prevention, an organization that provides technical assistance and training to 106 federally funded Safe Schools/Healthy Students in K-12, argues in favor of disaggregation. The brief points out that aggregate data masks inequities in success rates among subpopulations, leaving those struggling subpopulations unrecognized and on their own in terms of improving success rates. The brief also argues that disaggregation informs and provides data support for changes in how programs are implemented in order to support all students. These changes can take the form of specific policy changes, funding augmentations, and more surgically precise program improvements that take into account the diversity in the classroom.
Student Equity Planning through the Student Success and Support Act at its core relies on disaggregated data for planning improvements in student achievement for subpopulations. Taking that philosophy to the course-level and program-level learning outcome assessment is an extension of that effort, at the federal and state levels, to increase access, course

completion, ESL and basic skills completion, degrees, certificates, and transfer for all colleges. Title 5 regulations require colleges to review and address disproportionate impact for Indians or Alaskan natives, Asians or Pacific Islanders, Blacks, Hispanics, Whites, men, women, and persons with disabilities (§54220(d)) and to develop specific goals or outcomes and actions to address inequities. Action plans for improvement then evolve through the program review process. Disaggregation advocates say meaningful conversation about disproportionate impact cannot happen without disaggregation of course-level learning outcomes.

The Bad Genie

Later in the story of Aladdin, an evil sorcerer tricks Aladdin's wife and takes the lamp. He uses the genie to take away from Aladdin the riches he attained with the genie's help. Similarly, we might ask whether SLO disaggregation, like the Jinn from Persian lore, also has a bad side or whether this particular genie can be used for mischief and mayhem in the wrong hands.
The concerns over the disaggregation genie are wide-ranging. Student privacy concerns are real and require very precise data reporting practices that must be collegially agreed upon by faculty, administrations, and researchers at each college and in keeping with FERPA regulations. When data are disaggregated for courses that only offer one section or are rarely offered at all, publicizing results with demographic information may allow students to be identifiable, especially for underrepresented minority students. Also, low sample sizes call into question the validity of the data collected in the first place. If only 20 Asian-American students are included in learning outcomes assessments out of 250 students total across two or three sections of a capstone course, that data may not really tell you anything significant about Asian students. Even if the data are longitudinal over several years, small sample sizes may not provide useful information.

We have to also remember that SLO assessment frequently raises controversy in any context. Some faculty bargaining units, which may already be resistant to SLO assessment, will certainly ask relevant questions about additional workload associated with this type of data entry that may reinforce the opinion of local unions that ACCJC is imposing standards without deference to bargaining agreements. Local senates should approach the way they respond to this standard with their bargaining unit partners as part of the conversation, in the same way they would be involved in any discussion related to district policy or practice intended to address accreditation standards.

The Genie Is Out and He's Not Going Back In

SLO assessment is here to stay, and the ASCCC has made statements regarding compliance with SLOs in the last decade. For better or worse, this genie is not going away.
In order to use the genie for good while acknowledging the arguments for and against, colleges should begin disaggregation data conversations slowly and in measured steps:

- Pick one course in a program, maybe the course with the most sections, and ask faculty in those sections to collect and input disaggregated data into their database systems.

- Review less controversial data attributes in reporting. For example, look at sections taught in the evening versus sections taught during the day, sections taught online versus sections taught on ground, or sections taught at a central campus versus at an education center or remote site. Such a beginning may be a way to get start the process while keeping in mind the requirement in the ACCJC Standards that data on subpopulations must be disaggregated by the time of your college's next self-evaluation report to be in compliance, beginning Spring 2016.
- Look to Student Equity funding. If issues of workload are impeding the conversation over disaggregation, look to Student Equity funding as potential seed money to build an infrastructure where disaggregation is not a hardship or burden for faculty.

So, How Does the Story End?

One cannot predict at this time how this story will end because it is just beginning. As more colleges begin adopting and revising processes in order to comply with the new standards in Spring 2016, questions over SLOs in general and disaggregation specifically will begin making their way to meeting rooms across the state. Community colleges throughout California must begin discussions of how they will address the SLO disaggregation requirement and consider the various implications of this practice regarding workload, student privacy, data relevance, and other issues in order to ensure that the ACCJC's requirement turns into a good genie that can grant positive results for colleges and students.

National Center Brief: The Importance of Disaggregating Student Data.

National Center for Mental Health Promotion and Youth Violence Prevention, Safe Schools; Healthy Students. April 2012. Web. 10 Aug 2015

Appendix D: Responses to Questions from the ACCJC Accreditation Standards Symposium April 23-24, 2015

ACCREDITING COMMISSION FOR COMMUNITY AND JUNIOR COLLEGES,
WESTERN ASSOCIATION OF SCHOOLS AND COLLEGES (ACCJC)

Responses to Questions from the ACCJC Accreditation Standards
Symposium April 23-24, 2015

Below find responses to participation questions concerning the Accreditation Standards adopted in June 2014. Also please review the posted slides from the conference, as information from questions answered during presentations is included there.

Standard I

Standard I.B.1

Q. Is the term "student learning outcomes" different from "learning outcomes?"

A. Throughout the Accreditation Standards, the terms student learning outcomes and learning outcomes are used interchangeably.

In standard I.B.1, there is a term of "student outcomes" used, to address inclusively student learning and student achievement. Standards I.B.2-6 discuss separately and specifically both student learning outcomes and student achievement in the context of Assuring Academic Quality and Institutional Effectiveness.

