**Palomar College – Program Review and Planning**

**Instructional Programs**

**YEAR 1**

**Academic Year** **2010-11**

**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: Chemistry** |  |
| **Instructional Discipline Reviewed (Each discipline is required to complete a Program Review)** | **Please Add Date (00/00/2011)** |

**STEP I. ANALYSIS**

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|  |  |  |  |  | **<<Prelim>>** | ◄▬ Preliminary Fall 2010 data are as of 1/30/2011 |  |
|  |  | **Fall 2007** | **Fall 2008** | **Fall 2009** | **Fall 2010** | **Definitions** | |
| **Enrollment at Census** | | 1,391 | 1,391 | 1,413 | 1,448 | *Self Explanatory* | |
| **Census Enrollment Load %** | | 89.04% | 94.11% | 95.86% | 99.04% | Enrollment at Census Divided By Sum of Caps (aka "Seats") | |
| **WSCH** | | 5,158 | 5,345 | 5,473 | 5,608 | Weekly Student Contact Hours | |
| **FTES** | | 171.93 | 178.18 | 182.44 | 186.95 | One Full-Time Equivalent Student = 30 WSCH | |
| **Total FTEF** | | 10.67 | 10.47 | 10.47 | 10.47 | Total Full-Time Equivalent Faculty | |
| **WSCH/FTEF** | | 484 | 511 | 523 | 536 | WSCH Generated per Full-Time Equivalent Faculty Member | |
| **Full-time FTEF** | | 4.60 | 4.60 | 4.60 | 4.60 | FTEF from Contract Faculty | |
| **Hourly FTEF** | | 5.27 | 5.47 | 5.07 | 5.47 | FTEF from Hourly Faculty | |
| **Overload FTEF** | | 0.80 | 0.40 | 0.80 | 0.40 | FTEF from Contract Faculty Overload | |
| **Part-Time FTEF** | | 6.07 | 5.87 | 5.87 | 5.87 | Hourly FTEF + Overload FTEF | |
| **Part-Time/(Total FTEF) %** | | 56.88% | 56.05% | 56.05% | 56.05% | 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** | | 90.42% | 92.21% | 90.97% | 93.15% | Non-W Eligible Grades (see next line) Divided by All Eligible Grades | |
| **● Success Rate** | | 71.47% | 64.14% | 63.86% | 69.35% | 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 2010-11) | |
| **Certificates Awarded:** | | - | 2 | - | N/A\* | Certificate Counts Are for the Full Academic Year (\*N/A for 2010-11) | |
| **- Under 18 Units** | | - | - | - | N/A\* | Certificate Counts Are for the Full Academic Year (\*N/A for 2010-11) | |
| **- 18 or More Units** | | - | 2 | - | N/A\* | Certificate Counts Are for the Full Academic Year (\*N/A for 2010-11) | |

| **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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| **It is clear from the above numbers that the Chemistry Department has been at near- full capacity for the years cited. Adjunct instructors carry a large FTEF% (56%) with all permanent faculty carrying a full teaching load (no sabbatical leaves within the years cited). The high enrollments – above 90% for all cited years – are indicating the magnitude of the enrollment pressure felt by the students within the Natural Sciences Division. Retention rates are all above 90% while success rates continue to remain above average for this Discipline (64% - 71%).** |

| **I. B. Please summarize the findings of a Course or Program SLO assessment conducted by your discipline. (For examples, see** <http://www.palomar.edu/irp/11PRYear1/PRPsloExamples.pdf>) |
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| **An average of 83.5% of all students in Organic Chemistry 220 met or exceeded the lecture SLO and laboratory rubric. Much of this success can be attributed to continued and successful Supplemental Instruction for this course.** |

| **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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| **It appears that student success has been increasing for the past three years in Organic Chemistry. Much of this success can be attributed to continued and successful Supplemental Instruction for this course.** |

| **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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| **The percent change in the State of California projects an increase in demand for chemists by 6.4% while the demand is slightly down in San Diego County by 4.3%. Therefore, the projection in demand for chemists is showing an increase through 2018.** |

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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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| **More A.A. (A.S.) degrees in Chemistry could possibly be awarded if Analytical Chemistry 210 could be offered. We have not been offering the course due to low enrollment. Perhaps, an agreement between CSUSM and Palomar College could be reached in order to offer the course at each institution on alternate years. All CSU students and Palomar students desiring the course would alternate taking this class at either institution. This may be possible to achieve through our STEM grant and collaboration with CSU.** |

| **II. B. Class scheduling (consider enrollment trends, growth, course rotation, sequencing, Center/Site offerings, comprehensiveness, etc.)** |
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| **The offering of Analytical Chemistry 210 would have minimal impact on class scheduling. Also, since it enrolls a small number of students, it would not negatively affect enrollment of other courses.** |

| **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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| **Our current permanent faculty base is stable.** |

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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.** | **Maintenance agreements for 2 Perkin-Elmer F.T.I.R.s and 1 Agilent GC/MS** | **1** | **2009 IRP: page 2, 4a** | **2009 IRP: page 3, 4f; 2010 PRP: pg.2.** | **$13,240.91** | **On-going** | **No. This was funded last year by IPC – only for year 2010.** |
| **a2.** | **Virtual Chem Lab** | **2** | **SP Goals 2&6** | **PRP: pg. 2. Software will allow prelab practice of lab technique and calculations to increase success in the laboratory as well as concepts covered in lecture.** | **$7,000** | **One-time** | **No** |
| **a3.** | **Vernier Data Collector** | **3** | **SP Goals 2&6** | **PRP: pg. 2. Devices are a more state-of-the-art representation of how “wet” data are collected. Modern chemical technique and data calculations may now be taught with these devices.** | **$10,000** | **One-time** | **No** |
| **a4.** | **Change-over gas regulator(digital)** | **4** | **2009 IRP: page 2, 4a** | **2010 PRP: pg. 2. Our current regulator is leaking and serious mechanical risks exist to our Gas Chromatograph/Mass Spctrometer (used by students in organic laboratories), if not replaced.** | **$8354** | **One-time** | **No** |
| **a5.** | **Mettler-Toledo chemical balance**  **a6. Hydrogenation apparatus**  **a7. High Performance Liquid Chromatograph**  **a8. Rotoevaporator** | **5**  **6**  **7**  **8** | **2009 IRP: page 2, 4a**    **SP Goals 2&6; 2009 IRP: pg. 2, 4a**  **SP Goals 2&6; 2009 IRP: pg. 2, 4a**  **SP Goals 2&6; 2009 IRP: pg. 2, 4a** | **2010 PRP: pg. 2. Balances are constantly wearing out and need to be replaced. They are our most highly used pieces of equipment in the lab.**  **2010 PRP: pg.2; We have taught the concept on hydrogenation for years; however, we cannot teach the technique in lab without the apparatus.**  **2010 PRP: pg.2; Our HPLC had deteriorated over the years to the point that it no longer would function and could not be repaired.**  **2010 PRP: pg.2; Our current apparatus is physically deteriorating and is becoming unsafe to operate. This apparatus reflects modern and currently-practiced lab technique.** | **$1539**  **$6,790**  **$25,000**  **$5826** | **On-going**  **One-time**  **One-time**  **One-time** | **No**  **No**  **No**  **No** |

| **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.** | **Computer laptops** | **1** | **SP Goals 2&6** | **Laptops would be needed to use and operate chemical software that has been requested.** | **$60,800** | **One-time** | **No** |
| **b2.** | **Desk-top computers: classrooms/support areas** | **2** | **SP Goals 1,2,5,6** | **Instructional Services request to cycle all computers on a 5 year basis.** | **$13,600** | **On-going** | **Information Services** |
| **b3.** | **Desk-top computers: faculty/staff offices** | **3** | **SP Goals 1,2,5,6** | **Instructional Services request to cycle all computers on a 5 year basis.** | **$13,600** | **On-going** | **Information Services** |
| **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.** | **Budget increase to purchase staple reagents needed to conduct laboratory** | **1** | | **SP 2&6** | | **2009 IRP: pg. 3, 4b** | | **$1,000** | | **On-going** | | **No** | |
| **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.** | **Budget increase for printing costs** | **1** | | **SP 2&6** | | **Each year we are deficit for incurred printing costs. This printing is used to conduct normal classroom exams/activities.** | | **$1,000** | | **On-going** | | **No** | |
| **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.** |  |  | |  | |  | |  | |  | |  | |
| **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.** |  |  | |  | |  | |  | |  | |  | |
| **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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| **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.** |
| **For the past 10 years, we have had students consistently scoring within the 95th percentile, or higher, on the American Chemical Society's national examination. This exam is comprehensive for the entire year of organic chemistry. Our students compete with high-ranking colleges and universities throughout the nation.** |

| **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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| **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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| **Please identify faculty and staff who participated in the development of the plan for this department:** | | |
| **David A. Boyajian *Name*** | **Tsung Lee *Name*** | ***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 March 11**
* **Provide a hard copy with the Dean’s sign-off to Instructional Services by March 18**
* **Email an electronic copy to** [**jdecker@palomar.edu**](mailto:jdecker@palomar.edu) **by March 18**