

**I. Program Description**

A. What is the primary mission of your program (check all that apply):

- |                                     |                  |                          |                                     |
|-------------------------------------|------------------|--------------------------|-------------------------------------|
| <input type="checkbox"/>            | Basic Skills     | <input type="checkbox"/> | Cultural and Personal Enrichment    |
| <input checked="" type="checkbox"/> | Transfer         | <input type="checkbox"/> | Academic Support/Learning Resources |
| <input checked="" type="checkbox"/> | Career/Technical |                          |                                     |

B. Program Description

If applicable, note the number of certificates and degrees that have been awarded in the previous academic year.

<http://www.research.fhda.edu/factbook/deanzadegrees/dadivisions.htm>

CTE programs refer CTE Program Review Addenda reports

[www.deanza.edu/gov/IPBT/resources.html](http://www.deanza.edu/gov/IPBT/resources.html)

- 1
- |                          |   |
|--------------------------|---|
| <input type="checkbox"/> | # of Certificates of Achievement          |
| <input type="checkbox"/> | # of Certificates of Achievement-Advanced |
| <input type="checkbox"/> | # of AA, AS Degrees                       |

2 If the program serves staff or students in a capacity *other than traditional instruction*, e.g. tutorial support, please answer the following two questions. Otherwise, skip to section **II** below:

a. How many people are served?

- |                          |               |                          |            |
|--------------------------|---------------|--------------------------|------------|
| <input type="checkbox"/> | # of Students | <input type="checkbox"/> | # of Staff |
| <input type="checkbox"/> | # of Faculty  |                          |            |

b. Number of employees associated with the program?

- |                          |               |                          |                        |
|--------------------------|---------------|--------------------------|------------------------|
| <input type="checkbox"/> | # of Students | <input type="checkbox"/> | # of Faculty           |
| <input type="checkbox"/> | # of Staff    | <input type="checkbox"/> | # of Part-Time Faculty |

**II. Methods of Evaluation and Assessment**

A. Attach the "Program Review Data Sheet". Briefly, address student success data relative to your program by answering the items listed below (refer to the link):

[http://research.fhda.edu/programreview/DAProgramReview/DeAnza\\_PR\\_Div\\_pdf/DeAnzaProgramReviewDiv.htm](http://research.fhda.edu/programreview/DAProgramReview/DeAnza_PR_Div_pdf/DeAnzaProgramReviewDiv.htm)

- 1 Growth or decline in underrepresented populations (Latina/o, African Ancestry, Pacific Islander, Filipino)

Explanation:	As is illustrated in the Program Review Data sheet, the percentage of successful students in the targeted groups during the last three academic years has been relatively stable. During our previous program review, we had proposed three activities towards increasing the enrollment as well as the success of the students in the targeted groups: 1) a tutoring program; 2) formation of a Chemistry club; and 3) outreach activities. While we have taken some initiatives to recruit tutors and provide recommendations to the tutorial center for group tutoring as well as individual tutoring, the other initiatives have not been followed through. During the last two years, and especially more recently, our department has been faced with several challenges that have required the attention of all the faculty members, hence diverting our attention from the proposed activities. Some of these new challenges include: 1) increased frequency of routine laboratory safety inspections coupled with an intensive review of departmental safety and hazardous waste practices 2) impact on our laboratory programs due to wear and tear of laboratory instruments due to lack of service contracts 3) impact on lab curriculum due to our inability so far to comply with new regulations from the Drug Enforcement Agency in order to be able to purchase routine laboratory chemicals. We propose that once these immediate challenges concerning the safety and successful functioning of our laboratories have been addressed, we will return to our goals and commitments to enhance the success of targeted groups with renewed vigor.
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- 2 Trends related to closing the student equity gap relative to college's stated goals: (refer to <http://www.deanza.edu/president/EducationalMasterPlan2010-2015Final.pdf>, p16)

