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| **Discipline: Chemistry** | **Date 01/23/2015** |
| **Instructional Discipline Reviewed (Each discipline is required to complete a Program Review.)** | **Add Date   (00/00/0000)** |

**DEFINITION**

Program Review and Planning is the means by which faculty, staff, and/or administrators complete a self-evaluation of an academic discipline, program, or service.  The self-evaluation includes an analysis of both quantitative and qualitative data on how the academic discipline, program, or service is supporting the mission and strategic planning of Palomar College in meeting the educational and career interests of students.  Through the review of and reflection on key program elements, such as program data and student learning outcomes, Program Review and Planning defines the curriculum changes, staffing levels, activities, and/or strategies necessary to continue to improve the academic discipline, program, or service in support of student success.  The Program Review and Planning process also ensures short-term and long-term planning and identification of the resources necessary to implement identified goals and priorities.  (ACCJC Standard I.B3; AB-1725, 10+1)

**Purpose of Program Review and Planning:**

Program Review and Planning for Years 2 and 3 provides a “check-in” on the Year 1 Comprehensive PRP. The PRP documents the vision and planning for a program or discipline. It also provides information for the development of the College’s Strategic Plan goals and annual objectives, documents overarching themes/issues occurring across academic programs and instruction, identifies the needs for resource allocations, and identifies department needs for developing the annual Staffing Plan update.

[**Palomar College Mission**](http://www.palomar.edu/about/goals.aspx)

Our mission is to provide an engaging teaching and learning environment for students of diverse origins, experiences, needs, abilities, and goals. As a comprehensive community college, we support and encourage students who are pursuing transfer-readiness, general education, basic skills, career and technical training, aesthetic and cultural enrichment, and lifelong education. We are committed to helping our students achieve the learning outcomes necessary to contribute as individuals and global citizens living responsibly, effectively, and creatively in an interdependent and ever-changing world.

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| **List everyone who participated in completing this Program Review and Planning Document.**  **Natarajan Geetha and Tsung Lee** |

**STEP I. Evaluation of Program & SLOAC Data.** In this section, examine and analyze updated program data, the results of SLOACs, and other factors that could influence your program/discipline’s plans for the current year. Consider trends and any changes in the data as they relate to this year’s analysis.

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| 1. **Analysis of Program Data. Review and comment on any significant changes or noted concerns since last year’s PRP.**   **(For enrollment, WSCH, & FTEF data, use Fall term data only).**   * + Enrollment, Enrollment Load, WSCH, and FTEF (<http://www.palomar.edu/irp/PRP_WSCH_FTEF_Load.xlsx>) **(Use Fall term data only).**   + Course Success and Retention rates (<http://www.palomar.edu/irp/PRP_Success_Retention.xlsx>**). Note, this file is very large and there will be a delay both when you open the file and again when you initiate the first search.**   + Degrees and Certificates (<http://www.palomar.edu/irp/PRP_Degrees_Certs.xlsx>).   Fall 2014 data is not available. However, looking at the most current data available (year 2013-2014), our department's retention rate of 91% is in line with that of the district (92%) and slightly higher than that of our division (89.6%). Our department's census load % of 96% is well above the district's (85%) and our division's (91%) |

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| 1. **SLOACs. Using the comprehensive SLOAC reports and faculty discussions as a guide, summarize your planned SLOAC activities for courses and programs for the current academic year. Link to SLOAC resources:** <http://www2.palomar.edu/pages/sloresources/programreview/>   Our SLO's need to be updated and assessed to provide valuble information for this report.  Planned activities for this year would be to make a common quiz at the end of the semester for each class which will give meaningful SLO assessment. |

