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

**STEP I. ANALYSIS**

|  |  |  |  |  |  |  |  |
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|   |   |  |  |  | **<<Prelim>>** | ◄▬ Preliminary Fall 2011 data are as of 1/31/2012 |   |
|   |   | **Fall 2008** | **Fall 2009** | **Fall 2010** | **Fall 2011** | **Definitions** |
| **Enrollment at Census** | 1,387 | 1,413 | 1,448 | 1,349 | *Self Explanatory* |
| **Census Enrollment Load %** | 93.83% | 95.86% | 99.04% | 97.33% | Enrollment at Census Divided By Sum of Caps (aka "Seats") |
| **WSCH** | 5,345 | 5,473 | 5,608 | 5,259 | Weekly Student Contact Hours |
| **FTES** | 178.18 | 182.44 | 186.95 | 175.28 | One Full-Time Equivalent Student = 30 WSCH |
| **Total FTEF** | 10.47 | 10.47 | 10.47 | 10.67 | Total Full-Time Equivalent Faculty |
| **WSCH/FTEF** | 511 | 523 | 536 | 493 | 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** | 5.47 | 5.07 | 5.47 | 5.67 | FTEF from Hourly Faculty |
| **Overload FTEF** | 0.40 | 0.80 | 0.40 | 0.40 | FTEF from Contract Faculty Overload |
| **Part-Time FTEF** | 5.87 | 5.87 | 5.87 | 6.07 | Hourly FTEF + Overload FTEF |
| **Part-Time/(Total FTEF) %** | 56.05% | 56.05% | 56.05% | 56.88% | 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** | 92.21% | 90.97% | 93.04% | 95.18% | Non-W Eligible Grades (see next line) Divided by All Eligible Grades |
|  **● Success Rate** | 64.14% | 63.86% | 69.46% | 73.95% | 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:** | 2 |  - | 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** | 2 |  - | 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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| **The data shows a steady increase in enrollment through 2010, then a very slight dip to 97% in 2011(prelim). The Chemistry Department is operating at near-full capacity with Retention Rates all above 90% and Success Rates range from 64% to 74%. While the enrollment took a 2% dip, the Success Rate increased 4%.****The data shows the Adjunct Faculty carrying 57% of the FTEF, however with the retirement of David Boyajian in Dec. 2011 this is more like 66%.** |

| **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.****The students in Organic Chemistry 221 Laboratory Spring 2012 were only able to partially satisfy the SLO (students will be able to execute intermediate chemical reactions and analyze data) for this class due to broken equipment (Rotary Evaporator and HPLC=High Performance Liquid Chromatograph)) and lack of communication between adjunct faculty and the chemical stockroom.****The students in Organic Chemistry 221 Lecture Spring 2012 met or exceeded the SLO.****Students in the General Chemistry Lectures and Labs have met the SLO standards, however the SLO could be upgraded with new equipment (Vernier Data Collectors).****I.B.2 Summarize Program SLO assessment results beginning on the next line.****The SLO states "students will be able to execute and analyze general and intermediate chemical reactions". We are limited in the department to general or elementary reactions without the proper instruments (Rotary Evaporator, HPLC, Vernier Data Collectors).** |

| **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.****Without the funding to replace the broken or missing equipment in the Organic Chemistry Labs and General Chemistry Labs, or the funds to hire a permanent Chemistry Organic Chemistry faculty, the program is and will continue to suffer.****The success in the all the chemistry lectures may be the result of providing Supplemental Instruction.** **I.C.2 And, please reflect upon the Program SLO findings in Box B beginning on the next line.****See above - I.C.1** |

| **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 State of California job market will dictate this.** |

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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 AA or AS degrees in Chemistry cannot be awarded without Chemistry 210, Analytical Chemistry. This class has not been offered for several years now due to budget cuts and low enrollment. The option to drop the requirement is undesirable, so efforts are being made to cycle the course offering with CSUSM.** |

| **II. B. Class scheduling (consider enrollment trends, growth, course rotation, sequencing, Center/Site offerings, comprehensiveness, etc.)** |
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| **The offering of Chemistry 210 would have minimal impact on class scheduling and would not negatively affect enrollment of other courses.****An agreement between Palomar College and CSUSM to offer the class at each institution on alternate years may increase the number of degrees awarded in Chemistry.** |

| **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 Chemistry Department is in need of a full-time, permanent Organic Chemist to teach Organic Chemistry 220 and 221, lecture and laboratory.** |