Explanation:	See IIA3.
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- 3 What progress or achievement has the program made relative to the plans stated in the 2008 Comprehensive Program Review, Section III.B, towards decreasing the student equity gap? See:  
[http://www.deanza.edu/gov/IPBT/program\\_review\\_files.html](http://www.deanza.edu/gov/IPBT/program_review_files.html), "Program Review Reports, 2009"

Explanation:	There are three areas we identified as a means for attempting to close the equity gap: 1) encouraging our students to become active in our tutoring programs; 2) assist in the creation of a chemistry club; and 3) reach out to area high schools. Faculty have informally attempted to encourage students to obtain tutoring and some have reached out into area high schools to increase awareness of our programs. We have not, however, formalized any process for all three endeavors nor made a concerted departmental effort in pursuing these goals because of the reasons described in IA1 and IC.
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- 4 Overall enrollment growth or decline of all student populations

Explanation:	See IIC.
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- B. Did your program implement any curriculum, program reorganization, etc. changes as a response to changes in College/District policy, state laws, division/department/program level requirements or external agencies regulations? How did the change(s) affect your program?

Change:	While no major curricular changes were made, an important addition was incorporated to all course outlines. All of the chemistry department courses now have clearly defined Student Learning Outcomes. Additionally, a detailed assessment plan was devised for measuring student learning. The first assessment cycle for some courses have been completed, while others are in progress. Minor changes have also been implemented to chemical storage in response to routine safety inspections by outside agencies.
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**Explanation:** Since most of our courses are already seamlessly articulated to four-year institutions, no major curricular changes were needed. The department updated course outlines in compliance with the 5-year curriculum review cycle. The SLOAC which was in the planning phase during the last program review cycle is now well into the implementation phase. Additionally, the department also altered some of the methods for chemical storage based on the results of a safety inspection. This was also a minor adjustment since only a change in the type of carboy used to store large chemical quantities was needed. The new carboys, however, did place an additional strain on the already meager department budget.

- C. Based on the 2008-09 Comprehensive Program Review, Section I.C., "Main Areas of Improvement", briefly address your program's progress in moving towards assessment or planning or current implementation of effective solutions.

See: [http://www.deanza.edu/gov/IPBT/program\\_review\\_files.html](http://www.deanza.edu/gov/IPBT/program_review_files.html), "Program Review Reports, 2009"

**Explanation:** Our department has made excellent progress in its goals of assessing student outcomes and a somewhat more modest progress in meeting student demands. The assessment of student outcomes is discussed in section III of this document. In this section we will present our issues pertaining to meeting student demand. Data obtained from Spring 2009 indicated that there were 300 students on the waitlist for all the chemistry classes combined. In response to this our department increased the total sections offered by 14% for the academic year 2009-10 in comparison to 2007-08. As a result we were able to increase our enrollment by 119 students during that same period. Continuing the same trend, we have added two sections to our offerings in 2010-11 as well. Despite these increased course offerings, all of our classes continue to have a full waitlist thereby demonstrating a sustained demand for all our classes. Any further increases in class offerings to meet this demand would however be unsustainable due to the following reasons: (Note: All of the classes offered by chemistry have a laboratory component) 1) The American Chemical Society (ACS) Guideline for Two-Year College chemistry programs states that the number of students per lab section should be limited to 25 students for General Chemistry and 20 students for organic chemistry. However, in our program we have exceeded this limit and enroll 28 students per lab section in General Chemistry and 26 students per lab section in Organic Chemistry. 2) The ACS guideline states that to maintain the quality of the program and safety in the laboratory the number of credit hours taught by full-time faculty should exceed 75%. During the 2009-10 academic year our total FTEF was 12.01 and our percent full-time FTEF was 50%. The percent full-time FTEF has diminished even further for the 2010-11. 3) The third and perhaps most important guideline from ACS states that each chemistry department should operate with one full-time laboratory technician for every four full-time equivalent faculty. We have one full-time laboratory technician for the 12.01 FTEF. The three major discrepancies we have highlighted here have placed an undue burden on departmental resources. The additional laboratory sections and larger than standard class sizes have placed an increasing amount of strain on the faculty and staff and potentially compromises the safety of students in the laboratory. As a result we emphasize that any further increases in course offerings that is not balanced with additional full-time laboratory support would be counter-productive and unsustainable.

