

Peralta Community College District

Berkeley City College
College of Alameda
Laney College
Merritt College



Instructional Program Review Handbook

Fall 2015
Version 4.

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Purpose and Goals

The information gathered during the program review process provides the basis for informed decision making in the Peralta Community College District. Comprehensive Instructional Program Review is a systematic process for the collection, analysis, and interpretation of data concerning a program or department and its curriculum. It provides program and/or departmental accountability by collecting, analyzing and disseminating information that will inform integrated planning, resource allocation, and decision-making processes.

The primary goals are to:

- Ensure quality and excellence of academic programs.
- Provide a standardized methodology for review of instructional areas.
- Provide a mechanism for demonstrating continuous quality improvement, producing a foundation for action.
- Identify effective and exemplary practices.
- Strengthen planning and decision-making based upon current data.
- Identify resource needs.
- Develop recommendations and strategies concerning future directions and provide evidence supporting plans for the future, within the department, at the college and at the District level.
- Inform integrated planning at all levels within the College and the District.
- Ensure that educational programs reflect student needs, encourage student success, and foster improved teaching and learning.
- Provide a baseline document for demonstration of continuous improvement and use as a reference for future annual program updates.

Components in the Process

The Comprehensive Instructional Program Review process, which occurs every three years, consists of answering a set of questions designed to aid in the examination of a discipline, department or program. These questions direct faculty to examine the curriculum, pedagogy, assessment results, and resource areas related to student success and to analyze findings in order to develop a plan that will improve the quality of teaching and learning.

The primary components in the Comprehensive Program Review process include:

- The Comprehensive Instructional Program Review Team
 - Core data elements
 - Completion of a Comprehensive Instructional Program Review Narrative Report every three years
 - Validation of the Comprehensive Instructional Program Review Report
 - Completion of three reporting templates (found in the appendix). They are:
 - The *Comprehensive Instructional Program Review Resource Requests Template* in which to summarize key resource needs.
 - The *Integrated Goal Setting Template* in which to set goals, objectives and action plans based upon the Comprehensive Instructional Program Review findings in alignment with PCCD Strategic Goals and Institutional Objectives.
 - The *Validation Process Form* in which to document the validity of the program review.
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- Annual Program Updates (APUs), which review progress in meeting goals identified in the Comprehensive Instructional Program Review, are completed in the alternate years within the Comprehensive Program Review three year- cycle.
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Thus, the recommendations and priorities from the Comprehensive Instructional Program Review feed directly into the development of departmental and/or unit plans. In turn, the departmental and/or unit plans serve as the driving mechanisms in formulation of updated educational, budget, technology and facilities plans.

The Comprehensive Instructional Program Review Team

Each discipline, department or program at the college will assemble a Comprehensive Instructional Program Review Team at the College that is comprised of the following members:

- Department Chair, Program Coordinator, or discipline designee.
- Division Dean
- Two additional faculty members.
- All faculty members within a department are encouraged to participate in the comprehensive Instructional Program Review process, although participation is not mandatory.
- A college body, such as a validation committee or institutional effectiveness committee, comprised of faculty outside of the discipline, department or program.

The Comprehensive Instructional Program Review Team will analyze the core data elements, course outlines, SLO assessment results, and complete the Comprehensive Instructional Program Review Narrative Report.

Validation: A designated college body, such as a validation committee or institutional effectiveness committee, will review the Comprehensive Instructional Program Review Narrative Report to ensure completeness of the narrative report, the resource needs template, and the goal setting template.

The validation committee will complete the validation form, including signatures, included in Appendix C and make recommendations to the Vice President of Instruction.

Core Data Elements

Part I. District Office

The *District Office of Institutional Research* will provide the following data to the College discipline, department or program by October 1st of each comprehensive program review year.

- Total enrollment data for each discipline, department or program (unduplicated) for the last three years disaggregated by age, gender, ethnicity and special populations.
 - Enrollment data for individual courses, by time of day, fall, spring and summer sessions, for the last three years.
 - FTES per FTEF (productivity) by course and discipline, department or program for the last three years.
 - College productivity rate for the last three years.
 - Degrees and certificates awarded, by discipline, department or program disaggregated by age, sex and ethnicity for the last three years.
 - Total degrees and certificates awarded by the college, per year, for the last three years.
 - Retention rates by course and discipline, department or program for the last three years.
 - Overall college retention rate.
 - Course completion (student success) rates, by course and discipline, department or program for the last three years.
 - College course completion rates for the last three years
 - Faculty Demographics: Full-time/part-time, age, gender, ethnicity
-

Part II. College

A. The *Office of Instruction and/or the Curriculum Specialist* at the College will provide the following to each discipline, department or program.

