

Q21. Welcome to COA's new, online portal for completing your **Annual Program Update (APU)**. Your work will be saved at the end of each section. If you partially complete a section, *that* section's responses will not be saved. Prior sections will be saved, should you need to stop and leave the portal for a period of time and then come back to it. If you have any questions about the portal during the process, please email Interim Dean Karen Engel at [kengel@peralta.edu](mailto:kengel@peralta.edu) or call or text her cell phone at (510) 381-5292. For questions about your program or the process, please contact your instructional dean or service area or administrative unit vice president. Thank you!

Q1. Please select the discipline, department or program:

Q102. Please select the Program Type:

- Instructional
- Student Services
- Administrative Services

Q2. Please provide the name of the person(s) completing this Program Review:

Peter Olds

Q103. The mission of College of Alameda is to serve the educational needs of its diverse community by providing comprehensive and flexible programs and resources that empower students to achieve their goals.

Q3. Please provide the mission statement for your program:

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 but have historically been hindered by the high administrator turnover rate, union protection of chronically unqualified staff, and an unacceptably low FT/PT ratio. Demand for chemistry courses is high since these are prerequisite for almost any career in the sciences or in the health care industry.

Q104. Please specify the **date** of your program's last Comprehensive Program Review (month and year):

Oct. 22, 2015

Q105. Cut and paste the program goals and administrative unit outcomes (AUOs) from your program's most recent Program Review or AUO documents into the left-hand column. Then complete the remaining columns of the table below. Program Review Archives, PCCD and COA Strategic Goals can be found on [your program's APU home](#) page.

		Progress on goal or AUO attainment (specify: the date completed, revised, or ongoing)	Explanation or Comments (describe any revisions or impediments)
	<a href="#">PCCD goal</a> advanced upon completion (#)	<a href="#">COA goal</a> advanced upon completion (#)	

## Assessment

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. 9-26-2017 Chem 50 was discontinued and changed to late start Chem 30A (for which the covered material is about the same).

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. 9-26-2017 This instructor left for a full time job. Another instructor is doing an excellent job rewriting the Chem 30A lab manual.

Improvement 3. A high quality part-time lab tech, a student who excelled in the COA Chem 1A/1B series, was hired in 2016 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. 9-26-2017 This competent PT lab tech left for a high quality university with essentially a full scholarship. So we are stuck with the original problem and the need for perpetual training of new inexperienced PT lab techs to set up Chem 1B. (Another student was just hired and now being trained.)

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## Curriculum (if applicable)

9-26-2017 Chem 50 was discontinued and another lecture plus lab section of Chem 30A added in its place.

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## Instruction (if applicable)

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.

The FT/PT ratio is currently 1/6 (one 9-9-26-2017 FT and 6 PT faculty members). This presents a burden on the single FT faculty member who is charged with continually hiring and evaluating new PT faculty members.

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## Student Services and Student Equity

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.

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## Professional Development, Institutional and Professional Engagement, and Partnerships

A Stanford professor has agreed to be co-PI and/or collaborate on a COA undergraduate research grant involving geochemistry and geophysics.

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## Other Program Improvement Objectives or AU Outcomes

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. 9-26-2017 four hoods and bench faucets have been reinstalled. Another hood is needed for the Chem/Demo prep area in addition to shelving and lab bench re-installation. Dry chemical storage area also needs shelving replacement.

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.

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## Other Program Improvement Objectives or AU Outcomes

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the most recent year and/or the years since your last comprehensive program review.

Q107. Using the [Enrollment Data Dashboard](#), review any changes in the student demographics of your students. Particularly consider changing number (or percentage) of student by age, gender, ethnicity, and special populations (foster youth, veterans, low income, students with disabilities). Comment on any changes.

An immediately visible discrepancy in the data is that the "Overall Enrollment over Time" totals don't agree with the "Enrollment by Course" totals. For example for Spring 2017 the former gives 109 while the latter gives 195. Chem 1A/1B alone shows an enrollment of 116 in Spring 2017.

Q108. Using the [Enrollment Data Dashboard](#), review and comment about any changes in enrollment by course.