Standard I.B.3 and federal regulations 34 C.F.R. § 602.16(a)(1)

Q. Does the job placement rate apply to vocational certificates only, or also to degrees such as nursing and teacher training? Does it not apply to liberal arts?

A. College must have institution-set standards and assess program and institutional performance related to job placement rates and licensure examination placement rates (for programs where graduates must complete an examination in order to work in that field) in their vocational/career- technical education programs, commonly referred to as CTE programs. These CTE programs include certificate programs and

degree programs, as well as other "programs" defined by the institution.

Colleges must also have institution-set standards and assess performance as to course completion rates. Being mindful that the standards require institutions to have institution-set standards appropriate to their missions, it is assumed that institutions will have additional standards set in a number of other areas. In that vein, a college could include job placement as a measure for all of its programs, if it determines this would be appropriate to determining if it is meeting its mission.

I.B.6 – Several Questions

Q. Since the California Equity Plan disaggregates data, does that fulfill the disaggregation requirement of the standard?

A. We have seen a number of equity plans, and they have significant variations. As a general practice, it may be useful for an institution to look at all of its plans and reports, to identify synergies in the data gathered and analyses completed.

The Standard asks for disaggregation for subpopulations of students to identify performance gaps related to student learning and student achievement. The institution will want to determine relevant student populations for inclusion in institution-level analysis, and will also likely want to set criteria to aid programs in determining populations of students for analysis at the program level, based upon the institutional mission and programmatic emphases.

Please note that Standard I.B.5, related to assessing accomplishment of the institutional mission, also creates the expectation of disaggregated data for analysis by program type and mode of delivery.

Q. Does I.B.6 apply only to Gainful Employment or CTE programs?

A. No, the standard refers to "the institution" and applies to student learning and achievement gap identification across the institution and in all programs.

Q. Does I.B.6 require disaggregation of student learning outcomes data specifically by demographics including race and gender? What does subpopulation mean—can that mean DE vs online, evening versus day, etc?

Standard I.B.6 does not require disaggregation by specific demographic characteristics. Instead, the institution will want to determine the relevant student populations. The purpose of disaggregation is to provide information that will help the institution examine student learning and student achievement performance gaps and create strategies for addressing those gaps. The identification and disaggregation of relevant student populations should facilitate this work.

Standard I.B.5 addresses disaggregation by program type and mode of delivery.

Q. To what extent should data sets be disaggregated, and in what ways? What data sets did the Commission have in mind when drafting this standard? Are they retention/success oriented or course/program/institutional SLOs?

A. The institution should identify the populations of students, based upon the students it serves, for which to disaggregate data about student learning outcomes and student achievement. Per Standard I.B.5, it should also disaggregate by program type and mode of delivery to assess how the institution is meeting its mission, given the methods by which instructional services are delivered. As mentioned above, it will be helpful for the institution to identify criteria for disaggregation of data within programs, based upon the institutional mission as well as programmatic emphases.

Q. Does the Commission believe that collecting and analyzing disaggregated learning outcomes data, compared to interventions to improve outcomes, actually can be used to evaluate causal relationships?

A. We know there are many factors and causes for why individual students successfully complete classes, leave the institution, do or do not complete degrees or transfer, and why they learn or do not learn something. While there are some factors outside the control of the institution, we also know there are institutional factors (institution-wide, or perhaps only within a single classroom) which can negatively or positively impact multiple students' learning and success. Some of those factors have disparate impact on particular populations of students. The purpose of disaggregated institutional data and analysis is to get to a level of detail that informs institutional choices pertinent to the populations of students it serves and to advancing their success (through strategies and decisions that may apply to them as individuals, as members of an identified group, or as part of the entire student body). Some analysis may prove to be most helpful to a particular department or program, and other analysis may provide institution-wide insight. Whatever the level, data analysis should be used to inform decisions and plans to improve student learning and achievement, and to meet the college's mission.

Q. As to the requirement for disaggregating data on learning outcomes, there are faculty in small programs and researchers who are troubled by the idea of disaggregating data on learning outcomes in small classes—because it starts to get easy to identify students individually. Recognizing this concern, doesn't it make sense to disaggregate at higher levels of power (degrees, or a combination of courses across years)?

A. Principles of good practice would support the expectation that instructors, in every class taught, are looking at the achievement of student learning outcomes at the individual student level, as well as aggregating results. This is an essential aspect of the continuous improvement that education professionals have practiced for many years. It is one reason for the promotion of embedded assignments for SLO practice, used in combination with assessment rubrics. Moreover, effective faculty practice—as instructors, advisors, and department members-- has long included strategies for encouraging student behaviors which can lead to stronger student achievement as well (from attendance and course completion, to program and course selection for certificates, degrees, and transfers, to career planning and preparation).

When it comes to classroom, curriculum, departmental, and institutional planning and resource allocation, there are different levels of granularity which will be useful for decision making. The conversation at each level should include identification of the data and measures which should influence decisions at that level, and how the necessary level of information availability can be achieved.

The Standards have for years required that institutional credentials be based upon student learning outcomes. As credentials are assigned to individual students, many institutions and systems are realizing the value of accessing certain information at the student level. Of course, just as with any research or provision of services related to individual subjects, there must be scrupulous adherence to the privacy and confidentially safeguards.