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| 1. **Other Relevant Data and Information.** 2. **Review other data and/or information that you included in last year’s assessment of your program (see Step II.C). (Examples of other data and factors include, but are not limited to: external accreditation requirements, State and Federal legislation, four-year institution directions, technology, equipment, budget, professional development opportunities). Describe other data and/or information that you have considered as part of the assessment of your program. If there is additional information you are using to assess your program this year, also describe that information here.**      1. **Given this updated information, how are your current and future students impacted by your program and planning activities? Note: Analysis of data is based on both quantitative (e.g., numbers, rates, estimates, results from classroom surveys) and qualitative (e.g., advisory group minutes, observations, changes in legislation, focus groups, expert opinion) information.** |

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| 1. **Labor Market Data. For Career/Technical disciplines only, review and comment on any significant changes or concerns since last year’s PRP. (See Step II.D). This data is be found on the CA Employment Development website at** [**http://www.labormarketinfo.edd.ca.gov/**](http://www.labormarketinfo.edd.ca.gov/)**. Go here and search on Labor Market Information for Educators and Trainers (http://www.labormarketinfo.edd.ca.gov/Content.asp?pageid=112). Click on summary data profile on right side of page to search by occupation. (Check other reliable industry or government sources on Labor Market Data websites that support findings and are relevant to Region Ten – San Diego/Imperial Counties. Include job projections and trends that may influence major curriculum revisions.)** |

**STEP II. Progress on Previous Year’s Goals and Plans** (See ”Step III - Updated Goals and Plans” in your completed 2013-14 PRP at <http://www.palomar.edu/irp/PRPCollection.htm>).

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| **Discuss/Summarize progress on last year’s goals. Include**   1. **the impact on resources allocated and utilized;** 2. **any new developments or concerns that are affecting the program;** 3. **any new goals for the program; and** 4. **other information you would like to share.**   One full time chemistry faculty was hired for Spring 2015 to teach Organic Chemistry to replace the retired faculty. The organic chemistry classes have been taught by a few part time instructors for the past couple of years.  The process of checking for completion of prerequisite courses is done manually by individual faculty for all chemistry courses. Automatic System check for completion of prequisites by records office is not yet available. General Chemistry Entrance Exam for Placement in Chem 110 is not yet set up as there are no funds made available for implementing this. With the limited number of full time faculty available, our resources have been utilized to staff our high demand general chemistry courses. Currently the time it takes to clear the paper work and get the newly hired part time faculty into the system is unacceptably long. Unless this process is made efficient, our ability to offer more classes and staff them with qualified instructors is very limited at present eventhough our course offerings has increased by 23 % comparing Fall '13 to Fall "14 and by 44% in the last 3 years overall.  New Goal: Need to hire a full time faculty to teach genral organic biochem course and introductory biochemistry course since one of our full time faculty who teaches these class regularly will be retiring the end of Spring 2015. Currently 36% of chemistry classes are taught by 5 full time faculty and 64% of the classes are taught by 18 part-time faculty.  Need to hire an ADA to replace the retiring ADA as well. |

**STEP III. Resources Requested for FY 2014-15:** Now that you have completed Steps I and II, Step III requires you to identify all additional resources you will need to achieve goals, plans and strategies for Step II. First, identify all resource needs in each budget category. You may have up to five (5) requests per budget category. Provide a meaningful rationale for each request and how it links to your Goals, Plans, and Strategies. Resource requests to simply replace budget cuts from previous years will not be considered. Negotiated items should not be included in any resources requested. PLEASE NOTE THAT ALL FUNDING ALLOCATED BY IPC IS ONE-TIME AND MUST BE SPENT WITHIN THE DEFINED TIMELINE. Requests that support more than one discipline should be included on the “Academic Department Resource Requests” PRP form only. [*Click here for examples of each budget category.*](http://www.palomar.edu/irp/2013CategoriesforPRPResourceRequests.pdf)

Prioritize within each category and then prioritize across categories in Step IV.