- A list of active courses in the discipline, department or program and the date they were last updated/approved.
 - A list of degrees and certificates
-

B. The *Office of Instruction and/or SLO Coordinators* at the College will provide the following to each discipline, department or program.

- A list of courses and programs that depicts the current status of assessments at the course and program levels.
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C. The *Office of Instruction* at the College will provide the following to each discipline, department or program.

- A copy of the PCCD Strategic Goals and Institutional Objectives for the current academic year.
- A copy of the College Goals and Objectives for the current academic year.

Definitions

Discipline: An individual area of study within a department/program. Each discipline consists of all the courses in the Master Course file that make of the discipline. This is the baseline level of instruction and is linked to a Taxonomy of Programs (TOP) code. TOP is a classification system for academic programs in the California Community Colleges.

Department/Program: An organized sequence of courses, or series of interdisciplinary courses, leading to a defined objective, a degree, a certificate, a diploma, a license, or transfer to an institution of higher education (Title 5 Section 55000).

FTEF (Full Time Equivalent Faculty): Also known as load equivalency. A full-time instructor teaching 15 lecture hours per week for one semester = 1.0 FTEF. One lecture hour = 50 minute instructional period. One lab hour = .8 of one lecture hour equivalent. This is a semester, or term, measure.

FTES (Full Time Equivalent Student): This measure is used as the basis for computation of state support for California Community Colleges. For example, one student attending 15 hours a week for 35 weeks (one academic year) generates 1 FTES.

WSCH: Weekly Student Contact Hours. For a particular class, Weekly Contact Hours = number of class hours per week, and WSCH for the class = total number of weekly contact hours for all students in the class as of census date.

To compute the FTES generated by a 17.5 week semester class use the formula:

$$\text{FTES} = \text{WSCH} \times 17.5 / 525$$

For example, a class of 40 students meeting 3 hours per week generates 120 WSCH, and so

$$\text{FTES} = 120 \times 17.5 / 525 = 4.0$$

FTES/FTEF (Productivity): The ratio of full-time equivalent students to full-time equivalent instructors. This is a measure of class size and will differ across disciplines and types of classes. For lecture classes, Productivity = enrollment/2. For example, if there are 35 students in a lecture class, productivity = $35/2 = 17.5$.

Retention: The percent of students earning any grade but “W” in a course or series of courses. To compute retention for a class, take class completion with grade other than “W” and divide by enrollment at census. Grade other than W = A, B, C, D, F, I, Pass, No Pass, In Progress, Report Delayed, No Grade

Student Success: Course completion rate with a grade “C” or better.

The Comprehensive Instructional Program Review Report

1. College: Alameda

Discipline, Department or Program: Chemistry

Date: 10/22/2015

Members of the Comprehensive Instructional Program Review Team: Peter Olds, Eileen Clifford, Dorota Sawicka, Emily Eames, Char Perlas

Members of the Validation Team:

2. Narrative Description of the Discipline, Department or Program:

Please provide a mission statement or a brief general statement of the primary goals and objectives of the discipline, department or program. Include any unique characteristics, degrees and certificates the program or department currently offers, concerns or trends affecting the discipline, department or program, and a description of how the discipline, department or program aligns with the college mission statement.

COA chemistry offers general chemistry (Chem 1A/1B) for science majors, introductory general chemistry (Chem 30A/30B) for allied-health career track students and beginning chemistry (Chem 50) for underprepared students needing basic skills. COA chemistry is a small program with one full time and six part time instructors. One chemistry laboratory (with four chemical hoods) exists which can reasonably accommodate 25 students and is currently used for all chemistry courses offered at COA. The COA chemistry program had been neglected for many years prior to Fall 2005 resulting in a substandard classroom/laboratory environment, serious safety issues in the lab, and a tendency to attract unprepared students looking for an easy grade. Efforts to address such issues are ongoing, and while encountering “roadblocks”, are beginning to pay off. Demand for chemistry courses is high and growing.

3. Curriculum:

Please answer the following questions and/or insert your most recent curriculum review report (within the past 3 years) here.

Attach the Curriculum Review Report or Answer these Questions:

- Have all of your course outlines of record been updated or deactivated in the past three years? If not, list the courses that still need updating and specify when your department will update each one, within the next three years.