- D. Career Technical Education (CTE) programs, provide regional, state, and labor market data, employment statistics; please see "CTE Program Review Addenda" at:

[www.deanza.edu/gov/IPBT/resources.html](http://www.deanza.edu/gov/IPBT/resources.html)

Identify any significant trends that may affect your program relative to:

- 1 Curriculum content,
- 2 Future plans for your program e.g. enrollment management plans.

No significant change

**Impact:**

Explanation:

- E. *Career Technical Education* (CTE), provide recommendations from this year's Advisory Board (or other groups outside of your program, etc.). Briefly, address any significant recommendations from the group. Describe your program's progress in moving towards assessment or planning or current implementation of effective solutions.

 No significant change

Impact:

Explanation:

### III Select IIIA or IIIB below:

Note instructions and materials for this section can be found at: [https:// www.deanza.edu/slo](https://www.deanza.edu/slo)

- A. For programs whose primarily align to the Institutional Core Competencies, ICCs: attach the 2010-11 "Mapping Program Level Outcomes to Institutional Core Competencies" sheet(s) and "Program Level Outcomes Assessment Plan" sheet(s)

- 1 Describe the processes by which your program members have or will assess program level outcomes: (check those that apply)

 course-embedded
  surveys

Other, describe here:

- 2 Review the ECMS-SLO Summary Report or SSLO Summary Report (*Division Deans shall be sent that report*). What percentage of courses that should undergo a SLOAC process are:

 NA
  30% complete
  40% in progress
  30% scheduled to be assessed

- 3 Below, briefly describe the level of engagement by your program staff and faculty with the outcomes assessment process (SLOAC, SSLOAC) since last year?

Currently, the chemistry department offers ten unique classes. Student Learning Outcomes for all ten courses were written at the end of the 2008-09 academic year. During the 2009-10 academic year, the learning outcomes for 30% of the classes were completely assessed. The results from the assessment, as well as the departmental reflections on the assessment data, have been recorded in the ECMS system. Currently, the department is gathering the assessment data from 40% of the remaining classes. The results from the assessments are already available and have been posted in the ECMS system. The department is currently discussing the data from the assessments that have been completed. Reflection statements from the assessment data will be published in the ECMS system by the end of the spring quarter of this academic year. Individual faculty members have been responsible for assessing the outcomes and gathering the results from the assessment. All the full-time faculty (six in number) and the single staff person (stock-room manager/laboratory technician) are engaged in the discussions related to the assessment data. In summary, at the beginning of this academic year, we had completed the assessment of learning outcomes for 30% of our courses. At the end of this academic year, we anticipate that we will have completed the assessment of learning outcomes for 70% of our courses. We are committed to completing the assessment of 100% of our courses by the end of Fall 2011. With regards to Program Level Outcomes, our department has drafted outcome statements for the program at the beginning of the current academic year. A commitment to assess the various outcome statements has been planned and this has been submitted to outcomes@deanza.edu recently.

- 4 What program enhancements are you implementing as a result of the program level assessment process? Describe enhancements that do not require additional resources below:

summarize result:	In general, our assessment data suggests that the learning outcomes listed for the various classes are being achieved. We also recognized a close correlation between successful learning and a coordinated lecture-laboratory program. In other words, courses with a strong laboratory program that is intimately connected to topics included in the course outline of the lecture portion of the class show a significantly improved learning environment for the students.	plan/enhancement:	In an ideal situation the data obtained from our assessment would lead us to completely re-examining the laboratory program for each and every one of our classes. A successful laboratory program would be one that a) clearly supplements and demonstrates the concepts students have learned in the lecture b) engages students in state-of-the-art techniques and instrumentation and c) enhances critical thinking skills of the students. Such an extensive reorganization of the program requires additional resources in four primary categories: 1) laboratory staff support; 2) modern instrumentation; 3) adequate laboratory supplies; and 4) continuous maintenance of laboratory equipment. Given the limitations in resources, such projects have currently not been undertaken by the department. However, we recognize the importance of some nominal restructuring that is required in some parts of the program. To this end, currently we are working to revise the laboratory program in three out of our 10 course offerings (Chem 50, Chem 30A, and Chem 30B). These changes will likely go in effect during the 2011-12 academic year. We plan to reassess these classes at that time to identify the enhancements that might result from the incorporated changes.
summarize result:		plan/enhancement:	