\*Refer to Strategic Plan 2016 Objectives at http://www.palomar.edu/strategicplanning/StrategicPlan2016-Year2.pdf

**Budget category a. Equipment (acct 600010 and per unit cost is >$500). Enter requests on lines below. Click here for examples of equipment:** [**http://www.palomar.edu/irp/2013CategoriesforPRPResourceRequests.pdf**](http://www.palomar.edu/irp/2013CategoriesforPRPResourceRequests.pdf)

| **Priority Number for Resource Requests** | **Resource Item Requested** | **Fund Category** | **Discipline goal addressed by this resource** | [**Strategic Plan 2016 Objective Addressed by this Resource**](http://www.palomar.edu/strategicplanning/PALOMAR_STRATEGICPLAN2016.pdf)**\*** | **Provide ~~a~~ detailed rationale for each item. Refer to your goals, plans, analysis of data, SLOACs, and the Strategic Plan. (If item is already funded, name the source and describe why it is not sufficient for future funding.)** | **Amount of Funding Requested (include tax, shipping, etc.)** |
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| **a1.** | **Analytical balances x 10** | **600010** | **SLO** | **SP 1 & 4** | **Analytical Balances in all the labs are overused and hence deteriorated and many of them are no longer usable. We need to replace the broken ones. Over 250 students/semester have been sharing 4 balances over the last 8 years in each of our 5 labs. Not having to wait for an instrument to be free will result in students using class time productively in doing the experiment and learning the lab skills needed in the real world.** | **$42,000** |
| **a2.** | **Hot plate Stirrers x 20** | **600010** | **SLO** | **SP 1 &4** | **Over the last 8 years, about 900 students/semester have been sharing 39 hotplates . Again, many of them need to be replaced as they no longer work reliably. These are needed for all the different chemistry labs. Not having to share the instrument results in students learning to use the instruments independently and hence learn the techniques needed to get them ready for the next class and the real world.** | **$8,000** |
| **a3.** | **Spectrophotometers x 6** | **600010** | **SLO** | **SP 1 &4** | **Over 250 students/semester share 7 of these Spectrophotometer instruments in general chemistry labs.Not having to share the instrument results in students learning to use the instruments independently and hence learn the techniques needed to get them ready for the next class and the real world.** | **$9,600** |
| **a4.** | **pH meters x 10** | **600010** | **SLO** | **SP 1 &4** | **Used extensively by 2nd semester General chemistry course, we do not have enough pH meters to let each student work independently.Not having to share the instrument results in students learning to use the instruments independently and hence learn the techniques needed to get them ready for the next class and the real world.** | **$10,000** |
| **a5.** |  |  |  |  |  |  |

**Budget category b. Technology (acct 600010, examples: computers, data projectors, document readers). Enter requests on lines below. Click here for examples of technology:** [**http://www.palomar.edu/irp/2013CategoriesforPRPResourceRequests.pdf**](http://www.palomar.edu/irp/2013CategoriesforPRPResourceRequests.pdf)

| **Priority Number for Resource Requests** | **Resource Item Requested** | **Fund Category** | **Discipline goal addressed by this resource** | [**Strategic Plan 2016 Objective Addressed by this Resource**](http://www.palomar.edu/strategicplanning/PALOMAR_STRATEGICPLAN2016.pdf)**\*** | **Provide ~~a~~ detailed rationale for each item. Refer to your goals, plans, analysis of data, SLOACs, and the Strategic Plan. (If item is already funded, name the source and describe why it is not sufficient for future funding.)** | **Amount of Funding Requested (include tax, shipping, etc.)** |
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| **b1.** | **General Chemistry Entrance Exam Software** | **600010** | **Goal #2** | **SP 1 & 4** | **Software for the General Chemistry Entrance Exam that would assess and place the students appropriately in Chem 110 need to be purchased** | **$20,000** |
| **b2.** |  |  |  |  |  |  |
| **b3.** |  |  |  |  |  |  |
| **b4.** |  |  |  |  |  |  |
| **b5.** |  |  |  |  |  |  |