Yes, course outlines were just updated on 10/21/2015.

- What are the discipline, department or program of study plans for curriculum improvement (i.e., courses or programs to be developed, enhanced, or deactivated)?

The abandoned D-109 chemistry lab is being refurbished with new hoods, new laboratory furniture, and new plumbing to accommodate increasing enrollment in chemistry courses, especially Chem 1B. A part-time lab tech, who excelled in Chem 1A/1B, was just hired and is in training to competently prepare Chem 1B labs.

- Please list your degrees and/or certificates. Can any of these degrees and/or certificates be completed through Distance Education (50% or more of the course online)? Which degree or certificate?

At COA no degrees are offered in the sciences.

4. Assessment:

Please answer the following questions and attach the TaskStream “At a Glance” report for your discipline, department, or program for the past three years. Please review the “At a Glance” reports and answer the following questions.

Questions:

- How does your discipline, department or program ensure that students are aware of the learning outcomes of the courses and instructional programs in which they are enrolled? Where are your discipline, department or program course and program SLOs published? (For example: syllabi, catalog, department website, etc. If they are on a website, please include a live link to the page where they can be found)

Course expectations, including learning outcomes, are included in syllabi.

- Briefly describe at least three of the **most significant changes/improvements** your discipline, department or program made in the past three years as a response to course and program assessment results. Please state the course number or program name and assessment cycle (year) for each example and attach the data from the “Status Report” section of TaskStream for these findings.

Improvement 1. A late start Chem 50 Beginning Chemistry was implemented to accommodate underprepared Chem 1A students who are screened out of that course during the first two weeks. This is in response to the typically high attrition rate for Chem 1A due to lack of math skills and study habits for a significant percentage of students. Late start Chem 50 allows these students time to develop these basic skills while becoming familiar with chemistry.

Improvement 2. An excellent part-time instructor who was hired to teach Chem 1A has done an outstanding job of rewriting the Chem 1A lab manual and developing new Chem 1A labs.

Improvement 3. A high quality part-time lab tech, a student who excelled in the COA Chem 1A/1B series, was just hired to prepare Chem 1B labs. This hire was in response to nearly a decade of documented problems, including lack of inventory control, mis-bottled chemicals, unreliable solution concentrations and critical safety issues resulting from inappropriate storage of incompatible chemicals.

- Briefly describe three of the **most significant examples** of your discipline, department or program plans for course and /or program level improvement for the next three years as result of what you

learned during the assessment process. Please state the course number or program name and attach the data from the “Assessment Findings and Action Plan” section for each example.

Plan 1. Refurbish and bring up to satisfactory standards the abandoned D-109 main campus chemistry lab plus D-105 stockroom area. This includes reinstallation of hoods, laboratory furniture, and a complete plumbing upgrade. Similarly refurbish and bring up to satisfactory standards for demos the D-119 lecturn (gas and water) and D-119 chem demo prep area.

Plan 2. Integrate chemistry with a new earth sciences program that embraces chemistry of rocks and minerals.

Plan 3. Obtain an electron microscope with an EDS elemental analysis attachment for shared use between chemistry, physics, biology, and earth sciences. Hire a FT faculty member whose responsibilities include instruction on using and maintenance of this facility.

- Describe how assessment results for Distance Education courses and/or programs compare to the results for the corresponding face-to-face classes.

N/A. COA chemistry does not offer distance education courses.

- Describe assessment results for courses with multiple sections. Are there similar results in each section?

Eileen (need data)

- Describe your discipline, department or program participation in assessment of institutional level outcomes (ILOs).

Student Learning Outcomes are mapped to Institutional Learning Outcomes (ILOs). The ILOs are assessed through the identified SLO assessment.

- How are your course and/or program level outcomes aligned with the institutional level outcomes? Please describe and attach the “Goal Alignment Summary” from TaskStream.

Eileen (need data)

5. Instruction:

- Describe effective and innovative strategies used by faculty to involve students in the learning process. **The Sapling online learning platform and other such platforms have been widely adopted within the department. These platforms allow faculty to monitor student progress in real time.**
- How has new technology been used by the discipline, department or program to improve student learning? **Vernier computing/measuring devices have been successfully implemented in chemistry labs and demos.**

- How does the discipline, department, or program maintain the integrity and consistency of academic standards with all methods of delivery, including face to face, hybrid, and Distance Education courses?