While unspoken in the question, there can be times when concerns about workload, capacity, and accountability of individuals involved in assessment and research come into play. These are appropriate subjects for conversation at the institution, to ensure the focus of data analysis and decisions remains on student learning and achievement.

I.C.14

Q. This is a new standard. What are some examples of evidence that could be used to meet this standard?

A. Within complex higher education institutions-- whether private for-profit, private nonprofit, or public—there can be competing values and priorities such as those described in the standard. The statement of purpose at the governing board or institutional level might stress the higher priority of student achievement and student learning than on these other objectives. There may be provisions within the conflict of interest and ethics policies, as well as demonstrated consideration of student learning and achievement in resource and other decision making, which can shows the requisite institutional commitment.

APPENDIX 3
Examples of Course Student Learning Outcomes
(Science and Math)

Astronomy
CSLO

ASTR10 - The Solar System
• demonstrate understanding of distances and time scales in the solar system and the cosmos, differentiate between astronomical science and other systems of thought, and understand basic concepts of planetary science
• Differentiate between basic planetary types and demonstrate understanding of the processes responsible for their formation.
• Relate distances and time scales in the solar system and the cosmos to terrestrial distances and human times scales.
• uses key ideas about the nature of the cosmos to differentiate between astronomical science and other systems of thought.

ASTR20 - Stars and the Universe
• Relate distances and time scales in astronomy to human distances and times scales.
• Differentiate between astronomical science and other systems of thought.
• Demonstrate understanding of the basic physics governing stars, galaxies, and cosmology.

ASTR30 - Intro to Astronomy Lab
• Identify eight seasonal constellations in the night sky
• students will demonstrate their understanding of principles, techniques, and methods of analysis for observational astronomy, including constellation and
bright star identification, and awareness of seasonal changes in the night sky.

Biological Sciences
CSLO

BIO1A - General Botany
• Gain hands-on experience with and demonstrate proficiency in standard biological techniques, using industry-level biology laboratory equipment and/or
discipline-specific computer hardware and software.
• Students are able to explain and apply basic principles and processes of botany and ecology at different levels, from the biochemical to the ecological.
• Students will be able to properly manipulate a compound microscope and demonstrate knowledge of its parts and uses.
• Students will conduct a research project, taking measurements, keeping accurate records, analyzing and drawing conclusions, and communicating their
results in the standard format for scientific research.

BIO1B - General Zoology
• Gain hands-on experience with and demonstrate proficiency in standard biological techniques, using industry-level biology laboratory equipment and/or
discipline-specific computer hardware and software.
• Student will prepare, label, correctly identify, and reference the taxonomic orders of different adult insect species
• Students will be able to properly manipulate a compound microscope and demonstrate knowledge of its parts and uses.

BIO1C - Cell and Molecular Biology
• Gain hands-on experience with and demonstrate proficiency in standard biological techniques, using industry-level biology laboratory equipment and/or
discipline-specific computer hardware and software.
• Students will be able to properly manipulate a compound microscope and demonstrate knowledge of its parts and uses.
• Students will conduct an independent research project and write a scientific report analyzing the results.

BIO7A - Human Anatomy
• Upon completion of BIO 7a, students will be able to identify the structures of the body systems using models, slides, cadavers, and/or visual media.
• Upon completion of BIO 7a, students will be able to relate structure to the function of anatomical structures and be able to predict how a change in structure would alter function.
• Upon completion of BIO 7a, students will be able to correctly describe location and parts of the body using anatomical terminology.
• Upon completion of BIO 7a, students will be able to identify histological and microscopic structures of the human body.
• Upon completion of BIO 7a, students will be able to identify selected skeletal muscles and predict action based on site of muscle insertion.

BIO7B - Human Physiology
• Upon completion of BIO 7b, students will be able to explain the physiological functions of each body system.
• Upon completion of BIO 7b, students will be able to apply the principles of homeostasis and the use of feedback loops to control physiological systems in
the human body.
• Upon completion of BIO 7b, students will be able to evaluate physiological functions of select organ systems by interpreting graphs of physiological data
and be able to solve allied-based math problems
• Upon completion of BIO 7b, students will be able to use and demonstrate proficiency in standard biological techniques, using industry-level biology laboratory equipment and/or discipline-specific computer hardware and software.
• Upon completion of BIO 7b, students will be able to research a relevant topic in physiology and communicate their findings clearly in writing or orally to
others, demonstrating content knowledge acquired from reliable scientific sources.

BIO7C - Microbiology
• Upon completion of BIO 7c, students will be able to acquire, articulate, and apply specialized language and knowledge relevant to microbiology.

• Upon completion of BIO 7c, students will acquire and demonstrate competency in laboratory safety and in routine and specialized microbiological laboratory skills applicable to microbiological research or clinical methods, including accurately reporting observations and analysis.
• Upon completion of BIO 7c, students will gain hands-on experience with and demonstrate proficiency in standard microbiological techniques, using industry-level laboratory equipment and/or discipline-specific computer hardware and software.
• Upon completion of BIO 7c, students will explain and demonstrate the theoretical and practical aspects of using a compound microscope to study microorganisms using the oil immersion objective lens.
• Upon completion of BIO 7c, students will research a relevant topic in microbiology and communicate scientific concepts, experimental results and analytical arguments clearly and concisely in writing and/or orally, demonstrating content knowledge acquired from the course work and from reliable scientific sources

BIO10 - Intro to the Science of Biology

• Upon completion of Bio 10, students should be able to conduct guided experiments in the laboratory and interpret the results of these investigations, individually and/or in collaboration with other students.
• Upon completion of Bio 10, students should be able to explain and apply basic principles of ecology, cellular, evolutionary, and organismal biology.
• Upon completion of Bio 10, students should be able to properly manipulate a compound microscope and demonstrate knowledge of its parts and uses.
• Upon completion of Bio 10, the student will have gained hands-on experience with and demonstrated proficiency in standard biological techniques, using
industry-level biology laboratory equipment and/or discipline-specific computer hardware and software.