**Budget category c. Supplies (acct 400010 and per unit cost is <$500). Enter requests on lines below. Click here for examples of supplies:** [**http://www.palomar.edu/irp/2013CategoriesforPRPResourceRequests.pdf**](http://www.palomar.edu/irp/2013CategoriesforPRPResourceRequests.pdf)

| **Priority Number for Resource Requests** | **Resource Item Requested** | **Fund Category** | **Discipline goal addressed by this resource** | [**Strategic Plan 2016 Objective Addressed by this Resource**](http://www.palomar.edu/strategicplanning/PALOMAR_STRATEGICPLAN2016.pdf)**\*** | **Provide ~~a~~ detailed rationale for each item. Refer to your goals, plans, analysis of data, SLOACs, and the Strategic Plan. (If item is already funded, name the source and describe why it is not sufficient for future funding.)** | **Amount of Funding Requested (include tax, shipping, etc.)** |
| --- | --- | --- | --- | --- | --- | --- |
| **c1.** | **Budget increase to purchase staple reagents** | **400010** | **SLO** | **SP 1 &4** | **Chemical reagents are a necessity in every lab class for every course we offer each semester.As the number of courses we offer increase, so is the need for increased reagent budget** | **$4,000** |
| **c2.** |  |  |  |  |  |  |
| **c3.** |  |  |  |  |  |  |
| **c4.** |  |  |  |  |  |  |
| **c5.** |  |  |  |  |  |  |

**Budget category d. Operating Expenses (acct 500010; examples: printing, maintenance agreements, software license) Enter requests on lines below. Click here for examples of operating expense:** [**http://www.palomar.edu/irp/2013CategoriesforPRPResourceRequests.pdf**](http://www.palomar.edu/irp/2013CategoriesforPRPResourceRequests.pdf)

| **Priority Number for Resource Requests** | **Resource Item Requested** | **Fund Category** | **Discipline goal addressed by this resource** | [**Strategic Plan 2016 Objective Addressed by this Resource**](http://www.palomar.edu/strategicplanning/PALOMAR_STRATEGICPLAN2016.pdf)**\*** | **Provide ~~a~~ detailed rationale for each item. Refer to your goals, plans, analysis of data, SLOACs, and the Strategic Plan. (If item is already partially funded, name the source and describe why it is not sufficient for future funding.)** | **Amount of Funding Requested (include tax, shipping, etc.)** |
| --- | --- | --- | --- | --- | --- | --- |
| **d1.** | **Deionized Water** | **500010** | **SLO** | **SP 1 & 4** | **Deionized water maintenance for the entire NS building is met by this funding. This includes resin change once a month and parts.** | **$15,488** |
| **d2.** | **Maintenance Agreement for 2 Perkin-elmer FTIR instruments** | **500010** | **SLO** | **SP 1 & 4** | **These Fourier Transform Infra Red instruments used by organic chemistry laboratory classes need periodic maintenance to run efficiently.** | **$11,000** |
| **d3.** | **Airgas rental agreement** | **500010** | **SLO** | **SP 1 & 4** | **Gas cylinder rental agreement- rental and usage of Helium, argon, nitrogen, air, acetylene, carbon dioxide and hydrogen gases needed to run instruments like gas chromatography, mass spectrometer instruments used by organic chemistry laboratory classes** | **$3600** |
| **d4.** | **Budget increase for printing costs** | **500010** | **SLO** | **SP 1 & 4** | **As we increase the number of students we serve through increased class offering of 44%, we need to increase the printing budget for each class** | **$1100** |
| **d5.** |  |  |  |  |  |  |

