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| **Discipline: Computer Science** | **Date: 11/30/15** |
| **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.**  **Anthony Smith**  **Richard Stegman** |

**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)   CSCI enrollment at census has decreased slightly this year, from 1,455 in 2013/14 to 1,432 in 2014/15. This has been a challenging year for enrollment, college wide.  Census load percentage for CSCI decreased significantly from 92.8% to 81.4%, is now about the same as the 82.0% for the campus overall.  We seek to improve our load percentage and therefore enrollment by continuing to make changes to our CSCI scheduling, planning to offer those classes and sections in most demand.  **Course Success and Retention**  There has been a large decrease in CSCI overall success rate, from 68.0% in 2013/14 to 58.5% in 2014/15. (Success rate for the college overall was 70.0%.) Success rate was down slightly in the Day and Evening categories, and by a significant 15.3% in Distance Education.  CSCI retention rates also declined significantly, from 90.2% in 2013/14 to 82.1% in 2014/15. (Retention for the college overall was 90.8%.) The largest decline was again in the Distance Education category, where retention fell by 15.7% from last year.  We believe that these significant declines in the Distance Education category are due to the recent major changes in the CSCI core curriculum. We believe that success and retention in Distance Education sections will improve as instructors become more familiar with the new curriculum.  **Degrees and Certifications**  The number of degrees and certificates awarded in CSCI remains small, as expected. The goal of potential CSCI majors is instead to transfer into a four-year Computer Science program. |

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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/>   During the 2015-2016 academic year, the CSCI program will assess the following discipline course: 235. In addition to assessing course SLOs, we will assess the “Computer programs” program learning outcome: Students will be able to design and write computer programs that are correct, efficient, and well documented. |

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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.**   NA   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.**   NA |

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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.)**   Again, no significant changes or concerns seen here since last year’s PRP. Software Engineer remains one of the occupations projected for the fastest rate of growth and to add the most new jobs in the state of California. If anything, the demand for graduates with skills in Computer Science continues to improve past expectations and forecasts.  Excellent job prospects continue to be expected for applicants with at least bachelor’s degree in computer engineering or computer science and with practical work experience. |

**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.**   CSCI updated its curriculum to provide students a stronger programming foundation. Two new courses were added to the curriculum, CSCI 112 Programming Fundamentals I, which provides an introduction to Computer Science and structured programming in C, and CSCI 114 Programming Fundamentals II, which focuses on object-oriented program design in Java. The Fall 2015 semester has been the first semester in which we have seen students in CSCI 210 Data Structures who have taken both CSCI 112 and CSCI 114 and they do seem better prepared than ever before.  Classes in the Computer Science discipline (CSCI) continue to be very popular. While CSCI shows great success and retention rates, classes for Fall 2015 were filled and many students had to be turned away. We simply cannot find enough qualified adjuncts to teach our classes as the technical requirements for Computer Science adjuncts is quite high. It’s been a generation since we have been able to hire new CSCI faculty and we’re hopeful that the Computer Science discipline will get to the top of the hiring list, especially since one of our CSCI full-time faculty just retired.  Our 2014-2015 PRP requested replacements computers in MD-231 and funds were never allocated. The computers in MD-231 are more than five years old and are out of warrantee. There must be laboratory environments for implementing the Computer Science curriculum that represent state-of-the-art technology. While other departments utilize computers to supplement their curriculum, computers are the essence of the Computer Science curriculum. It is a fact that out curriculum is literally defined by the laboratory environment in which it is offered. To best serve our students and meet their preparation needs at the highest level of competence, we must provide a learning environment that effectively mirrors the current technology of the real world.  In order to be able to develop and support a viable, relevant and innovative curriculum that attracts and retains students, the Computer Science discipline must have the necessary, on-going financial support to maintain state-of-the-art laboratories. Without this support, the department’s ability to accomplish its goals is significantly diminished. |

**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.** |  | **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.** | **27” retinal iMac computers to upgrade MD-231 (33)** | **600010** | **1, 2, 3, 5** | **1.1, 1.6, 3.3, 4.2** | **There must be laboratory environments for implementing the Computer Science curriculum that represent state-of-the-art technology. While other departments utilize computers to supplement their curriculum, computers are the essence of the Computer Science curriculum. It is a fact that the curriculum in the CSIS Department is literally defined by the laboratory environment in which it is offered. To best serve our students and meet their preparation needs at the highest level of competence, we must provide a learning environment that effectively mirrors the current technology of the real world. In order to be able to develop and support a viable, relevant and innovative curriculum that attracts and retains students, the Computer Science discipline must have the necessary, on-going financial support to maintain state-of-the-art laboratories. Without this support, the department’s ability to accomplish its goals is significantly diminished. Updated iMac computers are required for the MD-231 which supports both the Mac and Windows platform. The iMac computers are required for the iOS programming classes, which are part of the Mobile Application Development program.** | **33 computers @ $3,149 per computer plus tax and recycle fee: $112,362.36** |
| **b2.** | **iPad Pro (2) with WiFi, Cellular, Apple Pencil, Smart Keyboard** | **600010** | **5, 7** | **3.3, 3.4** | **Computer Science faculty must have the ability to perform heavy-duty content creation at all times working with the Blackboard website, Palomar email, and all other Palomar online resources to support in-house and online classes as well as all other department functions.** | **$2,915.52** |
| **b3.** | **Microsoft Surface Pro 4-1TB-Intel i7-16GB** | **600010** | **5, 7** | **3.3, 3.4** | **Computer Science faculty must have easy, convenient, lightweight access at all times to the Blackboard website, Palomar email, and all other Palomar online resources to support in-house and online classes as well as all other department functions.** | **$2908.17** |
| **b4.** | **Windows PC + Monitor** | **600010** | **5, 7** | **3.3, 3.4** | **Computer Science faculty must have the ability to perform heavy-duty content creation at all times working with the Blackboard website, Palomar email, and all other Palomar online resources to support in-house and online classes as well as all other department functions.** | **$2027.94** |
| **b5.** | **Lynda.com Software Training** | **600010** | **5, 7** | **3.3, 3.4** | **Software training for faculty to remain current in their field.** | **$359.88** |

**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.** |  | **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.** | **CSCI Brochures** | **500010** | **Supports all goals.** | **1.1-1.7** | **Student outreach.** | **$500** |
| **d2.** | **Color Posters** | **500010** | **Supports all goals.** | **1.1-1.7** | **Student outreach.** | **$300** |
| **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)** |
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| **e1.** |  | **500010** |  |  |  |  |
| **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)** |
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| **f1.** |  | **230010** |  |  |  |  |
| **f2.** |  | **230010** |  |  |  |  |
| **f3.** |  | **230010** |  |  |  |  |
| **f4.** |  | **230010** |  |  |  |  |
| **f5.** |  | **230010** |  |  |  |  |

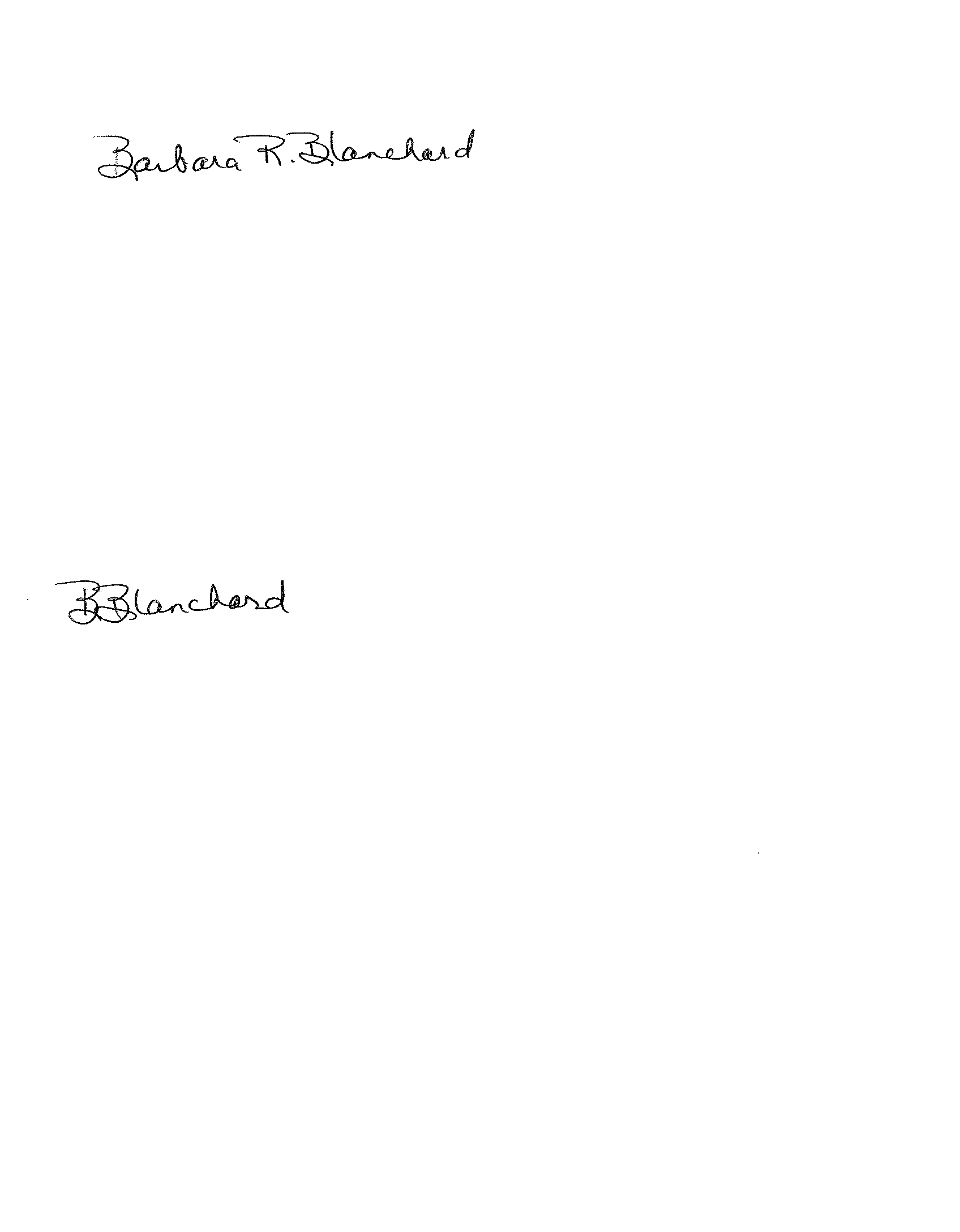
**STEP IV. Prioritize Resource Requests.** Now that you have completed Step III, prioritize all of your resource requests as one group; not prioritized within each budget category. This means you could have your #1 priority in technology, your #2 priority in short-term hourly, and your #3 priority in 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. 1** | **27” retinal iMac computers to upgrade MD-231 (33)** | **600010** | **1, 2, 3, 5** | **1.1, 1.6, 3.3, 4.2** | **There must be laboratory environments for implementing the Computer Science curriculum that represent state-of-the-art technology. While other departments utilize computers to supplement their curriculum, computers are the essence of the Computer Science curriculum. It is a fact that the curriculum in the CSIS Department is literally defined by the laboratory environment in which it is offered. To best serve our students and meet their preparation needs at the highest level of competence, we must provide a learning environment that effectively mirrors the current technology of the real world. In order to be able to develop and support a viable, relevant and innovative curriculum that attracts and retains students, the Computer Science discipline must have the necessary, on-going financial support to maintain state-of-the-art laboratories. Without this support, the department’s ability to accomplish its goals is significantly diminished. Updated iMac computers are required for the MD-231 which supports both the Mac and Windows platform. The iMac computers are required for the iOS programming classes, which are part of the Mobile Application Development program.** | **33 computers @ $3,149 per computer plus tax and recycle fee: $112,362.36** |
| **2. 2** | **iPad Pro (2) with WiFi, Cellular, Apple Pencil, Smart Keyboard** | **60010** | **5, 7** | **3.3, 3.4** | **Computer Science faculty must have the ability to perform heavy-duty content creation at all times working with the Blackboard website, Palomar email, and all other Palomar online resources to support in-house and online classes as well as all other department functions.** | **$2,915.52** |
| **3. 3** | **Microsoft Surface Pro 4-1TB-Intel i7-16GB** | **60010** | **5, 7** | **3.3, 3.4** | **Computer Science faculty must have easy, convenient, lightweight access at all times to the Blackboard website, Palomar email, and all other Palomar online resources to support in-house and online classes as well as all other department functions.** | **$2908.17** |
| **4. 4** | **Windows PC + Monitor** | **60010** | **5, 7** | **3.3, 3.4** | **Computer Science faculty must have the ability to perform heavy-duty content creation at all times working with the Blackboard website, Palomar email, and all other Palomar online resources to support in-house and online classes as well as all other department functions.** | **$2027.94** |
| **5.5** | **Lynda.com Software Training** | **60010** | **5, 7** | **3.3, 3.4** | **Software training for faculty to remain current in their field.** | **$359.88** |
| **6.** |  |  |  |  |  |  |
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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. 1** |  |  |  |  |  |  |
| **2.** |  |  |  |  |  |  |
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**Department Chair/Designee Signature Date**



**Division Dean Signature Date**