B. For programs whose PLOs primarily align to the Strategic Initiatives: Attach the 2010-11 "Mapping Program Level Outcomes to Strategic Initiatives" sheet(s) and "Program Level Outcomes Assessment Plan" sheet(s):

1 Describe the processes by which your program members have or will assess program level outcomes: (check those that apply)

course-embedded       surveys

Other, describe here:

2 Review the ECMS-SLO Summary Report or SSLO Summary Report (*Division Deans shall be sent that report*). What percentage of courses that should undergo a SLOAC process are:

NA       complete       in progress       scheduled to be assessed

3 Below, briefly describe the level of engagement by your program staff and faculty with the outcomes assessment process (SLOAC, SSLOAC) since last year?

4 What program enhancements are you implementing as a result of the program level assessment process? Describe enhancements that do not require additional resources below:

summarize result:		plan/enhancement:	
summarize result:		plan/enhancement:	

### Department Summary

#### IV. Attach 2008-09 Comprehensive Program Review Budget Data Form. Add a column of data that lists the amounts allocated for the 2010-11 academic year.

See: [http://www.deanza.edu/gov/IPBT/program\\_review\\_files.html](http://www.deanza.edu/gov/IPBT/program_review_files.html), "Program Review Reports, 2009"

#### V. Resource requests include: staff, faculty, materials, "B" Budget, faculty refresh, Measure C equipment

A. Please submit up to three **faculty and/or staff** requests below in ranked order: (copy this section as needed)

1	Rank		Replace		Growth
Position:	Stockroom manager				
Department:	Chemistry	Contact person	David Gray	extension	5608

1 Briefly state below how this person will enhance or maintain the status quo of your program plan to improve student learning relative to the campus Mission, Institutional Core Competencies, or Program goals/plans below:

Statement: As discussed in IIC, our ability to grow and maintain the program has reached a limit due to the large number of laboratory classes the department offers relative to the single full-time support staff. Our current stockroom assistant not only prepares equipment and chemical samples for use in the laboratories, but she is also responsible for managing records related to and preparing the laboratory areas for safety inspection; she is integral to the maintenance of a safe and compliant laboratory environment; she actively participates in all departmental activities, including the development of curriculum and the development of our laboratory program; and she is responsible for ordering supplies and assisting with the maintenance of laboratory equipment. Because of this wide variety of responsibilities, and the ACS guidelines mentioned in IIC, a second full-time stockroom position is required for further growth of the program.

2 Highlight FTE, PT/FTE ratios, and WSCH that support your request below:

Please see IIC for a discussion of FTEF to stockroom staff ratio.

3 If applicable, discuss PLOAC assessment results that support the program need for this resource below:

4 Please note: It is an expectation that all resources that are allocated 2 or more years prior to the next Comprehensive Program Review (2013-14) will be assessed relative to their contribution to the program, its course or program level outcomes and its program review criteria. In this light, briefly state some of the criteria you may use to assess the effect of this additional staff/faculty position to your program below:

B. As applicable, list your requests for:

#### Materials, "B" Budget, faculty refresh, Measure C equipment

refer to: [http://www.deanza.edu/gov/techtaskforce/pdf/Measure%20C\\_Prioritization\\_Processes\\_ClgeCnclApproved6\\_10\\_10.pdf](http://www.deanza.edu/gov/techtaskforce/pdf/Measure%20C_Prioritization_Processes_ClgeCnclApproved6_10_10.pdf)

Please submit materials, "B" Budget, faculty refresh, Measure C equipment, requests below in ranked order: (copy this section as needed.) List 3 here, keep a prioritized list of all items on hand.

