**Palomar College – Program Review and Planning**

**Instructional Programs**

**YEAR 1**

**Academic Year** **2012-13**

**Purpose of Program Review and Planning:** The institution assesses progress toward achieving stated goals and makes decisions regarding the improvement of institutional effectiveness in an on-going and systematic cycle of evaluation, integrated planning, resource allocation, implementation, and re-evaluation. Evaluation is based on analyses of both quantitative and qualitative data (ACCJC/WASC, Standard I, B.3.)

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| **Discipline: Astronomy** | **09/11/12** |
| **Instructional Discipline Reviewed (Each discipline is required to complete a Program Review)** | **Please Add Date (00/00/2012)** |

**STEP I. ANALYSIS**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  | **<<Prelim>>** | ◄▬ Preliminary Fall 2011 data are as of 1/31/2012 |  |
|  |  | **Fall 2008** | **Fall 2009** | **Fall 2010** | **Fall 2011** | **Definitions** | |
| **Enrollment at Census** | | 558 | 559 | 565 | 375 | *Self Explanatory* | |
| **Census Enrollment Load %** | | 96.21% | 96.38% | 97.41% | 96.15% | Enrollment at Census Divided By Sum of Caps (aka "Seats") | |
| **WSCH** | | 1,746 | 1,749 | 1,767 | 1,182 | Weekly Student Contact Hours | |
| **FTES** | | 58.19 | 58.29 | 58.89 | 39.39 | One Full-Time Equivalent Student = 30 WSCH | |
| **Total FTEF** | | 2.40 | 2.40 | 2.40 | 1.60 | Total Full-Time Equivalent Faculty | |
| **WSCH/FTEF** | | 727 | 729 | 736 | 739 | WSCH Generated per Full-Time Equivalent Faculty Member | |
| **Full-time FTEF** | | 2.00 | 1.80 | 1.80 | 1.20 | FTEF from Contract Faculty | |
| **Hourly FTEF** | | 0.20 | 0.20 | 0.40 | - | FTEF from Hourly Faculty | |
| **Overload FTEF** | | 0.20 | 0.40 | 0.20 | 0.40 | FTEF from Contract Faculty Overload | |
| **Part-Time FTEF** | | 0.40 | 0.60 | 0.60 | 0.40 | Hourly FTEF + Overload FTEF | |
| **Part-Time/(Total FTEF) %** | | 16.67% | 25.00% | 25.00% | 25.00% | Percent of Total FTEF Taught By Part-Time Faculty | |
| Student Achievement: **Non Distance Education Courses** | | | |  |  | Those NOT taught via Distance Ed (see below) methods of instruction | |
| **● Retention Rate** | | 92.66% | 94.03% | 91.01% | 93.50% | Non-W Eligible Grades (see next line) Divided by All Eligible Grades | |
| **● Success Rate** | | 49.23% | 54.91% | 55.99% | 57.91% | A,B,C,CR/P Grades Divided By A,B,C,CR/P,D,F,FW,NC/NP,W Grades | |
| Student Achievement: **Distance Education Courses** | | | |  |  | Those taught via Internet, TV or non line-of-sight interactive methods | |
| **● Retention Rate** | | - | - | - | - | Non-W Eligible Grades (see next line) Divided by All Eligible Grades | |
| **● Success Rate** | | - | - | - | - | A,B,C,CR/P Grades Divided By A,B,C,CR/P,D,F,FW,NC/NP,W Grades | |
| **Degrees Awarded** | | - | 1 | - | N/A\* | Degree Counts Are for the Full Academic Year (thus, \*N/A for 2011-12) | |
| **Certificates Awarded:** | | - | 1 | - | N/A\* | Certificate Counts Are for the Full Academic Year (\*N/A for 2011-12) | |
| **- Under 18 Units** | | - | - | - | N/A\* | Certificate Counts Are for the Full Academic Year (\*N/A for 2011-12) | |
| **- 18 or More Units** | | - | 1 | - | N/A\* | Certificate Counts Are for the Full Academic Year (\*N/A for 2011-12) | |

