**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: Earth Science** | **9/10/2012** |
| **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** | | 154 | 122 | 124 | 123 | *Self Explanatory* | |
| **Census Enrollment Load %** | | 96.25% | 101.67% | 103.33% | 102.50% | Enrollment at Census Divided By Sum of Caps (aka "Seats") | |
| **WSCH** | | 485 | 390 | 397 | 394 | Weekly Student Contact Hours | |
| **FTES** | | 16.18 | 13.01 | 13.23 | 13.12 | One Full-Time Equivalent Student = 30 WSCH | |
| **Total FTEF** | | 0.80 | 0.60 | 0.60 | 0.60 | Total Full-Time Equivalent Faculty | |
| **WSCH/FTEF** | | 607 | 651 | 661 | 656 | WSCH Generated per Full-Time Equivalent Faculty Member | |
| **Full-time FTEF** | | 0.60 | 0.40 | 0.40 | 0.40 | FTEF from Contract Faculty | |
| **Hourly FTEF** | | - | 0.20 | 0.20 | 0.20 | FTEF from Hourly Faculty | |
| **Overload FTEF** | | 0.20 | - | - | - | FTEF from Contract Faculty Overload | |
| **Part-Time FTEF** | | 0.20 | 0.20 | 0.20 | 0.20 | Hourly FTEF + Overload FTEF | |
| **Part-Time/(Total FTEF) %** | | 25.00% | 33.33% | 33.33% | 33.33% | 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** | | 93.92% | 96.58% | 92.56% | 95.83% | Non-W Eligible Grades (see next line) Divided by All Eligible Grades | |
| **● Success Rate** | | 62.84% | 69.23% | 78.51% | 75.00% | 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** | | - | - | - | N/A\* | Degree Counts Are for the Full Academic Year (thus, \*N/A for 2011-12) | |
| **Certificates Awarded:** | | - | - | - | 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** | | - | - | - | 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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| **The Earth Science discipline is a small part of the ESAS department. The ES 100 course was redesigned in Fall 2005 to meet criteria for transfer into the CSU San Marcos Liberal Studies Program. Sections of ES 100 are taught by full-time faculty Patty Deen and Dr. Lisa Yon (both also teaching Oceanography courses) and one adjuct faculty member. Since Fall 2009, three sections of ES100 have been offered per semester as reflected in the consistent WSCH numbers around 390; in Fall 2008, 4 sections of ES 100 were offered. Full-time FTEF in 2008 was 0.6 as both Patty Deen and Dr. Lisa Yon were each teaching 2 sections of ES 100. The decline in the full-time FTEF beginning in Fall 2009 is a direct result of Patty Deen beginning a 2-year combined sabbatical and leave-of-absence. Dr. Lisa Yon continued to teach 2 sections as 40% of her teaching load (60% Oceanography) and an adjunct faculty covered a third section of the ES 100 course. The Load % during the past two years has been over 100% with WSCH/FTEF increasing to average values of 656, among the highest in the department. In this same time period, Retention Rates have averaged 94.57%; Success Rates for 2010 and 2011 have averaged 76 percent, indicating an increase over 2008-2009. These numbers are similar to those in other disciplines within the ESAS department such as Geology and Oceanography.**  **The Load % and WSCH/FTEF values suggest that offerings of ES 100 can be expanded to meet student demand. We expect to increase offerings of ES 100 to the four sections previously offered. Expansion of the ES 100 discipline is planned with the opening of the new Southern Education center in Rancho Bernardo for Fall 2014. Expansion of the program will also include ES100 lecture and lab courses.**  **ES/GEOG115 - Natural Disasters/Environmental Hazards is offered each semester with the class filling early. We could offer more sections of this class.** |

| **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.**  **Course SLO assessments were conducted during the Fall 2011 semester for ES100. Students were presented with a series of embedded test questions on plate tectonics and earth seasons in order to assess their understanding of class subjects. A total of 75 students from two lecture sections participated in the assessment. The pass rate for the assessment was 76%, above the goal of 70% to reach the SLO.**  **ES/GEOG115 students were tested on the subject of greenhouse gases. 90.4% of students answered the embedded question correctly.** |

| **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>) |
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| **I.C.1 Please reflect upon the Course SLO findings in Box B (above) beginning on the next line.**  **Although the percent values for ES100 are within the acceptable range, Dr. Lisa Yon (who conducted the assessment and summarized the data) would like to see a different format for the assessment. Embedding the assessment within the regular lecture exam may not be the best format for SLO assessment. Future assessments will be constructed as individual targeted activities and then evaluated. ES/GEOG115 assessments easily surpassed the target of 70% answering correctly.**  **I.C.2 And, please reflect upon the Program SLO findings in Box B beginning on the next line.** |

| **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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| **While Earth Science is not usually considered a Career/Technical Discipline, ES 100 satisfies a specific requirement for students intending to acquire a teaching credential. Data from the California Labor Market indicates a demand for elementary and secondary school teachers in the coming years, especially those with credentials within the sciences.** |

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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 ES 100 course is a requirement for transfer into the Liberal Studies major at CSU San Marcos. We continue to have a strong representation of students who are either currently enrolled or plan to transfer into that program. We will continue to help meet the needs of these students. In line with this goal, we would like to expand our offerings to include an ES 100 lab course. Such a lab course would promote increased student learning of topics discussed in the lecture course and would provide an important foundation for these students as they ultimately transition into their own classrooms as elementary or secondary school teachers. Dr. Lisa Yon has been researching materials for the development of an ES 100 lab course. This will require adequate funding for the purchase of materials for the lab.**  **Patty Deen and Dr. Lisa Yon have discussed the need for an ES 197 Topics course. Plans are being made to submit the request for this course in the curriculum process along with the request for the ES 100 lab course.**  **ES/GEOG115 - Natural Disasters/Environmental Hazards was first offered Fall 2007. The course has been offered each subsequent fall semester and has been consistently full with a wait list each time it has been offered. This course was developed and is taught by Doug Key.** |

| **II. B. Class scheduling (consider enrollment trends, growth, course rotation, sequencing, Center/Site offerings, comprehensiveness, etc.)** |
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| **Potential growth within the Earth Science discipline exists in conjunction with the opening of the Rancho Bernardo and Fallbrook sites. This will include not only ES 100 lecture sections, but also lab sections should facilities be appropriate. The time frame for the opening of these sites is currently scheduled for Fall 2014.**  **The ES 195 Regional Field Studies course has been offered as a co-listed class with other ESAS field course offerings, including GEOG 195 and OCN 195. Budget concerns have led to the removal of most field courses from class offerings. We believe that field courses provide a very important learning experience not available in the classroom. Field courses also fill an important need for students who are looking for coursework beyond the introductory lecture course and such courses build a bridge between earth science and other disciplines within the ESAS Department by exposing students to concepts related to oceanography and geography. Thus, we would like to be able to offer ES 195 (Field Studies) once per year.** |

| **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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| **Full-time faculty teaching in the Earth Science discipline are also teaching in other disciplines such as Oceanography, Geography, and Geology. Dr. Lisa Yon expects to increase her commitment to the Earth Science discipline to 60% with the offering of an ES 100 lab. Patty Deen and Doug Key expect to keep their commitments at 20-40% of their full-time loads. Doug Key is considering retirement in June 2014.** |