**Budget category e. Travel Expenses for Faculty (acct 500010: faculty travel only)**

| **Priority Number for Resource Requests** | **Resource Item Requested** | **Fund Category** | **Discipline goal addressed by this resource** | [**Strategic Plan 2016 Objective Addressed by this Resource**](http://www.palomar.edu/strategicplanning/PALOMAR_STRATEGICPLAN2016.pdf)**\*** | **Provide ~~a~~ detailed rationale for each item. Refer to your goals, plans, analysis of data, SLOACs, and the Strategic Plan. (If item is already funded, name the source and describe why it is not sufficient for future funding.)** | **Amount of Funding Requested (include benefits if applicable)** |
| --- | --- | --- | --- | --- | --- | --- |
| **e1.** |  |  |  |  |  |  |
| **e2.** |  |  |  |  |  |  |
| **e3.** |  |  |  |  |  |  |
| **e4.** |  |  |  |  |  |  |
| **e5.** |  |  |  |  |  |  |

**Budget category f. Short-term hourly (temporary and student worker). Enter requests on lines below.**

| **Priority Number for Resource Requests** | **Resource Item Requested** | **Fund Category** | **Discipline goal addressed by this resource** | [**Strategic Plan 2016 Objective Addressed by this Resource**](http://www.palomar.edu/strategicplanning/PALOMAR_STRATEGICPLAN2016.pdf)**\*** | **Provide ~~a~~ detailed rationale for each item. Refer to your goals, plans, analysis of data, SLOACs, and the Strategic Plan. (If item is already funded, name the source and describe why it is not sufficient for future funding.)** | **Amount of Funding Requested (include benefits if applicable)** |
| --- | --- | --- | --- | --- | --- | --- |
| **f1.** | **Additional funding for student workers for the laboratory support** | **230010** | **SLO** | **SP 1& 4** | **Number of chemistry laboratory classes offered has been increased from 50/year to 72/year in the last 3 years. This 44% increase in classes requires more student workers to support those laboratories. However, our budget has not increased even 1% in the last 3 years to support these classes. This coupled with the hourly rate increase mandated by the State of California demands increased funding.** | **$34,000** |
| **f2.** |  |  |  |  |  |  |
| **f3.** |  |  |  |  |  |  |
| **f4.** |  |  |  |  |  |  |
| **f5.** |  |  |  |  |  |  |

**STEP IV. Prioritize Resource Requests.** Now that you have completed Step III, prioritize all of your resource requests as one group; not prioritized within each budget category. This means you could have your #1 priority in technology, your #2 priority in short-term hourly, and your #3 priority in equipment, etc. If you actually have five (5) requests in each of the six (6) budget categories, you would end up with 30 prioritized requests**. IPC will not consider requests that are not prioritized.** Note that all funding allocated by IPC is one-time and must be spent within the defined timeline.