| **I. A. Reflect upon and provide an analysis of the four years of data above (for a sample analysis see** <http://www.palomar.edu/irp/11PRYear1/sampleforIA.pdf>) |
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| **Enrollments in Astronomy were down for the Fall 2011 semester. This is in part due to our inability to find an adjunct instructor for an open section of Astronomy 100 in time for the start of the Fall semester causing us to cancel one section of astronomy lecture. Additionally, Mark Lane was the STEM Center Coordinator for the Fall 2011 semester with a 40% release. This caused him to drop one of the Astronomy 105L classes that he normally teaches (the class was ultimately cancelled due to a lack of finding an adjunct replacement in time).**  **The rest of the numbers are in line with the rest of the Earth Space and Aviation Sciences department statistics. Retention rates are high and similar to other disciplines. The success rate increased a bit for the Fall 2011 semester - up 2% - but are generally lower than other ESAS disciplines due to a greater number of students who do not finish the semester but were present after the withdrawal deadline (i.e. a greater number of “FW” grades being assigned).**  **A greater emphasis on encouraging students to earn degrees in astronomy seems necessary at first glance, however many of our students who are astronomy majors will continue their education at four-year colleges and will transfer their credits rather than working to meet the requirements of an AA at Palomar College. This is typical with many community colleges that offer a degree in astronomy or other hard sciences.** |

| **I. B. Please summarize the findings of Course AND Program SLO assessments conducted by your discipline. (For examples, see** <http://www.palomar.edu/irp/11PRYear1/PRPsloExamples.pdf>) |
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| **I.B.1 Summarize Course SLO assessment results beginning on the next line.**  **Phases of the Moon – Given any two of three variables (time of day, phase of Moon, position of the Moon in the sky) predict the missing variable. This will demonstrate knowledge of the concept of why the Moon shows phases and how its phase is related to where the Moon is in its orbit and where the observer is on Earth.**  **FALL 2011:**  **Assessment consisted of a homework assignment where students were give two of the following pieces of information: Time of day, phase of the moon, position in the sky. They were then asked to relate the three factors and answer questions related to the concept of lunar phases. The success rate was 62.5%.**  **I.B.2 Summarize Program SLO assessment results beginning on the next line.**  **The Hertzsprung-Russell Diagram – Interpret the measurable physical characteristics of a star (temperature, radius, luminosity, absolute magnitude, etc.) based on its position on the H-R diagram.**  **FALL 2011**  **Assessment consisted of a series of embedded questions on the final exam related to the HR diagram and its measureable characteristics. A total of 13 questions were asked. The success rate for all classes combined was 72%.** |

| **I. C. Reflect upon the SLO assessment findings in Box B above. Discuss overall observations and any areas of concern or noteworthy trends.**  **(For examples of such analysis, see** <http://www.palomar.edu/irp/11PRYear1/PRPsloExamples.pdf>) |
| --- |
| **I.C.1 Please reflect upon the Course SLO findings in Box B (above) beginning on the next line.**  **Although a success rate of 62.5% is considered to be a successful SLO, we would like to see considerable improvement in this area. Work is necessary (and has been implemented) to correct this. A greater amount of class time is now used to help the students have a more complete understanding of the causes of lunar phases. With the new planetarium open for business it is hoped that more realistic demonstrations of the concept of lunar phases will help increase the success rate to acceptable levels.**  **I.C.2 And, please reflect upon the Program SLO findings in Box B beginning on the next line.**  **Although a success rate of 72% is considered to be a successful SLO, we would like the success rate to be higher. More time spent in class and perhaps a homework assignment might help prepare the students to better understand the characteristics of the HR Diagram and why it is so important as part of their understanding of stellar evolution.** |

| **I. D. For Career Technical disciplines only, please provide a brief summary of the labor market outlook. This data can be found at** [**http://www.labormarketinfo.edd.ca.gov/**](http://www.labormarketinfo.edd.ca.gov/) **Please include job projections and trends that may influence major curriculum revisions.** |
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| **N/A** |