<input type="checkbox"/> Rank	<input type="checkbox"/> Replace	<input type="checkbox"/> Growth
Item Description:	Laboratory Instructional Equipment; gas chromatograph; rotovaps; ph probes, NMR spectrophotometer	
Cost Estimate:		
Contact person:	David Gray	extension 5608

- 1 Briefly state below how this resource will enhance or maintain the status quo of your program plan to improve student learning relative to the campus Mission, Institutional Core Competencies, or Program goals/plans below:

Laboratory experience is a critical part of science education; need to replace aging equipment; offer more relevant experiments that reflect current chemical practices and environmental and energy concerns

- 2 Highlight FTE, PT/FTE ratios and WSCH that support your request below:

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- 3 If applicable, discuss PLOAC outcome assessment results that support the program need for this resource below:

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- 4 Please note: It is an expectation that all resource that are allocated 2 or more years prior to the next comprehensive program review (2013-14) will be assessed relative to their contribution to the program, its course or program level outcomes and its program review criteria. In this light, briefly state some of the criteria you may use to assess the effect of this additional resource to your program below:

Criteria:	
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## Dean's Summary

### VI. Resource Requests include: staff, faculty, materials, "B" Budget, facility refresh, Measure C equipment

- A. Please submit up to three **faculty and/or staff** requests below in ranked order: (copy this section as needed)

<input type="checkbox"/> Rank	<input type="checkbox"/> Replace	<input type="checkbox"/> Growth
Position:		
Department:		
Contact person:		extension

- 1 In addition to the Department's rationale and from a dean's perspective, briefly state how this person will enhance or maintain the status quo of your program plan to improve student learning relative to the campus Mission, Institutional Core Competencies, or Program goals/plans below:

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- 2 Address FTE, PT/FTE ratios and WSCH that support your request below:

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- 3 In light of the department's statements about assessment results, describe any additional need or service to the College this person may bring to the Division below:

- 4 It is an expectation that resource allocations (awarded 2 or more years prior to the next Comprehensive Program Review) will be assessed relative to their contributions to the program, its course or program level outcomes and its program review criteria. In this light, briefly state some of the criteria you, as the Dean, may use to assess the effect of this additional staff/faculty position to your program below:

Criteria:

- B. As applicable, list your requests for:

**Materials, "B" Budget, faculty refresh, Measure C equipment**

refer to: [http://www.deanza.edu/gov/techtaskforce/pdf/Measure%20C\\_Prioritization\\_Processes\\_ClgeCnclApproved6\\_10\\_10.pdf](http://www.deanza.edu/gov/techtaskforce/pdf/Measure%20C_Prioritization_Processes_ClgeCnclApproved6_10_10.pdf)

Please submit materials, "B" Budget, faculty refresh, Measure C equipment, requests below in ranked order: (copy this section as needed.) List 3 here, keep a prioritized list of all items on hand.

Rank  Replace  Growth

Item Description:	<input type="text"/>
Cost Estimate:	<input type="text"/>
Contact person:	<input type="text"/> extension: <input type="text"/>

- 1 From a Dean's perspective, are there additional factors to add to the Department's rationale for this resource request? How will the addition of this resource enhance or maintain the status quo of this program's plan to improve student learning relative to the campus Mission, Institutional Core Competencies, or Program Goals? Use the following three sections below to state:

Rational here:

- 2 Highlight FTE, PR/FTE ratios and WSCH that support the request below:

- 3 If applicable, discuss PLOAC outcome assessment results that support the program need for this resource below:

- 4 Please note: It is an expectation that all resources that are allocated (awarded 2 or more years prior to the next Comprehensive Program Review) will be assessed relative to their contributions to the program, its course or program level outcomes and its program review criteria. In this light, briefly state some of the criteria you, as a Dean, may use to assess the effect of this additional staff/faculty position to your program below: