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| **Discipline: Earth Science (ES)** | **Date:** **12/3/2015** |
| **Instructional Discipline Reviewed (Each discipline is required to complete a Program Review.)** |  |

**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.

**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.**  **Lisa Yon** |

**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](https://sharepoint2.palomar.edu/sites/IRPA/SitePages/Productivity%20Metric%20Summary.aspx)   + [Course Success and Retention Rates](https://sharepoint2.palomar.edu/sites/IRPA/SitePages/Success%20and%20Retention.aspx)   + [Degrees and Certifications](https://sharepoint2.palomar.edu/sites/IRPA/SitePages/Degrees%20and%20Certifications.aspx)   Enrollment in Earth Science courses remains strong. For Fall semesters 2009, 2010, 2011, and 2012, three sections of ES courses were offered, producing an average Census Load Percent of 103%. Responding to the demand for ES, in Fall 2013, the offerings were increased by one section, and the Census Load Percent remained high at 98%. For Fall 2014, we reached our peak offerings of five sections, and Census Load Percent remained strong at 92%, well above the all College average of 82%. Both ES 100 and ES 115 are popular courses and fill each semester. While both courses promote earth science literacy and fulfill general education requirements, ES 100 also fulfills a course requirement for students planning on transferring into the CSU San Marcos Liberal Studies Program (Elementary Subject Matter/teaching credential).  Most sections of ES 100 continue to be taught by full-time faculty Patty Deen and Dr. Lisa Yon, who also both teach Oceanography and/or Geology. ES 115 has typically been taught by full-time Geography faculty member Doug Key, who retired June 2015. Total FTEF over the past four years has varied between 1.0 to 0.6 due to sabbaticals and leaves. WSCH/FTEF over the past four years has averaged 636, one of the highest values in the ESAS Department and significantly above the College average of 466.  Retention rates for ES courses average 92%, which is very similar to other programs within the ESAS Department as well as the college-wide average. Success rates for ES courses over the past four years have averaged 65%, which is also similar to other programs within the ESAS Department. This value is slightly higher than the MNHS Division average of 61% and slightly lower than the college-wide average of 71% for the same time period.  Closer inspection of data provided for success rates suggests that some students may not be adequately prepared for college-level science classes. In particular, students for whom English is a second language struggle with basic language skills in addition to needing to learn the scientific terminology specific to the ES classes. The largest group within the ELL sub-set of data is the Hispanic population; these students have pass rates of approximately 4% lower than the overall class average (including other ELL students) but almost 15% lower than White students (whose primary language is most likely English). Many students also struggle with basic math skills such as addition, subtraction, multiplication, and division, thus suggesting that some students may not be adequately prepared to be successful in college-level science classes. Due to articulation agreements with CSU and UC campuses, we cannot lower the level of content within the classes. Tutoring and additional help is offered to students, but many of the students who most need this assistance do not take advantage of it. In an effort to aide students in developing better language and study skills, the ES 100 lecture classes have partnered with McGraw-Hill Publishers to utilize their LearnSmart program with the required textbook for the course. LearnSmart is an online interactive study tool that adaptively assesses students’ skill and knowledge levels. For each student, the program tracks which topics the student has mastered and which require further instruction and practice. LearnSmart is a required component of the course in that students earn points for successful completion of the reading and exercises. Early results from the Fall 2015 semester suggest the program is having a positive impact on student retention and success. |

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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/>   Student Learning Outcome assessments are typically performed during the fall semesters. Each assessment period focuses on a different assessment topic. Over the past several years, all of the student learning outcomes have been assessed at least once.  Currently, assessments occur as embedded questions in a regular exam. Although students perform to acceptable standards, faculty are exploring ideas for alternate assessment methods that may better target student understanding of specific concepts. |

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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.**   N/A   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.**   N/A |

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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.)**   N/A |

**STEP II. Progress on Previous Year’s Goals and Plans** (See ”Step III - Updated Goals and Plans” in your completed 2014-15 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.**   Goal #1 involved the development of an ES 100 Lab course. The course has been developed, has passed review for C-ID, and has been approved by the Curriculum Committee. The course will be offered to students for the first time during the Spring 2016 semester. Funding provided as part of the last PRP cycle has been used to purchase materials for the ES 100 Lab.  Goal #2 involved expansion of Earth Science offerings (both lecture and lab classes) to the South Education Center. Improvements to the existing building site are expected to begin February 2016 and opening of the Center is currently expected to occur with the Spring 2018 semester. Plans for offering ES courses at the South Education Center are dependent upon the goals of the College at that time.  Goal #3 focused on the retirement of full-time faculty member Doug Key, which occurred June 2015. Although Professor Key's primary teaching responsibilities were within the Geography discipline, he was the lead instructor for ES 115. The minimum qualifications for both the Earth Science and Geography disciplines are very similar and thus it is hoped that the replacement hired to fill the Geography position vacated by Professor Key will also be able to continue to teach ES 115, thus ensuring the consistency and quality of instruction within the ES discipline. Filling this position becomes time-sensitive when one considers that Patty Deen and Lisa Yon (lead instructors for ES 100) are both considering retirement within the next 4-5 years. |