BIO20 - Contemporary Human Biology

• Upon completion of BIO 20, students should be able to describe and relate the physical structure of the cells, tissues types and organ systems to their function.
• Upon completion of BIO 20, students will be able to explain the concept of homeostasis and how the different body systems maintain homeostasis, and
be able to relate homeostatic failure to some common pathological conditions.

BIO30 - Intro to College Biology

• Upon completion of BIO 30, students should be able to conduct guided experiments in the laboratory and interpret the results of these investigations, individually and/or in collaboration with other students.
• Upon completion of Bio 30, students should be able to demonstrate writing proficiency on a written assignment which incorporates scientific data and/or
basic principles of biology.
• Upon completion of BIO 30, students should be able to explain basic principles of biochemistry, ecology, and cellular, evolutionary, and organismal biology.
• Upon completion of Bio 30, students should be able to properly manipulate a compound microscope and demonstrate knowledge of its parts and uses.
• Upon completion of Bio 30, students should have gained hands-on experience with and demonstrated proficiency in standard biological techniques, using
industry-level biology laboratory equipment and/or discipline-specific computer hardware and software.

BIO40 - Humans and the Environment

• Upon completion of Bio 40 students should be able to discuss environmental problems, their causes and evaluate solutions.
• Upon completion of Bio 40 students should be able to explain basic principles of ecology involving energy flow, cycling of matter, interactions within and
between populations and assess the impact of humans on the biosphere
• Upon completion of Bio 40, students should be able to analyze and critically evaluate environmental information from various sources, and present their
findings.

BIO50 - Anatomy and Physiology

• Upon completion of BIO 50, students will be able to list the organ systems, identify the structures of each organ system and explain their general functions.
• Upon completion of BIO 50, students will be able to research a relevant anatomical or physiological topic and communicate their findings to others, demonstrating content knowledge acquired from reliable scientific sources.
• Upon completion of BIO 50, students will be able to properly manipulate a compound microscope and demonstrate knowledge of its parts and uses.

BIO60 - Marine Biology

• Upon completion of BIO 60, students should be able to conduct guided experiments in the laboratory and interpret the results of these investigations, individually and/or in collaboration with other students.
• Upon completion of BIO 60, students should be able to differentiate various marine ecosystems, compare and contrast representative marine organisms,
and understand their interdependence.
• Upon completion of Bio 60, students will be able to properly manipulate a compound microscope and dissecting microscope to study marine microorganisms and internal structures of marine organisms.
• Upon completion of Bio 60, students will have gained hands-on experience with and demonstrated proficiency in standard biological techniques, using
industry-level biology laboratory equipment and/or discipline-specific computer hardware and software.

Chemistry

CSLO

CHEM1A - General College Chemistry I

• Students completing Chemistry 1A should be able to demonstrate proficiency in solving complex problems and conceptual understanding of content listed
in the course outline as measured by the American Chemical Society General College Chemistry First Term Exam.

CHEM1B - General College Chemistry II

• Students completing Chemistry 1B should be able to demonstrate proficiency in solving complex problems and conceptual understanding of content listed
in the course outline as measured by the American Chemical Society General College Chemistry Full Year Exam.

CHEM12A - Organic Chemistry I

• Students should be able to write detailed reaction mechanisms.

CHEM12B - Organic Chemistry II

• Students completing 12B should be able to demonstrate proficiency in solving complex problems and conceptual understanding of content listed in the
course outline as measured by the American Chemical Society Organic Chemistry series exam (beginning SP2015).

CHEM30A - Intro and Applied Chemistry I

• Students completing Chemistry 30A should be able to demonstrate proficiency in solving complex problems and conceptual understanding of content listed in the course outline as measured by the comprehensive final exam.
• Students should be able to define concentration units of solutions (e.g., molarity and % concentration) and use these definitions in problem solving.

CHEM30B - Intro and Applied Chemistry II

• Students should be able to describe the functions of different types of biological molecules.

CHEM31 - Intro to College Chemistry

• Students completing Chemistry 31 should be able to demonstrate proficiency in solving complex problems and conceptual understanding of content listed in the course outline as measured by the American Chemical Society 2006 California Chemistry Diagnostic Test .

Engineering

CSLO

ENGR10 - Introduction to Engineering

• Demonstrate an understanding of Microsoft Excel spreadsheet skills used in Engineering applications
• Demonstrate knowledge of the Engineering Transfer Process, from LPC to a 4-year university Engineering program
• Demonstrate the ability to create graphs (charts) within MS Excel
• Design and demonstrate a solution, using the engineering design process, to an engineering design problem
• Identify and differentiate between the different engineering branches, based on worded-descriptions of each branch.

ENGR22 - Engineering Design Graphics

• Apply dimensions to describe relative size of features and hole placement.
• Describe height, width, and depth of objects, relating to similar common shapes
• Differentiate between fron and top views, visible and hidden surfaces / features.
• Explain how the "form" of the bearing block dictates its "function."
• Use technical terms to describe rounded ends of objects, drilled holes of flange, and boss around center hub.