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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.**  | **Rotary Evaporator** | **1** | **SP 2 & 6** | **The Rotovapor was used for many years in the Organic Chemistry Lab until the motor caught fire in the Spring of 2012. The cost to repair the outdated instrument is more than a modern replacement. This apparatus reflects modern and currently practiced lab technique.** | **$7330** | **one-time** | **No** |
| **a2.**  | **Vernier Data Collector** | **2** | **SP 2 & 6** | **These devices are state-of-the-art data collectors. Modern chemical technique and data calculations in General Chemistry are taught with these devices.** | **$12250** | **one-time** | **No** |
| **a3.**  | **Ultra-Violet Lamp and Radiation Detector** | **3** | **SP 2 & 6** | **These instruments are used in the Chem 104/105/210 Chemistry Labs and reflect modern and currently practiced lab techniques.** | **$7900** | **one-time** | **No** |
| **a4.**  | **High Performance Liquid Chromatograph** | **4** | **SP 2 & 6** | **Our HPLC has deteriorated over the years to the point now that it no longer functions. The cost to repair the outdated instument is more than a modern replacement. This instrument reflects modern and currently practiced lab technique.** | **$27000** | **one-time** | **No** |
| **a5.**  | **Hydrogenation Apparatus** | **5** | **SP 2 & 6** | **The concept of 'hydrogenation' has been taught for many years; however, the technique cannot be taught in lab without the instrument.** | **$8270** | **one-time** | **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 2 & 6** | **Computers (15) to be used by the General Chemistry Laboratory students for data analysis in the laboratory where there are no computers available. The set of computers would be stored in the stockroom and available for check-out by all the chemistry instructors for their classes.** |  **$34825** | **one-time** | **No** |
| **b2.**  | **Desktop Computers** | **2** | **SP 1, 2, 5 & 6** | **Instructional Services request to cycle all computers every 5 years. We currently have 4 faculty and 1 ADA = 5 computers.** | **$13600** | **on-going every 5 years** | **Information Services** |
| **b3.**  |  |  |  |  |  |  |  |
| **b4.**  |  |  |  |  |  |  |  |
| **b5.**  |  |  |  |  |  |  |  |

| **c. Budget for 4000s (per unit cost is <$500 supplies) *Enter requests on lines below.*** |
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| **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 for Chemistry Laboratory** | **1** | **SP 2 & 6** | **New modern experiments are being introduced into the General and Organic Chemistry Laboratories.** | **$2500** | **on-going** | **No** |
| **c2.**  |  |  |  |  |  |  |  |
| **c3.**  |  |  |  |  |  |  |  |
| **c4** |  |  |  |  |  |  |  |
| **c5.**  |  |  |  |  |  |  |  |

|  **d. Budget for 5000s (printing, maintenance agreements, software license etc.) *Enter requests on lines below.*** |
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| **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.**  | **Maintenance agreement for 2 Perkin-Elmer FTIR's** | **1** |  | **Maintenance for both of the instruments.** | **$9775** | **on-going** | **No** |
| **d2.**  | **Maintenance agreement for 1 Agilent GC/MS** | **1** |  | **Maintenance of the instrument.** | **$7448** | **on-going** | **No** |
| **d3.**  | **Airgas rental agreement** | **2** |  | **Gas cylinder rental agreement.** | **$3258** | **on-going** | **No** |
| **d4.**  | **Budget increase for printing costs** | **3** | **SP 2 & 6** | **In the past the printing required for normal classroom exams and activities has gone over budget.** | **$1000** | **on-going** | **No** |
| **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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| **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.** |
| **Our Organic Chemistry students continue to score in the 95th percentile, and higher, on the American Chemical Society's national examination.** |

| **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:** |
| **Patti Brandon*Name*** | **Tsung Lee*Name*** | **Geetha Natarajan*Name*** |

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| --- | --- | --- |
| **Bettina Heinz*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** **by September 28, 2012**