N/A. COA Chemistry only offers face to face courses and labs.

- How do you ensure that Distance Education classes have the same level of rigor as the corresponding face-to-face classes?

COA Chemistry does not offer distance education classes.

- Briefly discuss the enrollment trends of your discipline, department or program. Include the following:
 - Overall enrollment trends in the past three years: **Upon adding sections, chemistry classes typically fill up, strongly suggesting enrollment capacity is facilities limited: Only one laboratory facility (with 25 student capacity) is available for teaching all COA chemistry labs.**

CAMPUS	Alam									
SUBJECT	CHEM									
CATALOG_NBR	(All)									
TIME_OF_DAY	(All)									
CENSUS_TOTAL	Term									
Course		2012 Summer	2012 Fall	2013 Spring	2013 Summer	2013 Fall	2014 Spring	2014 Summer	2014 Fall	2015 Spring
CHEM 1A - GENERAL CHEMISTRY		12	62	64	27	61	97	31	90	97
CHEM 1B - GENERAL CHEMISTRY			22	33		19	25		26	33
CHEM 30A - INTRO GENERAL CHEM			37	38		29	40		60	52
CHEM 30B - INTRO ORGAN/BIOCHEM			24			27			20	22
CHEM 50 - BEGINNING CHEMISTRY				34		56	24		21	22
Grand Total		12	145	169	27	192	186	31	217	226

- An explanation of student demand (or lack thereof) for specific courses. **First semester chemistry courses (Chem 1A and Chem 30A) are in high demand since these are prerequisite for subsequent courses (Chem 1B and Chem 30B) and various biology courses (including Bio 1A). Chem 50 is a late start foundational preparatory class to accommodate students who sign up but are underprepared for Chem 1A.**
- Productivity for the discipline, department, or program compared to the college productivity rate. **Chemistry productivity is consistently near the college productivity of 17.5.**

CAMPUS	Alamed									
SUBJECT	CHEM									
	Term									
		2012	2012	2013	2013	2013	2014	2014	2014	2015
		SUMMER	FALL	SPRING	SUMMER	FALL	SPRING	SUMMER	FALL	SPRING
Productivity		6.48	15.63	18.13	15.73	15.99	19.30	16.75	17.91	18.02

College productivity rate 17.5

- Salient factors, if known, affecting the enrollment and productivity trends you mention above. **Chemistry enrollment is limited by lack of adequate lab space** (see above).

- Are courses scheduled in a manner that meets student needs and demands? How do you know?

Apparently courses are scheduled satisfactorily since enrollments are consistently high.

- Recommendations and priorities.
 - 1) **Double existing laboratory space by refurbishing D-109/105 chemistry lab/stockroom areas to accommodate additional classes and especially Chem 1B. Stock D-119 demo prep room with supplies and replumb D-119 lecturn for chemistry demos.**
 - 2) **Renew part-time lab tech who is currently being trained to prepare Chem 1B labs and will be instrumental in helping set up the D-109/105 main campus chemistry area. Hire qualified FT lab tech.**
 - 3) **Provide funding for Chem 1B lab manual rewrite.**

6. Student Success and Student Equity:

- Describe course completion rates (*% of students that earned a grade "C" or better or "Credit"*) in the discipline, department, or program for the past three years. Please list each course separately. How do the discipline, department, or program course completion rates compare to the college course completion standard?

First semester chemistry courses Chem 1A and Chem 30A have success percentages in the 50% vicinity because underprepared students tend to sign up without realizing the work load and/or prerequisite math knowledge. Second semester courses Chem 1B and Chem 30B have higher success percentages, 65% to 80% because the smaller number of students who enter these courses have already passed the first semester prerequisite courses Chem 1A and Chem 30A. Summer Chem 1A students tend to be stronger than regular semester students because a significant number are from four year colleges completing science requirements at COA while at home over the summer. Four year college students tend to complete homework, study, etc. and know what it takes to get a good grade. Some students, already familiar with the material, take the six-week summer Chem 1A as an intense chemistry review.

CAMPUS	Alameda									
SUBJECT	CHEM									
CATALOG_NBR	(All)									
Success	Term									
Course		2012 Summer	2012 Fall	2013 Spring	2013 Summer	2013 Fall	2014 Spring	2014 Summer	2014 Fall	2015 Spring
CHEM 1A - GENERAL CHEMISTRY		72.73%	49.15%	43.55%	74.07%	40.00%	55.67%	83.33%	55.06%	46.39%
CHEM 1B - GENERAL CHEMISTRY		NA	54.55%	60.61%	NA	66.67%	44.00%	NA	38.46%	66.67%
CHEM 30A - INTRO GENERAL CHEM		NA	45.71%	48.65%	NA	65.52%	52.50%	NA	65.00%	51.92%
CHEM 30B - INTRO ORGAN/BIOCHEM		NA	83.33%	NA	NA	59.26%	NA	NA	65.00%	77.27%
CHEM 50 - BEGINNING CHEMISTRY		NA	NA	55.88%	NA	64.15%	75.00%	NA	61.90%	50.00%
Grand Total		72.73%	55.00%	50.60%	74.07%	56.15%	55.91%	83.33%	57.41%	53.98%

- Are there differences in the course completion rates when disaggregated by age, gender, ethnicity or special population (current or former foster youth, students with disabilities, low income students, Veterans)? If so, please describe. **Yes, in Chem 1A success percentages for hispanics, filipinos and blacks tend to be lower, about half (~30% success), of success percentages for whites and asians (~60% success). This may reflect national trends that programs like MESA are attempting to remedy. Chem 1B percentages are less meaningful due to statistics of small numbers: the number of hispanics, filipinos, and blacks enrolling in Chem 1B is small. No pattern is obvious (to me) in the age success data.**

CAMPUS	Alameda										
SUBJECT	CHEM										
CATALOG_NBR	(All)										
TERM	2015 Spring										
Success	Term										
Course		American Indian/Alaskan Native	Asian	Black/African American	Filipino	Hispanic	Other Non white	Pacific Islander	White Non Hispanic Multiple	Unknown/Non Responden	
CHEM 1A - GENERAL CHEMISTRY		NA	58.14%	27.27%	16.67%	30.77%	NA	NA	60.00%	33.33%	NA
CHEM 1B - GENERAL CHEMISTRY		NA	91.67%	0.00%	100.00%	100.00%	100.00%	NA	57.14%	40.00%	50.00%
CHEM 30A - INTRO GENERAL CHEM		0.00%	62.50%	25.00%	100.00%	42.86%	NA	0.00%	71.43%	50.00%	50.00%
CHEM 30B - INTRO ORGAN/BIOCHEM		100.00%	100.00%	100.00%	50.00%	NA	NA	NA	66.67%	50.00%	100.00%
CHEM 50 - BEGINNING CHEMISTRY		NA	66.67%	NA	NA	40.00%	NA	NA	42.86%	0.00%	NA
Grand Total		50.00%	67.06%	32.00%	46.15%	40.74%	100.00%	0.00%	59.52%	40.00%	60.00%

CAMPUS	Alameda		
SUBJECT	CHEM		
CATALOG_NBR	(All)		
TERM	2015 Spring		
Success		Term	
Course	Female	Male	Unknown
CHEM 1A - GENERAL CHEMISTRY	52.63%	41.38%	100.00%
CHEM 1B - GENERAL CHEMISTRY	70.00%	65.22%	NA
CHEM 30A - INTRO GENERAL CHEM	54.84%	47.62%	NA
CHEM 30B - INTRO ORGAN/BIOCHEM	88.89%	25.00%	NA
CHEM 50 - BEGINNING CHEMISTRY	50.00%	50.00%	NA
Grand Total	60.36%	47.37%	100.00%

CAMPUS	Alameda					
SUBJECT	CHEM					
CATALOG_NBR	(All)					
TERM	2015 Spring					
Success		Term				
Course	16-18	19-24	25-29	30-34	35-54	55-64
CHEM 1A - GENERAL CHEMISTRY	63.64%	37.70%	66.67%	57.14%	33.33%	NA
CHEM 1B - GENERAL CHEMISTRY	80.00%	65.00%	80.00%	50.00%	0.00%	NA
CHEM 30A - INTRO GENERAL CHEM	75.00%	39.39%	50.00%	75.00%	85.71%	NA
CHEM 30B - INTRO ORGAN/BIOCHEM	100.00%	72.73%	66.67%	100.00%	100.00%	NA
CHEM 50 - BEGINNING CHEMISTRY	0.00%	38.46%	60.00%	100.00%	100.00%	100.00%
Grand Total	68.18%	44.93%	65.71%	66.67%	73.33%	100.00%

ETC.

Discussion: COA can better serve its diverse population of students by 1) provide tutoring services early in the semester; 2) provide competently prepared laboratory experiments for which reagents are reliably labelled and concentrations are accurately known; 3) Provide adequate, comfortable, and safe environments for learning by doubling the laboratory space (D-109/105 main campus upgrade) and fixing chronic classroom issues (main campus D-119 lecture hall has broken seats and is much too warm for comfort even on cold days). Fixing the basics will likely improve success percentages across all categories. Students are not well served by substandard facilities, substandard laboratory staff support and lack of available tutoring for the first half of each semester.

- Describe course completion rates in the department **for Distance Education** courses (100% online) for the past three years. Please list each course separately. How do the department's Distance Education course completion rates compare to the college course completion standard?

COA Chemistry does not offer distance education courses.

- Are there differences in the course completion rates when disaggregated by age, gender, ethnicity or special population (current or former foster youth, students with disabilities, low income students, Veterans)? If so, please describe.

COA Chemistry does not offer distance education courses.

College course completion standard _____

Please insert the data chart here or complete the section below.

Department/discipline Distance Education (100% online) course completion rates:

Course 1. _____
 (course name and number) rate _____

Course 2. . _____
 (course name and number) rate _____

Course 3. . _____
 (course name and number) rate _____

ETC.

Discussion:

- Describe course completion rates in the department **for Hybrid** courses for the past three years. Please list each course separately. How do the department's Hybrid course completion rates compare to the college course completion standard?

COA Chemistry does not offer hybrid courses.

- Are there differences in the course completion rates when disaggregated by age, gender, ethnicity or special population (current or former foster youth, students with disabilities, low income students, Veterans)? If so, please describe.

COA Chemistry does not offer hybrid courses.

College course completion standard _____

Please insert the data chart here or complete the section below.

Department/discipline Hybrid course completion rates: **N/A.**

Course 1. _____
(course name and number) rate _____

Course 2. . _____
(course name and number) rate _____

ETC.

Discussion: **N/A.**

- Are there differences in course completion rates between face to face and Distance Education/hybrid courses? If so, how does the discipline, department or program deal with this situation? How do you assess the overall effectiveness of Distance Education/hybrid course?

N/A

- Describe the discipline, department, or program retention rates (After the first census, the percent of students earning any grade but a “W” in a course or series of courses). for the past three years. How does the discipline, department, or program retention rate compare to the college retention standard?

N/A

- Are there differences in the retention completion rates when disaggregated by age, gender, ethnicity or special population (current or former foster youth, students with disabilities, low income students, Veterans)? If so, please describe.

N/A

College retention standard _____

Discipline, department, or program retention rates

Year 1. _____

Year 2. . _____

Year 3. . _____

Discussion: **N/A.**

- Which has the discipline, department, or program done to improve course completion and retention rates? What is planned for the next three years? **N/A**
 - Which has the discipline, department, or program done to improve the number of degrees and certificates awarded? Include the number of degrees and certificates awarded by year, for the past three years. What is planned for the next three years? **N/A**
-

7. Human, Technological, and Physical Resources (including equipment and facilities):

- Describe your current level of staff, including full-time and part-time faculty, classified staff, and other categories of employment.

Full-time faculty headcount 1

Part-time faculty headcount 6

Total FTEF faculty for the discipline, department, or program _____

Full-time/part-time faculty ratio 1/6

Classified staff headcount 2

- Describe your current utilization of facilities and equipment.

COA Chemistry is the only Peralta chemistry program operating with a single laboratory that can safely accommodate 25 students during a lab session. All eight chemistry lab sections are taught in this limited lab space.

- What are your key staffing needs for the next three years? Why? Please provide evidence to support your request such as assessment data, student success data, enrollment data, and/or other factors.

Hire two FT chemistry faculty to teach high demand courses and achieve a more reasonable FT/PT ratio than 1/6. Hire a qualified FT laboratory technician who has the ability to: 1) accurately make up solutions, 2) safely handle and store hazardous materials, 3) maintain equipment, and 4) maintain an accurate inventory of supplies, chemicals, and equipment.

- What are your key technological needs for the next three years? Why? Please provide evidence to support your request such as assessment data, student success data, enrollment data, and/or other factors.

Maintain and/or upgrade computers and smart classrooms used for chemistry courses at 860 Atlantic and in the main campus D-building.

- What are your key facilities needs for the next three years? Why? Please provide evidence to support your request such as assessment data, student success data, enrollment data, and/or other factors.

Refurbish and replumb D-109/105 chemistry lab/stockroom areas to accommodate additional classes and especially Chem 1B. Stock D-119 demo prep room with supplies and replumb D-119 lecturn for chemistry demos.

- Please complete the Comprehensive Instructional Program Review Prioritized Resource Requests Template included in Appendix A.
-

8. Community, Institutional, and Professional Engagement and Partnerships:

- Discuss how faculty and staff have engaged in institutional efforts such as committees, presentations, and departmental activities. Please list the committees that full-time faculty participate in.

The full time chemistry faculty member is physical sciences co-chair and served on the FT Geography hiring committee.

- Discuss how faculty and staff have engaged in community activities, partnerships and/or collaborations.

The single full time faculty member is collaborating with scientists at various academic institutions regarding his research in geochemistry/geophysics. The Div. 1 dean was instrumental in getting a MESA program started in the COA science annex. She also successfully acquired funding to implement the first year of a three year Mathematica license at COA.

- Discuss how adjunct faculty members are included in departmental training, discussions, and decision-making.

Update of course outlines was a communal effort by four chemistry faculty members. Chem 1A lab manual was rewritten by an adjunct faculty member. Another adjunct faculty member serves as SLO facilitator at COA.

9. Professional Development:

- Please describe the professional development needs of your discipline or department. Include specifics such as training in the use of classroom technology, use of online resources, instructional methods, cultural sensitivity, faculty mentoring, etc.

New chemistry instructors are mentored and assisted by veteran instructors. Course materials and laboratory information are made available online for reuse by new instructors.

- How do you train new instructors in the use of Distance Education platforms? Is this sufficient?

N/A

10. **Disciple, Department or Program Goals and Activities:**

- Briefly describe and discuss the discipline, department or program goals and activities for the next three years, including the rationale for setting these goals. NOTE: Progress in attaining these goals will be assessed in subsequent years through annual program updates (APUs).
- Then fill out the goal setting template included in Appendix B. which aligns your discipline, department or program goals to the college mission statement and goals and the PCCD strategic goals and institutional objectives.
- **Goal 1. Curriculum:**

Activities and Rationale: **The existing COA chemistry curriculum works well for prepared students. In addition to Chem 50, a division wide remedial course in study habits for the sciences might have an impact on success rates for populations and ethnic groups that are underrepresented in the sciences.**

- **Goal 2. Assessment:**

Activities and Rationale: **Continue implementing the ACS standardized exams to measure COA chemistry students' progress against national outcomes.**

- **Goal 3. Instruction:**

Activities and Rationale: **Hire two FT chemistry faculty to teach the high demand courses.**

- **Goal 4. Student Success and Student Equity:**

Activities and Rationale: **Work with MESA program. Ensure that tutoring is available from the beginning of the semester.**

- **Goal 5. Professional Development, Community, Institutional and Professional Engagement and Partnerships:**

Activities and Rationale: **Encourage independent research by chemistry faculty especially when COA students can participate. Encourage collaboration with industry and outside academic institutions. Hire PT instructors who have interesting chemistry related jobs in industry. COA chemistry is currently doing all of the above.**

- Please complete the Comprehensive Instructional Program Review Integrated Goal Setting Template included in Appendix B.

Appendices

Appendix A

Comprehensive Instructional Program Review Prioritized Resource Requests Summary for Additional (New) Resources

College: Alameda

Discipline, Department or Program: Chemistry

Contact Person: Peter Olds

Date: 10-29-2015

Resource Category	Description	Priority Ranking (1 – 5, etc.)	Estimated Cost	Justification (page # in the program review)
Human Resources: Faculty	Need two more FT chemistry faculty, one of which will be in charge of scanning electron microscope maintenance and training (see below).	1	\$250 k/yr	16, 18
Human Resources: Classified	Need qualified FT lab tech (who has completed Chem 1A/B) in addition to the existing qualified PT lab tech. Need the PT lab tech contract to be extended indefinitely.	1	\$80 k/yr	13
Human Resources: Student Workers	Need student TAs, tutors and lab assistants. Need instructional assistants.	1	\$30 k/yr	
Technology	Computer upgrades and software licenses including Mathematica and Matlab.	1	\$10 k/yr	17
Equipment	Spectrometers, balances, oven, constant temperature baths, Vernier computing devices for refurbished D-109 chem lab. Electron Microscope with EDS attachment to share with Physics, Geology and Biology.	1	\$350 k	9, 10, 11, 13, 16
Supplies	Chemicals and supplies to stock D-109/105 chem area and D-119 demo prep area.	1	\$15 k/yr	9, 10, 11, 13, 16
Facilities	Renovate and refurbish D-109/105 main campus chemistry lab including installation of three hoods, re-	1	\$500 k	9, 10, 11, 13, 16

	plumbing of water and gas, and new student lab bench furniture. Chemical stockroom/prep area similarly needs refurbishing including lab bench furniture, a hood, and plumbing.			
Professional Development	Funding for field trips and conferences.			
Other (specify)	Funding to rewrite Chem 1B lab manual. Science Direct subscription to access scientific literature (through UCB or Stanford)	2	5 k	11

Appendix B

PCCD Program Review Alignment of Goals Template

College: Alameda

Discipline, Department or Program: Chemistry

Contact Person: Peter Olds

Date: 10-29-2015

Discipline, Department or Program Goal	College Goal	PCCD Goal and Institutional Objective
1. Refurbish and bring up to satisfactory standards the abandoned D-109 main campus chemistry lab plus D-105 stockroom area. This includes reinstallation of hoods, laboratory furniture, and a complete plumbing upgrade. Similarly refurbish and bring up to satisfactory chemistry demo standards the D-119 lecturn (gas and water) and D-119 chem demo prep area.	Overcome substandard science facilities in order to achieve academic excellence.	Academic excellence and distinction.

2. Integrate chemistry with a new earth sciences program that embraces chemistry of rocks and minerals.	Distinction in a field not well covered at the other Peralta Colleges. Give students on-campus research opportunities and lab safety experience.	Academic excellence and distinction.
3. Obtain an electron microscope with an EDS elemental analysis attachment for shared use between chemistry, physics, biology, and earth sciences. Hire a FT faculty member (see 6) whose responsibilities include instruction on using and maintenance of this facility.	Distinction in a field not well covered at the other Peralta Colleges. Train students in a high demand technological skill while they gain research and lab safety experience.	Academic excellence and distinction.
4. Offer Science Transfer Degrees in chemistry, geology, physics, and biology.	Begin to prioritize the sciences at COA.	Academic excellence and distinction.
5. Hire a qualified FT lab tech (who has completed Chem 1A/B) in addition to the extending the contract for the existing qualified PT lab tech.	Begin to prioritize the sciences at COA.	Academic excellence and distinction.
6. Hire two FT chemistry faculty.	Begin to prioritize the sciences at COA.	Academic excellence and distinction.
7. Acquire perpetual licenses for Mathematica and MatLab for student and faculty use.	Begin to prioritize the sciences at COA.	Academic excellence and distinction.
8. Provide tutoring in the sciences and math (MESA?) starting the first week of each semester.	Begin to prioritize the sciences at COA.	Academic excellence and distinction.

Appendix C

Program Review Validation Form and Signature Page

College: Alameda

Discipline, Department or Program: Chemistry

Part I. Overall Assessment of the Program Review Report

Review Criteria	Comments: Explanation if the box is not checked
<p><input type="checkbox"/></p> <p>1. The narrative information is complete and all elements of the program review are addressed.</p> <p><input type="checkbox"/></p> <p>2. The analysis of data is thorough.</p> <p><input type="checkbox"/></p> <p>3. Conclusions and recommendations are well-substantiated and relate to the analysis of the data.</p> <p><input type="checkbox"/></p> <p>4. Discipline, department or program planning goals are articulated in the report. The goals address noted areas of concern.</p> <p><input type="checkbox"/></p> <p>5. The resource requests are connected to the discipline, department or program planning goals and are aligned to the college goals.</p>	

Part II. Choose one of the Ratings Below and Follow the Instructions.

Rating	Instructions
<input type="checkbox"/> 1. Accepted.	1. Complete the signatures below and submit to the Vice President of Instruction.
<input type="checkbox"/> 2. Conditionally Accepted.	2. Provide commentary that indicates areas in the report that require improvement and return the report to the discipline, department or program chair with a timeline for resubmission to the validation chair.
<input type="checkbox"/> 3. Not Accepted.	3. Provide commentary that indicates areas in the report that require improvement and return the report to the discipline, department or program chair with instructions to revise. Notify the Dean and Vice President of Instruction of the non-accepted status.

Part III. Signatures

Validation Team Chair

_____ Signature _____ Date _____

Discipline, Department or Program Chair

_____ Signature _____ Date _____

Received by Vice President of Instruction

_____ Signature _____ Date _____