ENGR25 - Comp Methods Engineer/ Science

• Analyze and Model an engineering problem with Matlab, using vector inputs and outputs
• Correctly identify and calculate output values in Matlab programming language, with emphasis on syntax
• Demonstrate an understanding of the use of Microsoft Excel in solving problems using numerical methods
• Demonstrate effective creation and calling of Function files, including passing variables to a function, within Matlab
• Demonstrate the ability to generate graphs (charts) with MS Excel

ENGR35 - Statics

• Analyze the internal distribution of bending moment and shear forces on beams, ultimately needed to select the proper size of the members of the structure.
• Demonstrate the ability to construct accurate Free Body Diagrams
• Develop analysis methods to examine force systems acting on engineering structures in static equilibrium.
• Evaluate the constraining reactions needed to maintain static equilibrium on two- and three-dimensional rigid bodies acted on by force systems.

• Identify and distinguish between both metric (SI) and US units for various Statics terms

ENGR37 - Applied Statics and Materials

• Demonstrate the ability to construct accurate Free Body Diagrams

ENGR44 - Intro to Circuit Analysis

• Demonstrate the ability to analyze a 1st-order RL or RC electrical circuit, including analysis of boundary conditions
• Demonstrate the ability to analyze a 1st-ordere RL or RC circuit, including analysis of boundary conditions
• Demonstrate the ability to analyze a 2nd-order RLC electrical circuit, including analysis of damping type and boundary conditions.
• Students will analyze and demonstrate understanding of the electrical behavior of first and second order DC circuits, using various circuit analysis techniques.
• Utilize circuit simulation software to analyze electrical circuits.
• While working in groups, utilize electronic equipment to physically measure and analyze electrical circuits.

ENGR46 - Materials of Engineering

• Defining Materials terms by matching term with appropriate worded description
• Demonstrate the ability to operate materials testing equipment to generate the necessary data to formulate the properties of material tested.
• Identify the five different classifications for Engineering Materials.
• Recommend appropriate material(s) to meet engineering design criteria based on the materials' properties and performance.

Environmental Studies

CSLO

EVST5 - ENERGY AND SUSTAINABILITY

• Students must be able to perform and analyze a home Energy Audit.

Geography

CSLO

GEOG1 - Intro to Physical Geography

• Upon completion of GEOG 1, students will be able to understand the difference between divergent, convergent and transform plate boundaries.
• Upon completion of GEOG 1, students will be able to understand the global wind patterns and how they form
• Upon completion of GEOG 1, students will be able to understand the reasons why the seasons change.

GEOG1L - Intro to Phys Geog Laboratory

• Upon completion of GEOG 1L, students will be able to diagram and identify (explain) earth / sun relations)
• Upon completion of GEOG 1L, students will be able to identify major climate controls and be able to explain why certain climates are located where they are.

• Upon completion of GEOG 1L, students will be able to locate plate boundaries based on the type of tectonic activity and be able to explain why they are located where they are.

GEOG2 - Cultural Geography

• Upon completion of GEOG 2, students will be able to define, describe and explain the Multi-Nuclei model or urban development.
• Upon completion of GEOG 2, students will be able to differentiate between the different types of cultural diffusion.
• Upon completion of GEOG 2, students will be able to explain the Demographic Transition Model

GEOG5 - World Regional Geography

• Upon completion of GEOG 5, students will be able to locate and label on a map different cities of the world as discussed in class.
• Upon completion of GEOG 5, students will be able to locate and label on a map different rivers and landforms of the world as discussed in class.
• Upon completion of GEOG 5, students will be able to locate and label on a map the different countries of the world as discussed in class

GEOG8 - Intro to Weather and Climate

• Upon completion of GEOG 8 students will be able to define and describe the climates of the world as defined by Koppen.
• Upon completion of GEOG 8, students will be able to define different type of fronts and use these fronts on the map to predict the weather for a specific
area.
• Upon completion of GEOG 8, students will be able to identify and describe the differences between stable and unstable air and give the expected weather characteristics.

GEOG12 - Geography of California

• Upon completion of GEOG 12, students will be able to identify different California cities, rivers, landforms on a blank map.
• Upon completion of GEOG 12, students will be able to identify different canals in California and state if they are federal, state or privately controlled.
• Upon completion of GEOG 12, students will be able to identify the different climates that exist in California.

GEOG15 - Introduction to GIS

• Successful completion of Geog 15 will allow the student to produce a printed map which demonstrates the basic concepts of cartographic design.

Geology

CSLO

GEOL1 - Physical Geology

• Students demonstrate a working knowledge of geologic processes, geologic information , geologic identification, geologic analysis and/or geologic applications
• Upon completion of Geology 1, students will be able to define and identify the geology of divergent, convergent and transform plate tectonic environments.
• Upon completion of Geology 1, students will be able to identify and define the basic properties of minerals.
• Upon completion of Geology 1, students will be able to identify and differentiate the basic ages of the Geologic Time Scale.

GEOL1L - Physical Geology Laboratory

• Students demonstrate a working knowledge of geologic laboratory processes, geologic concepts , geologic identification, geologic analysis and/or geologic applications
• Upon completion of Geology 1 laboratory, students will be able to evaluate and differentiate mineral samples
• Upon completion of Geology 1 laboratory, students will be able to evaluate and differentiate rock samples
• Upon completion of Geology 1 laboratory, students will be able to evaluate and interpret geologic diagrams encapsulating geologic histories.

GEOL3 - Historical Geology

• Students demonstrate a working knowledge of Historical Geologic processes, geologic information , geologic identification, geologic analysis and/or geologic applications
• Upon completion of Geology 3, students will be able to define and identify the geology of divergent, convergent and transform plate tectonic environments.
• Upon completion of Geology 3, students will be able to evaluate and interpret geologic diagrams encapsulating geologic histories (sequences of events).
• Upon completion of Geology 3, students will be able to identify and differentiate the types and methods of fossilization.

GEOL3L - Historical Geology Laboratory

• Students demonstrate a working knowledge of Historical Geologic laboratory processes, geologic information , geologic identification, geologic analysis
and/or geologic applications
• Upon completion of Geology 3 laboratory, students will be able to evaluate and/or interpret geologic diagrams encapsulating geologic histories (sequences of events).
• Upon completion of Geology 3 laboratory, students will be able to identify and differentiate fossil samples.
• Upon completion of Geology 3 laboratory, students will be able to interpret, analyze and/or explain complex geologic concepts and principles through geologic cross-sections.

GEOL5 - ENVIRON.GEOL:HAZARDS/DISASTERS

• Students demonstrate a working knowledge of Environmental Geologic processes, geologic information , geologic identification, geologic analysis and/or
geologic applications; specifically focused on natural disasters. planning and mitigation.
• Upon completion of Geology 5, students will be able to define and identify the geology of divergent, convergent and transform plate tectonic environments.
• Upon completion of Geology 5, students will be able to identify and/or explain the fundamentals of stream systems, including flooding.
• Upon completion of Geology 5, students will be able to identify and/or explain volcanic geohazards.

GEOL7 - ENVI GEOL:RESC/USE IMPACT/POLL

• Students demonstrate a working knowledge of Environmental Geologic processes, geologic information , geologic identification, geologic analysis and/or
geologic applications; specifically towards natural resources, the impacts of using those resources and the resulting pollution impacts.
• Upon completion of Geology 7, students will be able to define and identify the geology of divergent, convergent and transform plate tectonic environments.
• Upon completion of Geology 7, students will be able to identify and differentiate the various types of fossil fuels.
• Upon completion of Geology 7, students will be able to identify and/or evaluate the various methods of groundwater pollution.

GEOL12 - Introduction to Oceanography

• Students demonstrate a working knowledge of marine geologic processes, geologic information , geologic identification, geologic analysis and/or geologic

applications
• Upon completion of Geology 12, students will be able to analyze, differentiate and/or identify the basic marine life habitats.
• Upon completion of Geology 12, students will be able to define and identify the geology of divergent, convergent and transform plate tectonic environments.
• Upon completion of Geology 12, students will be able to identify and differentiate basic marine geomorphologies (e.g., seamounts, guyots, continental shelf, submarine canyons, etc.)

GEOL12L - Intro to Oceanography Lab

• Students demonstrate a working knowledge of marine geologic processes, geologic information , geologic identification, geologic analysis and/or geologic
applications
• Upon completion of Geology 12 laboratory, students will be able to construct bathymetric contours
• Upon completion of Geology 12 laboratory, students will be able to evaluate (test and identify) sea floor samples
• Upon completion of Geology 12 laboratory, students will be able to interpret bathymetric maps

Health Sciences

CSLO

HSCI52 - BASIC MEDICAL TERMINIOLOGY

• Break down complex medical terms into simple root words and infer larger meanings through knowledge of smaller component word parts.

Horticulture

CSLO

HORT50 - Introduction to Horticulture

• Student should demonstrate a clear understanding of the photosynthetic process
• The student will be able to propagate a plant by taking a cutting.
• The student will be able to propagate plants by properly germinating seeds.

HORT53 - Plant Disease & Pest Control

• Student will be able to accurately identify common insect, weed pests, and plant diseases

HORT54 - Planting Media & Nutrition

• Student will demonstrate knowledge of soil amendments, soil substitutes, their use and application

HORT55 - Horticulture Mgmt & Operations

• Student will be able to accurately describe the various specialties within the nursery industry
• The student will be able to successfully grow, merchandise and sell plants.

HORT56 - Arboriculture

• Student will safely demonstrate the proper, safe use and application of tools and equipment used specifically for arboriculture
• The student will be able to complete a tree assessment/survey and apply the knowledge to making sound tree maintenance decisions.
• The student will be able to select good quality nursery trees, and train them properly, when young.

HORT57 - Landscape and Turfgrass Mgmt

• Student will demonstrate how to properly schedule and perform basic landscape turf maintenance tasks such as mowing, edging, nutritional amendments and irrigation system adjustment and monitoring;

HORT59 - Landscape Design

• Student will be able to demonstrate graphics drawing skills for landscape architectural design

HORT60 - Landscape Irrigation Systems

• Student will be able to identify the various tools and materials specific to building a successful, efficient, and sound sprinkler and/or drip irrigation system
design

HORT62 - CALIF NATIVE & DRY LANDSCAPES

• Student will be able to determine the landscape use and ornamental value of drought tolerant plant materials

Math

CSLO

MATH1 - Calculus I

• Upon completion of Math 1, a student should be able to construct an optimization model and use it to find the desired quantity.
• Upon completion of Math 1, a student should be able to evaluate and interpret a definite integral.
• Upon completion of Math 1, a student should be able to find the limit of a function as x approaches a value using numerical and graphical techniques.
• Upon completion of Math 1, a student should be able to find the volume of a solid of revolution using washers or shells.
• Upon completion of Math 1, a student should be able to integrate a function involving a u-substitution.