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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.** | **We have no discipline-specific needs at this time.** |  |  |  |  |  |  |
| **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.** | **32 laptop computers (Latitude E6510 or equivalent at time of purchase) for the Southern Education Center** | **1** | **G6/O6.1 G2/O2.4** | **These are the portable lap top computers we move from lab to lab for student use. These may be shared between departments at the Southern Education Center.** | **$58,770** | **one-time** | **not funded with department funds but by college-wide IS funds.** |
| **b2.** | **laptop cabinet to store and move laptop computers, capacity 32 laptops** | **2** | **G6/O6.1 G2/O2.4** | **Storage units are esential for a set of laptop computers** | **$2500** | **one-time** | **not funded with department funds but by college-wide IS funds.** |
| **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.** | **Rock and mineral specimens** | **1** | | **G 2/O 2.4** | | **These materials will be needed as essential supplies for classes offered at the Rancho Bernardo Center and as part of supplies for the ES 100 Lab course** | | **$150** | | **on -going** | | **The current level for ES department funding is inadequate to cover both San Marcos and the Southern Education Center.** | |
| **c2.** | **Misc. lab equipment and glassware** | **2** | | **G 2/O 2.4** | | **These expenses are unknown but will be critical to the establishment of the ES100 lab.** | | **$375** | | **on -going** | | **The current level for ES department funding is inadequate to cover both San Marcos and the Southern Education Center.** | |
| **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.** | **Printing** | **1** | | **G 2/O 2.4** | | **Tests and handouts in classes, maps for lecture and lab activities** | | **$200** | | **on-going** | | **The current level of $365 is inadequate to cover the Southern Education Center.** | |
| **d2.** | **Travel with students for ES100 lab** | **2** | | **G 2/O 2.4** | | **The ES100 lab curriculum will include 4 field trips within San Diego County** | | **$350** | | **on-going** | | **As the ES 100 course has expanded, corresponding funding has not.** | |
| **d3.** | **Misc. (postage, etc.)** | **3** | | **G 2/O 2.4** | | **Support** | | **$50** | | **on-going** | | **In order to maintain a quality program, and develop the ES 100 lab course, increased funding is required.** | |
| **d4.** |  |  | |  | |  | |  | | **on-going** | |  | |
| **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.** | **no** |  | |  | |  | |  | |  | |  | |
| **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.** | **no** |  | |  | |  | |  | |  | |  | |
| **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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| **no** |

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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.** |
| **Dr. Lisa Yon continues to be active in public outreach programs. Dr. Yon's involvement with science activities within the Palomar College District service area has served as a means for evaluating the science background of potential Palomar College students. National surveys have indicated that a lack of interest in science is often due to a lack of opportunities being provided to students. In order to meet this need, Dr. Yon continues to serve in an advisory capacity for the San Diego Regional Science Olympiad as well as serving as an Earth Science/Oceanography event coach for Science Olympiad students within the Poway Unified School District. In her efforts to remain current with secondary level science standards and changing methods of instruction and evaluation for all levels, Dr. Yon is a member of the National Science Teachers Association and the California Science Teachers Association and attends their annual meetings. As a member of these groups, she has participated in the first review of the “Next Generation Science Standards (NGSS)” which occurred during May 2012. The second review process will occur during Fall 2012. Revision of the California State Science Standards will affect the level of preparation of incoming Palomar College students and thus impact the development and revision of Palomar College science courses.** |

| **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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| **WASC ignored our department in their last tour and Earth Science has no formal accrediting agency.** |

| **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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| **As a relatively new discipline, ES has had very little money allocated for supplies, printing, and travel. Therefore, most costs have been funded through budgets from other disciplines (especially Geology) within the ESAS department. More funds need to be allocated to support the increasing number of students enrolled in ES 100. Part of the decision on whether or not to develop a lab course has revolved around the discussion of sufficient funding for materials.**  **Lisa Yon has approved sabbatical leave for Fall 2012 to research, organize, and design materials for the ES100 lab.**  **The refurbished laptop computers provided by Palomar College Information Systems (IS) to the ESAS Department will serve a very important role in the development of an ES 100 lab course. Access to computers that can adequately run Google Earth or related software will be important and we anticipate writing curriculum to specifically utilize these laptops. We hope that IS intends to provide us with updated laptops as they become available through their refurbishment program. This will allow us to further update the content of our labs.** |

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| **Please identify faculty and staff who participated in the development of the plan for this department:** | | |
| **Patty Deen *Name*** | **Lisa Yon *Name*** | **Doug Key *Name*** |

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| --- | --- | --- |
| ***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**