**STEP III. Resources Requested for FY 2015-16:** 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 [*Budget Category*](http://www.palomar.edu/irp/Document%20Library/PRP%20Budget%20Category.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:** [**Budget Category**](http://www.palomar.edu/irp/Document%20Library/PRP%20Budget%20Category.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.** | **None** | **600010** |  |  |  |  |
| **a2.** |  | **600010** |  |  |  |  |
| **a3.** |  | **600010** |  |  |  |  |
| **a4.** |  | **600010** |  |  |  |  |
| **a5.** |  | **600010** |  |  |  |  |

**Budget category b. Technology (acct 600010, examples: computers, data projectors, document readers). Enter requests on lines below. Click here for examples of technology:** [**Budget Category**](http://www.palomar.edu/irp/Document%20Library/PRP%20Budget%20Category.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.** | **None** | **600010** |  |  |  |  |
| **b2.** |  | **600010** |  |  |  |  |
| **b3.** |  | **600010** |  |  |  |  |
| **b4.** |  | **600010** |  |  |  |  |
| **b5.** |  | **600010** |  |  |  |  |

**Budget category c. Supplies (acct 400010 and per unit cost is <$500). Enter requests on lines below. Click here for examples of supplies:** [**Budget Category**](http://www.palomar.edu/irp/Document%20Library/PRP%20Budget%20Category.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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| **c1.** | **None** | **400010** |  |  |  |  |
| **c2.** |  | **400010** |  |  |  |  |
| **c3.** |  | **400010** |  |  |  |  |
| **c4.** |  | **400010** |  |  |  |  |
| **c5.** |  | **400010** |  |  |  |  |

**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:** [**Budget Category**](http://www.palomar.edu/irp/Document%20Library/PRP%20Budget%20Category.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.** | **Printing** | **500010** | **#1** | **Goal 1: Student Learning: Support excellence in teaching and academic programs and services to improve student learning.** | **Tests and handouts for lecture classes and handouts for lab activities. The current level of funding is inadequate and does not reflect the growth of the ES discipline, especially the addition of a new course to support student learning.** | **$500** |
| **d2.** |  | **500010** |  |  |  |  |
| **d3.** |  | **500010** |  |  |  |  |
| **d4.** |  | **500010** |  |  |  |  |
| **d5.** |  | **500010** |  |  |  |  |

**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.** | **Travel with Students** | **500010** | **#1** | **Goal 1: Student Learning: Support excellence in teaching and academic programs and services to improve student learning.** | **The ES 100 Lab curriculum will include four field trips within San Diego County. Current funding does not exist within the ES budget for mileage reimbursement as the lab represents an expansion of the curriculum.** | **$200** |
| **e2.** |  | **500010** |  |  |  |  |
| **e3.** |  | **500010** |  |  |  |  |
| **e4.** |  | **500010** |  |  |  |  |
| **e5.** |  | **500010** |  |  |  |  |

**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.** | **None** | **230010** |  |  |  |  |
| **f2.** |  | **230010** |  |  |  |  |
| **f3.** |  | **230010** |  |  |  |  |
| **f4.** |  | **230010** |  |  |  |  |
| **f5.** |  | **230010** |  |  |  |  |

**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.** | **Printing** | **500010** | **#1** | **Goal 1: Student Learning: Support excellence in teaching and academic programs and services to improve student learning.** | **Tests and handouts for lecture classes and handouts for lab activities. The current level of funding is inadequate and does not reflect the growth of the ES discipline, especially the addition of a new course to support student learning.** | **$500** |
| **2.** | **Travel with Students** | **500010** | **#1** | **Goal 1: Student Learning: Support excellence in teaching and academic programs and services to improve student learning.** | **The ES 100 Lab curriculum will include four field trips within San Diego County. Current funding does not exist within the ES budget for mileage reimbursement as the lab represents an expansion of the curriculum.** | **$200** |
| **3.** |  |  |  |  |  |  |
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**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)** |
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| **1.** | **None** |  |  |  |  |  |
| **2.** |  |  |  |  |  |  |
| **3.** |  |  |  |  |  |  |
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**Department Chair/Designee Signature Date**

**Division Dean Signature Date**