MATH2 - Calculus II

• Upon completion of Math 2, a student should be able to determine an arc length using parametric equations.
• Upon completion of Math 2, a student should be able to determine the interval of convergence for a power series.
• Upon completion of Math 2, a student should be able to evaluate an integral using a power series representation.
• Upon completion of Math 2, a student should be able to integrate a function using a partial fraction expansion.
• Upon completion of Math 2, a student should be able to use a graphing calculator (and/or other technology) to evaluate a definite integral using a numerical method and determine the accuracy of the result.

MATH3 - Multivariable Calculus

• Upon completion of Math 3, a student should be able to evaluate a surface integral.
• Upon completion of Math 3, a student should be able to evaluating a surface integral for vector functions using parameterization of the surface or using
the Divergence theorem.
• Upon completion of Math 3, a student should be able to interpret directional derivatives, including the gradient.
• Upon completion of Math 3, a student should be able to solve an optimization problem by using the method of LaGrange multipliers.

MATH5 - Ordinary Differential Equation

• Upon completion of Math 5, a student should be able to construct and interpret the solution of a mass-spring system.
• Upon completion of Math 5, a student should be able to create and analyze mathematical models based on ordinary differential equations
• Upon completion of Math 5, a student should be able to use a 4th order Runge-Kutta algorithm to solve an equation numerically.
• Upon completion of Math 5, a student should be able to use the method of Laplace transforms to solve differential equation.

MATH7 - Elementary Linear Algebra

• Upon completion of Math 7, a student should be able to determine if a set is a subspace of a vector space.
• Upon completion of Math 7, a student should be able to diagonalize a matrix.
• Upon completion of Math 7, a student should be able to set up a system of Linear Equations to represent a network and then solve the system.
• Upon completion of Math 7, a student should be able to use software to solve a least squares problem.

MATH10 - Discrete Mathematics

• Upon completion of Math 10, a student should be able to create an undirected graph that represents the network of objects in a set and find a minimum
spanning tree for the graph.
• Upon completion of Math 10, a student should be able to determine whether a relation is an equivalence relation.
• Upon completion of Math 10, a student should be able to use mathematical reasoning and counting techniques to correctly enumerate the number of ways in which a specified event can occur.
• Upon completion of Math 10, a student should be able to write a coherent formal proof using mathematical induction.

MATH20 - Pre-Calculus Mathematics

• Upon completion of Math 20, a student should be able to find all zeros of a polynomial function.
• Upon completion of Math 20, a student should be able to find extrema using a graphing calculator and/or other technology.
• Upon completion of Math 20, a student should be able to graph and identify the main features a rational function without using a graphing utility.
• Upon completion of Math 20, a student should be able to model a problem using exponential growth or decay.
• Upon completion of Math 20, a student should be able to solve a nonlinear system of equations graphically and verify analytically.

MATH33 - Finite Mathematics

• Upon completion of Math 33, a student should be able to find the probability of an event and explain the meaning of the value found.
• Upon completion of Math 33, a student should be able to model an applied problem by writing a system of linear inequalities or equalities.
• Upon completion of Math 33, a student should be able to solve a system of linear equations in matrix form by hand (without using a calculator).
• Upon completion of Math 33, a student should be able to use the financial functions on a graphing calculator to answer questions about loans or annuities.
• Upon completion of Math 33, a student should be able to write a system of linear equations and inequalities that represent the relationships between the
quantities in a linear programming problem and represent the solution graphically and verbally.

MATH34 - Calc for Bus and Soc Sciences

• Upon completion of Math 34, a student should be able to calculate the marginal cost, marginal profit, and marginal revenue and discuss their meaning in
the context of an applied problem.
• Upon completion of Math 34, a student should be able to evaluate a definite or indefinite integral symbolically by hand using the technique of substitution.
• Upon completion of Math 34, a student should be able to graph an elementary function by hand using the 1st and 2nd derivatives.
• Upon completion of Math 34, a student should be able to solve an amortization problem involving the use of a calculator.
• Upon completion of Math 34, a student should be able to write a differential equation that models an applied problem.

MATH38 - Trigonometry with Geometry

• Upon completion of Math 38, a student should be able to identify and describe the period, amplitude and phase shift of a sine or cosine function.
• Upon completion of Math 38, a student should be able to solve a trigonometric equation using factoring and identities.
• Upon completion of Math 38, a student should be able to solve an application problem using law of sines.

MATH39 - Trigonometry

• Upon completion of Math 39, a student should be able to define trigonometric functions in terms of the right triangle, using coordinates of a point and distance from the origin, and using the unit circle.
• Upon completion of Math 39, a student should be able to identify and describe the period, amplitude and phase shift of a sine or cosine function.
• Upon completion of Math 39, a student should be able to solve a trigonometric equation that does not involve any of the standard angles as solutions, making usage of a calculator necessary.
• Upon completion of Math 39, a student should be able to solve a trigonometric equation using factoring and identities.
• Upon completion of Math 39, a student should be able to solve an application problem using law of sines or law of cosines.