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| **STEP II. PLANNING**  **Reflecting on the 4-year trend data, the SLO assessment results, and the college’s** [**Strategic Plan 2013**](http://www.palomar.edu/strategicplanning/STRATEGICPLAN2013.pdf)**, describe/discuss the discipline planning related to the following: (For sample reflections, see** <http://www.palomar.edu/irp/11PRYear1/samplesforII.pdf>) |

| **II. A. Curriculum, programs, certificates and degrees (consider changes due to Title 5 or other regulations, CSU/UC transfer language updates, articulation updates, student retention or success rates, workforce and labor market projections, certificate or degree completions, etc.)** |
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| **The Astronomy Program at Palomar College continues to articulate well with other CSU and UC programs. Many of our students are satisfying their general education science requirement by taking the introductory astronomy courses. This keeps the enrollments high in astronomy and occasionally allows for growth in courses we are able to offer.**  **The Astronomy Program will be enhancing its curriculum to include simple hands-on observational projects that students can conduct either in a laboratory class, or through our Astronomy 295 (Directed Study course) course. These simple observational projects will allow the students to see the practical side of astronomy (and science in general) and see how the theory of astronomy transfers to the practice of it. [NOTE: This endeavor is on hold until issues related to the stability of the observing platform on the roof of the NS building are resolved.]** |

| **II. B. Class scheduling (consider enrollment trends, growth, course rotation, sequencing, Center/Site offerings, comprehensiveness, etc.)** |
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| **Current class offerings are adequate in number and meet the current demand. Now that the new planetarium is complete, astronomy lecture courses will begin to be scheduled in the planetarium theater.** |

| **II. C. Faculty (Briefly discuss the faculty hiring needs for this discipline. This discussion does not replace the requirement to submit a Rationale Form for Faculty Hiring to IPC.)** |
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| **The Astronomy Program will need to replace Jim Pesavento following his planned retirement (tentatively scheduled for 2014). Historically our program offers an average of 8 sections of Astronomy 100, one section of Astronomy 120, and 2 - 3 sections of Astronomy lab per semester. This robust offering of courses requires a minimum of two full-time instructors augmented by 2 – 3 adjunct instructors. An additional factor is that both full-time instructors are supposed to share the responsibilities of running the planetarium while sharing the bulk of the teaching load of astronomy courses. The ESAS department and College Administration needs to begin the process of planning to hire an eventual replacement for Jim Pesavento.**  **Additional faculty needs are related to the new planetarium. This job requires a minimum of two people to successfully meet the needs of giving planetarium presentations, promoting the planetarium to the public, creating planetarium shows, and keeping up with the day-to-day operation of the facility. In addition, the new planetarium is a bigger and more sophisticated facility that needs a minimum of two part time employees to operate when open to the public. Currently there is one full time faculty member (Mark Lane) that serves at the Planetarium Director and is the entire staff of the planetarium (not including temporary workers who help with some of the logistics). This means that if there is an illness, or other issue that keeps him from working, the Planetarium will have to shut down. The Division/Administration needs to work on hiring additional help so that we can maximize the potential of this grand new venue.** |

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| **STEP III. RESOURCE REQUESTS FOR DISCIPLINE:** |
| **III. A. Describe the resources necessary to successfully implement the planning described above. Provide a detailed rationale for each request by referring to the analyses of data and SLO assessment results in Step I and/or to any other evidence not apparent in the data or SLO Assessment** results.  NOTE: Do **NOT** include Resource Requests that duplicate requests from other disciplines In your department. Place requests common to two or more disciplines on the form: ACADEMIC DEPARTMENT RESOURCE REQUESTS. |

| **a. Equipment (per unit cost is >$500) *Enter requests on lines below.*** | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Resource** | **Describe Resource Requested** | **Prioritize these requests**  **1,2,3, etc.** | **Strategic Plan 2013 Goal/**  **Objective Addressed by This Resource**  **(**[**Link**](http://www.palomar.edu/strategicplanning/STRATEGICPLAN2013.pdf)**)** | **Provide a detailed rationale for the requested resource. The rationale should refer to your discipline’s plan, analysis of data, SLO assessments, and/or the College’s Strategic Plan** | **Estimated Amount of Funding Requested** | **Will this be one-time or on-going funding?** | **Is resource already funded (in part or in full)? If so, name source. Why is that source not sufficient for future funding?** |
| **a1.** |  |  |  |  |  |  |  |
| **a2.** |  |  |  |  |  |  |  |
| **a3.** |  |  |  |  |  |  |  |
| **a4.** |  |  |  |  |  |  |  |
| **a5.** |  |  |  |  |  |  |  |

| **b. Technology (computers, data projectors, document readers, etc.) *Enter requests on lines below.*** | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Resource** | **Describe Resource Requested** | **Prioritize these requests**  **1,2,3, etc.** | **Strategic Plan 2013 Goal/**  **Objective Addressed by This Resource**  **(**[**Link**](http://www.palomar.edu/strategicplanning/STRATEGICPLAN2013.pdf)**)** | **Provide a detailed rationale for the requested resource. The rationale should refer to your discipline’s plan, analysis of data, SLO assessments, and/or the College’s Strategic Plan** | **Estimated Amount of Funding Requested** | **Will this be one-time or on-going funding?** | **Is resource already funded (in part or in full)? If so, name source. Why is that source not sufficient for future funding?** |
| **b1.** | **We have no discipline-specific needs at this time.** |  |  |  |  |  |  |
| **b2.** |  |  |  |  |  |  |  |
| **b3.** |  |  |  |  |  |  |  |
| **b4.** |  |  |  |  |  |  |  |
| **b5.** |  |  |  |  |  |  |  |

| **c. Budget for 4000s (per unit cost is <$500 supplies) *Enter requests on lines below.*** | | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Resource** | **Describe Resource Requested** | | **Prioritize these requests**  **1,2,3, etc.** | | **Strategic Plan 2013 Goal/**  **Objective Addressed by This Resource**  **(**[**Link**](http://www.palomar.edu/strategicplanning/STRATEGICPLAN2013.pdf)**)** | | **Provide a detailed rationale for the requested resource. The rationale should refer to your discipline’s plan, analysis of data, SLO assessments, and/or the College’s Strategic Plan** | | **Estimated Amount of Funding Requested** | | **Will this be one-time or on-going funding?** | | **Is resource already funded (in part or in full)? If so, name source. Why is that source not sufficient for future funding?** |
| **c1.** |  |  | |  | |  | |  | |  | |  | |
| **c2.** |  |  | |  | |  | |  | |  | |  | |
| **c3.** |  |  | |  | |  | |  | |  | |  | |
| **c4** |  |  | |  | |  | |  | |  | |  | |
| **c5.** |  |  | |  | |  | |  | |  | |  | |

| **d. Budget for 5000s (printing, maintenance agreements, software license etc.) *Enter requests on lines below.*** | | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Resource** | **Describe Resource Requested** | | **Prioritize these requests**  **1,2,3, etc.** | | **Strategic Plan 2013 Goal/**  **Objective Addressed by This Resource**  **(**[**Link**](http://www.palomar.edu/strategicplanning/STRATEGICPLAN2013.pdf)**)** | | **Provide a detailed rationale for the requested resource. The rationale should refer to your discipline’s plan, analysis of data, SLO assessments, and/or the College’s Strategic Plan** | | **Estimated Amount of Funding Requested** | | **Will this be one-time or on-going funding?** | | **Is resource already funded (in part or in full)? If so, name source. Why is that source not sufficient for future funding?** | |
| **d1.** |  |  | |  | |  | |  | |  | |  | |
| **d2.** |  |  | |  | |  | |  | |  | |  | |
| **d3.** |  |  | |  | |  | |  | |  | |  | |
| **d4.** |  |  | |  | |  | |  | |  | |  | |
| **d5.** |  |  | |  | |  | |  | |  | |  | |

| **e. Classified staff position (permanent/contract position requests unique to this discipline) *Enter requests on lines below.*** | | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Resource** | **Describe Resource Requested** | | **Prioritize these requests**  **1,2,3, etc.** | | **Strategic Plan 2013 Goal/**  **Objective Addressed by This Resource**  **(**[**Link**](http://www.palomar.edu/strategicplanning/STRATEGICPLAN2013.pdf)**)** | | **Provide a detailed rationale for the requested resource. The rationale should refer to your discipline’s plan, analysis of data, SLO assessments, and/or the College’s Strategic Plan** | | **Estimated Amount of Funding Requested** | | **Will this be one-time or on-going funding?** | | **Is resource already funded (in part or in full)? If so, name source. Why is that source not sufficient for future funding?** |
| **e1.** | **We have no discipline-specific needs at this time.** |  | |  | |  | |  | |  | |  | |
| **e2.** |  |  | |  | |  | |  | |  | |  | |
| **e3.** |  |  | |  | |  | |  | |  | |  | |
| **e4.** |  |  | |  | |  | |  | |  | |  | |
| **e5.** |  |  | |  | |  | |  | |  | |  | |

| **f. Classified staff position (temporary and student workers position requests unique to this discipline) *Enter requests on lines below.*** | | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Resource** | **Describe Resource Requested** | | **Prioritize these requests**  **1,2,3, etc.** | | **Strategic Plan 2013 Goal/**  **Objective Addressed by This Resource**  **(**[**Link**](http://www.palomar.edu/strategicplanning/STRATEGICPLAN2013.pdf)**)** | | **Provide a detailed rationale for the requested resource. The rationale should refer to your discipline’s plan, analysis of data, SLO assessments, and/or the College’s Strategic Plan** | | **Estimated Amount of Funding Requested** | | **Will this be one-time or on-going funding?** | | **Is resource already funded (in part or in full)? If so, name source. Why is that source not sufficient for future funding?** |
| **f1.** | **We have no discipline-specific needs at this time.** |  | |  | |  | |  | |  | |  | |
| **f2.** |  |  | |  | |  | |  | |  | |  | |
| **f3.** |  |  | |  | |  | |  | |  | |  | |
| **f4.** |  |  | |  | |  | |  | |  | |  | |
| **f5.** |  |  | |  | |  | |  | |  | |  | |

| **III. B. Are there other resources (including data) that you need to complete your discipline review and planning?** |
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| **N/A** |

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| **STEP IV. SHARE YOUR ACCOMPLISHMENTS (AKA Brag, Toot your horn) Please include at least one discipline accomplishment that you’d like to share with the college community.** |
| **The new state-of-the-art planetarium opened in April 2012. This new planetarium was funded through the passage of Proposition M in 2006. After 43 years of service, the old planetarium has served the community well but needed to be torn down to make way for new campus construction. The new, larger planetarium is equipped with an audio and visual system that recreates the night sky and astronomical imagery in an unprecedented way here at Palomar College. The goal of the ESAS department is to grow the planetarium program to reach more K-12 children and have a greater offering to the San Diego North County Community.** |

| **STEP V. ACCREDITATION For programs with an external accreditation, indicate the date of the last accreditation visit and discuss recommendations and progress made on the recommendations.** |
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| **N/A** |

| **STEP VI. COMMENTS Other comments, recommendations: (Please use this space for additional comments or recommendations that don’t fit in any category above.)** |
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| **N/A** |

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| --- | --- | --- |
| **Please identify faculty and staff who participated in the development of the plan for this department:** | | |
| **Mark Lane *Name*** | ***Name*** | ***Name*** |

|  |  |  |
| --- | --- | --- |
| ***Name*** | ***Name*** | ***Name*** |

**Department Chair/Designee Signature Date**

**Division Dean Signature Date**

* **Provide a hard copy to the Division Dean no later than September 14, 2012**
* **Provide a hard copy with the Dean’s sign-off to Instructional Services by September 28, 2012**
* **Email an electronic copy to** [**jdecker@palomar.edu**](mailto:jdecker@palomar.edu) **by September 28, 2012**