| **Priority Number for all Resource Requests in Step III** | **Resource Item Requested** | **Fund Category** | **Discipline goal addressed by this resource** | [**Strategic Plan 2016 Objective Addressed by this Resource**](http://www.palomar.edu/strategicplanning/PALOMAR_STRATEGICPLAN2016.pdf)**\*** | **Provide ~~a~~ detailed rationale for each item. Refer to your goals, plans, analysis of data, SLOACs, and the Strategic Plan. (If item is already funded, name the source and describe why it is not sufficient for future funding.)** | **Amount of Funding Requested (include tax, shipping, benefits, etc.)** |
| --- | --- | --- | --- | --- | --- | --- |
| **1.** | **d1** | **500010** | **SLO** | **SP 1 & 4** | **Deionized water need for the entire NS building is met by this funding** | **$15,488** |
| **2.** | **d2** | **500010** | **SLO** | **SP 1 & 4** | **These FTIR instruments need periodic maintenance to run efficiently** | **$11,000** |
| **3.** | **d3** | **500010** | **SLO** | **SP 1 & 4** | **Gas cylinder rental agreement** | **$3600** |
| **4.** | **a1** | **600010** | **SLO** | **SP 1 & 4** | **Analytical Balances in all the labs are overused and hence deteriorated and many of them are no longer usable. We need to replace the broken ones . Over 250 students/semester have been sharing 4 balances over the last 8 years in each lab.** | **$42,000** |
| **5.** | **a2** | **600010** | **SLO** | **SP 1 & 4** | **Each semester about 900 students have been sharing 39 hotplates over the last 8 years. Again, many of them need to be replaced as they no longer work reliably. These are needed for all the different chemistry labs.** | **$8,000** |
| **6.** | **a3** | **600010** | **SLO** | **SP 1 & 4** | **Over 250 students/semester share 7 of these Spectrophotometer instruments in general chemistry labs.** | **$9,600** |
| **7.** | **a4** | **600010** | **SLO** | **SP 1 & 4** | **Used extensively by 2nd semester General chemistry course, we do not have enough pH meters to let each student work independentl** | **$10,000** |
| **8.** | **d4** | **500010** | **SLO** | **SP 1 & 4** | **As we increase the number of students we serve through increased class offering, we need to increase the printing budget for each class** | **$1,100** |
| **9.** | **c1** | **400010** | **SLO** | **SP 1 & 4** | **Chemical reagents are a necessity in every lab class for every course we offer each semester.As the number of courses we offer increase by 44%, so is the need for increased reagent budget.** | **$4000** |
| **10.** | **f1** | **230010** | **SLO** | **SP 1 & 4** | **Increase in the number of classes offered requires more student workers to support those laboratories. This coupled with the hourly rate increase mandated by the State of California demands increased funding.** | **$34,000** |
| **11.** | **b1** | **600010** | **SLO** | **SP 1 & 4** | **Software for the General Chemistry Entrance Exam that would assess and place the students appropriately in Chem 110 need to be purchased.** | **$20,000** |
| **12.** |  |  |  |  |  |  |
| **13.** |  |  |  |  |  |  |
| **14.** |  |  |  |  |  |  |
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| **23.** |  |  |  |  |  |  |
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| **28.** |  |  |  |  |  |  |
| **29.** |  |  |  |  |  |  |
| **30.** |  |  |  |  |  |  |

**STEP V. Contract Position Requests.** Prioritize all contract positions you feel are needed to achieve goals, plans and strategies identified in Step II. Include all requests for Classified, CAST, and Administrator positions that either replace a vacancy due to retirements, resignations, lateral transfers, etc., or any new positions. You may request up to ten (10) positions and they must be prioritized to be considered by IPC. Please note that only these position requests will be prioritized by IPC when developing the annual Staffing Plan for Instruction.   (Do not include faculty positions.)

| **Priority Number for Contract Position Requests** | **Position Title/Category**  **Requested** | **Fund Category** | **Discipline goal addressed by this resource** | [**Strategic Plan 2016 Objective Addressed by this Resource**](http://www.palomar.edu/strategicplanning/PALOMAR_STRATEGICPLAN2016.pdf)**\*** | **Provide a detailed rationale for the each position. The rationale should refer to your discipline’s goals, plans, analysis of data, SLOACs, and the Strategic Plan. (If position is already funded, name the source and describe why it is not sufficient for future funding.)** | **Amount of Funding Requested (include benefits)** |
| --- | --- | --- | --- | --- | --- | --- |
| **1.** | **Academic Department Assistant** | **212210** | **New Goal** |  | **Our current Academic Department Assistant will be retiring by the end of this Spring 2015 semester. No department can function even for a day without this important position filled.** | **$75,000** |
| **2.** |  |  |  |  |  |  |
| **3.** |  |  |  |  |  |  |
| **4.** |  |  |  |  |  |  |
| **5.** |  |  |  |  |  |  |
| **6.** |  |  |  |  |  |  |
| **7.** |  |  |  |  |  |  |
| **8.** |  |  |  |  |  |  |
| **9.** |  |  |  |  |  |  |
| **10.** |  |  |  |  |  |  |

**Department Chair/Designee Signature Date**

**Division Dean Signature Date**