MATH40 - STATISTICS AND PROBABILITY

• Upon completion of Math 40, a student should be able to build a frequency distribution for, and make a histogram of, quantitative data.
• Upon completion of Math 40, a student should be able to determine whether or not there is significant correlation for a bivariate data set, and if so, fit a
linear regression equation and use it for data prediction.
• Upon completion of Math 40, a student should be able to perform the steps for a hypothesis test about a single population parameter and interpret the result.
• Upon completion of Math 40, a student should be able to solve an application problem using the central limit theorem.
• Upon completion of Math 40, a student should be able to use a computer program to make a graph of categorical data.

MATH45 - College Algebra

• Upon completion of Math 45, a student should be able to find extrema and zeros using a graphing calculator and/or other technology.
• Upon completion of Math 45, a student should be able to find the real zeros of a polynomial function.
• Upon completion of Math 45, a student should be able to graph and identify the main features a rational function without using a graphing utility
• Upon completion of Math 45, a student should be able to model a problem using exponential growth or decay.

MATH47 - Mathematics for Liberal Arts

• Upon completion of Math 47, a student should be able to develop and use an appropriate model (linear or exponential) for a given problem.
• Upon completion of Math 47, a student should be able to find the probability of an event and explain the meaning of the value found.
• Upon completion of Math 47, a student should be able to solve a financial problem involving amortization.
• Upon completion of Math 47, a student should be able to translate a statement into symbolic logic notation.

MATH50 - Core Intermediate Algebra

• Upon completion of Math 50, a student should be able to construct multiple representations of a function (numerical, graphical, or symbolic).
• Upon completion of Math 50, a student should be able to determine the domain of a function.

• Upon completion of Math 50, a student should be able to given a data set, use technology to graph a scatter plot of the data and find the line of best fit
(linear regression).
• Upon completion of Math 50, a student should be able to solve and interpret an applied problem using a function.

• Upon completion of Math 50, a student should be able to write an exponential function model.

MATH55 - Intermediate Algebra
• Upon completion of Math 55, a student should be able to construct multiple representations of a function (numerical, graphical, or symbolic).
• Upon completion of Math 55, a student should be able to determine the domain of a function.
• Upon completion of Math 55, a student should be able to interpret the solution of an applied problem that uses a function.
• Upon completion of Math 55, a student should be able to solve an applied problem using a function.

MATH55A - Intermediate Algebra A
• Upon completion of Math 55A, a student should be able to determine the domain of a function.

MATH55B - Intermediate Algebra B
• Upon completion of Math 55B, a student should be able to construct multiple representations of a function (numerical, graphical, or symbolic).
• Upon completion of Math 55B, a student should be able to interpret the solution of an applied problem that uses a function.
• Upon completion of Math 55B, a student should be able to solve an applied problem using a function.

MATH65 - Elementary Algebra
• Upon completion of Math 65, a student should be able to construct a linear model based on a given situation.
• Upon completion of Math 65, a student should be able to construct multiple representations of a linear equation (numerical, graphical, or symbolic)
• Upon completion of Math 65, a student should be able to interpret the slope in the context of a problem.
• Upon completion of Math 65, a student should be able to solve a polynomial equation using factoring techniques.

MATH65A - Elementary Algebra A
• Upon completion of Math 65A, a student should be able to construct a linear model based on a given situation.
• Upon completion of Math 65A, a student should be able to construct multiple representations of a linear equation (numerical, graphical, or symbolic).
• Upon completion of Math 65A, a student should be able to interpret the slope in the context of a problem.

MATH65B - Elementary Algebra B
• Upon completion of Math 65B, a student should be able to solve a polynomial equation using factoring techniques.

MATH71A - APPLIED MATH FOR TECHNICIANS A
• Upon completion of Math 71A, a student should be able to perform a unit conversion.
• Upon completion of Math 71A, a student should be able to solve an applied problem involving rates (e.g. parts per hour, threads per inch and revolutions
per minute).

MATH71B - APPLIED MATH FOR TECHS B
• Upon completion of Math 71B, a student should be able to find the volume of a geometric figure.
• Upon completion of Math 71B, a student should be able to solve problems involving trigonometric ratios.

MATH107 - PRE-ALGEBRA
• Upon completion of Math 107, a student should be able to perform order of operations to simplify expressions involving signed integers.
• Upon completion of Math 107, a student should be able to set up and solve applications involving ratios, rates, or proportions.
• Upon completion of Math 107, a student should be able to solve an algebraic equation.

MATH107A - PRE-ALGEBRA A
• Upon completion of Math 107A, a student should be able to perform order of operations to simplify expressions involving signed integers.

MATH107B - PRE-ALGEBRA B
• Upon completion of Math 107B, a student should be able to set up and solve applications involving ratios, rates, or proportions.
• Upon completion of Math 107B, a student should be able to solve an algebraic equation.

Occupational Safety and Health
CSLO

OSH50 - Intro Occupational Safety/Hlth
• Implement an injury and illness prevention program similar to the models supplied by both Federal OSHA and Cal/OSHA and evaluate the program in terms of this model.

OSH60 - Elements of Industrial Hygiene
• Recognize workplace hazards which are of Industrial Hygiene interest in a variety of workplaces.

OSH62 - Physical Hazards
• Explain and illustrate methods of control of hazards with particular reference to regulatory standards.

OSH67 - Comp Regulatory Requirements
• Students will explain the role of human factors in safety and accident prevention.