Success rate for Chem 1A was 60% during Spring 2017 and has roughly fluctuated around 60% for the past seven years. District-wide Chem 1A success rates have been reported to be about 50%. Chem 1B success rate fluctuation may reflect ongoing prep/instruction issues with Chem 1B lab. The FT lab tech is incapable of prepping Chem 1B labs forcing us to repeatedly hire and train of students as part-time lab techs to carry out Chem 1B lab prep. Also, the high turnover rate for part time instructors adversely impacts the continuity of Chem 1B instruction, particularly the lab.

Q109. Using the [Productivity Data Dashboard](#), review and comment on any changes in the productivity of your program and courses.

Chemistry productivity typically is in the 16 to 18 range, well above overall COA productivity. Drops occurred in Spring 2016 and Spring 2017 when chemistry productivity was near 14, close to overall productivity for the college.

Q110. For Student Services units, consider and comment on any changes in the number of student contacts and the success rates of the students served.

Q111. Using the [Course Completion](#) and [Retention Data Dashboards](#), review and comment on any changes in the completion and retention rates of your program's courses.

Course completion and retention data appear nearly identical.

Q112. Using the [Course Completion](#) and [Retention Data Dashboards](#), review and comment on any changes in the completion and retention rates of your program's **Distance Education or Hybrid** classes versus **face-to-face** (or lecture) classes. Use the DE filter. Set it to "NULL" to review only face-to-face classes.

In chemistry success rates and retention rates are nearly identical, fluctuating around 60%. Chem 30B has a somewhat higher success rate, fluctuating around 70%.

Q113. Review and reflect on other program specific data or unplanned events that reflect significant changes in the program.

The critical unresolved issue in chemistry revolves around substandard laboratory facilities and unqualified staff "in charge" of these facilities. By law chemistry laboratories are required to have:

- 1) A current and maintained chemical hygiene program.
- 2) A current and maintained inventory system (accessible to faculty).
- 3) A safety officer to enforce and maintain the above.

COA is out of compliance in each case.

Q114. Using the [Equity Data Dashboards](#), please review the student success data for your program and comment upon it. Do performance gaps exist in the student success or achievement rates for disproportionately impacted students, including African-American, Hispanic/Latino, Filipinos/Pacific Islanders, foster youth, veterans, students with disabilities or other groups not listed here?

- Yes  
 No

Q115. If differences exist, please detail the differences and describe the activities your program is making to address the differences. How will your program evaluate the effectiveness of these activities?

Performance gaps observed nation-wide are observed here, with the caveat that in chemistry the "white" equity index seems to be decreasing while the "african-american" and "latino" equity indices seem to be increasing with time. A more instructive index might be a comparison of COA students who have gone to high school outside of and inside of the U.S. Anecdotal evidence may exist to show that students graduating from American high schools are at a disadvantage compared to students graduating from foreign high schools.

In any case, chemistry addresses the apparent inequity in readiness by:

- 1) Offering high school level chemistry classes like Chem 30A and Chem 50.
- 2) Carrying out vigorous math pre-requisite screening during early weeks of class to place under-prepared Chem 1A enrolled students in such classes.

Q116. What curricular, pedagogical or other changes has your department made since the most recent program review?

Q117. Were these changes based on assessment of student learning outcomes at the course or program level?

- Yes  
 No

Q118. Please identify the assessment used.

Q119. Please describe the basis for the change if assessment was not used (choose all that apply).

Title 5 requirements

Certification requirements

Other

Q120. Attach a summary depicting the program's progress on assessment of course and program level outcomes (SLOs and PLOs).

[CHEM 2015\\_16.pdf](#)

169.4KB

application/pdf

Q121. Please evaluate your program's progress on assessment. What are the plans for further assessments in the upcoming academic year? Please include a timeline and/or assessment plan for the future.

The Chemistry department evaluates every course once yearly for all the SLO's. Going forward, we will be evaluating the SLO's for the fall semester of 2017, with spring data collection available if needed.

Q124. What does your program do to ensure that meaningful dialogue takes place in both shaping and assessing course and program level outcomes? Where can one find the evidence of the dialogue?

The department discusses student performance and ways to improve it on many occasions. Instructors of different sections with emails or casual conversations, and the entire department on professional day meetings for the department and in the college wide Chemistry meetings for all the Peralta colleges. The past methods for evaluating SLO's for each course are made available to instructors, who may also choose their own methodology. Discussion with the Chemistry chair and other instructors is common.

Q123. Describe your plans for improvement projects based upon the assessment results.

Q125. Attach evidence of these assessment results (the assessment report from [Taskstream](#), departmental meeting notes, or the assessment spreadsheet showing these results).

[SLO evaluation.docx](#)

11.2KB

application/vnd.openxmlformats-officedocument.wordprocessingml.document

Q126. Is your program one of the below?

CTE program

- Counseling Department
- Library Services
- Student Services or Administrative Unit
- None of the Above

**Q128. For CTE Programs:** Please describe any recommendations resulting from advisory committee meetings that have occurred since your last program review.

*The question answer displayed to the respondent*

**Q129.** Is your CTE program working with a Deputy Sector Navigator?

*The question answer displayed to the respondent*

**Q130.** Briefly describe your CTE programs' work with the Deputy Sector Navigator?

*The question answer displayed to the respondent*

**Q131.** Is your CTE program currently participating in any grants? Please discuss your progress in meeting the stated goals in the grant(s).

*The question answer displayed to the respondent*

**Q132. For Counseling:** What has the counseling department done to improve course completion and retention rates? What is planned for the future?

*The question answer displayed to the respondent*

**Q134.** What is the counseling department planning to do to improve course completion and retention rates in the future?

*The question answer displayed to the respondent*

**Q133.** What has the counseling department done to improve SSSP counseling services? Please discuss your progress in improving SSSP counseling services.

*The question answer displayed to the respondent*

**Q135. For Library Services:** Please describe any changes in the library services, collections or instructional programs since the last program review or annual program update.

*The question answer displayed to the respondent*

**Q136.** Please fill in the information below re Library Services:

*The question answer displayed to the respondent*

**Q137. For Student Services or Administrative Units:** Briefly describe the results of any student satisfaction surveys or college surveys that included evaluation and/or input about the effectiveness of the services provided by your unit.

*The question answer displayed to the respondent*

**Q138.** How has this information informed unit planning and goal setting?

*The question answer displayed to the respondent*

**Q139.** Briefly describe any changes that have impacted the work of your unit.







Request 2:

Other:

Q144. Congratulations. You have completed your Annual Program Update for 2017-18. If you have completed each question in each section, you may close this tab. Your answers will be saved and submitted. Thank you!

### Location Data

Location: [\(37.773498535156, -122.27880096436\)](#)











Source: GeoIP Estimation



## At-a-Glance - Status Report

### COURSE ASSESSMENT

Legend:  In Progress (Not Shared)  Shared (Not Reviewed)  Reviewed











Organizational Area	2015-2016 Assessment Cycle			
	Assessment Plan	Assessment Findings	Course Revision Plan	Status Report
<b>College of Alameda AMS</b>				
<b>Full Course Listing</b>				
<b>CHEM 1A General Chemistry</b>			No Access	No Access
<b>CHEM 1B General Chemistry</b>			No Access	No Access
<b>CHEM 30A Introduction to Organic Chemistry</b>			No Access	No Access
<b>CHEM 30B Introduction to Organic and Biochemistry</b>			No Access	No Access
<b>CHEM 50</b>			No Access	No Access

<b>SUMMARY:</b>	0 In Progress 5 Shared 0 Reviewed <b>5 Total</b>	0 In Progress 5 Shared 0 Reviewed <b>5 Total</b>	0 In Progress 0 Shared 0 Reviewed <b>0 Total</b>	0 In Progress 0 Shared 0 Reviewed <b>0 Total</b>
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<b>CHEM 30B Introduction to Organic and Biochemistry</b>			No Access	No Access
<b>CHEM 50</b>			No Access	No Access

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SLO's are evaluated for Chemistry courses once yearly (all SLO's, all courses) for the years 2014-15, 2015-16, and will be evaluated for 2016-17 as well. This is done preferentially in the fall semester, leaving spring semester as a backup evaluation as needed. Where possible, duplicate course sections are included.

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