

Palomar College – Institutional Review and Planning Instructional Programs

Purpose of Institutional 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.)

Discipline: Physics

Instructional Discipline Reviewed

2007-08

1. 3-year trend of quantitative data

	Fall 2004	Fall 2005	Fall 2006	Definitions
Enrollment at Census	544	471	490	<i>Self Explanatory</i>
Census Enrollment Load %	80.24%	74.60%	69.01%	Enrollment at Census Divided By Sum of Caps (aka "Seats")
WSCH	1,765	1,531	1,608	Weekly Student Contact Hours
FTEF	58.83	51.03	53.58	One Full-Time Equivalent Student = 30 WSCH
Total FTEF	4.47	4.27	4.63	Total Full-Time Equivalent Faculty
WSCH/FTEF	395	359	347	WSCH Generated per Full-Time Equivalent Faculty Member
Full-time FTEF	1.80	1.80	2.20	FTEF from Contract Faculty
Hourly FTEF	2.00	2.20	1.60	FTEF from Hourly Faculty
Overload FTEF	0.67	0.27	0.83	FTEF from Contract Faculty Overload
Part-Time FTEF	2.67	2.47	2.43	Hourly FTEF + Overload FTEF
Part-Time FTEF %	59.70%	57.81%	52.52%	Percent of Total FTEF Taught By Part-Time Faculty
Retention Rate	89.45%	89.73%	91.82%	Non-W Grades (A,B,C,CR,D,F,FW,NC) Divided By A,B,C,CR,D,F,FW,NC,W Grades
Success Rate	62.50%	62.50%	63.18%	A,B,C,CR Grades Divided By A,B,C,CR,D,F,FW,NC,W Grades
Degrees Awarded	-	-	-	Total number of Degrees awarded for the Full Academic Year
Certificates Awarded:	-	-	-	Total number of Certificates awarded for the Full Academic Year
- Under 18 Units	-	-	-	Total number of Certificates awarded for the Full Academic Year
- 18 or More Units	-	-	-	Total number of Certificates awarded for the Full Academic Year

2. Reflect upon and analyze the above 3-year trend data. Briefly discuss overall observations and any areas of concern or noteworthy trends.

Fall 2004 was the last year we had three classes of Physics 120 and six corresponding labs without any increase of supply budget. We were lead to believe the increase of our budget if we increased the number of offerings. We intentionally cut back the number of offerings to maintain the quality of physics labs. Both retention rate and success rate have increased. Both the Physics 120 and 200 programs are poised for growth if support resources are made available.

3. Reflecting on the 3-year trend data, describe/discuss discipline planning related to the following:

PLAN – 2007-08	Progress – 2008-09
<p>a. Curriculum, programs, certificates and degrees (consider changes due to CSU/UC transfer language updates, articulation, workforce and labor market projections, certificate or degree completions, etc.)</p> <p>We will maintain high quality of Physics & Engineering major courses.</p> <p>We will investigate the creation Nuclear Operations and Maintenance Technician Certificate in conjunction with Edison.</p> <p>The Physics 232 course may be upgraded to include Statistical Mechanics, requiring an increase in one unit to five.</p>	<p>We have been maintaining high quality of Physics & Engineering major courses.</p> <p>The creation Nuclear Operations and Maintenance Technician Certificate in conjunction with Edison did not work out as we wished.</p> <p>Due to the budget cut, instead of offering Physics 232, we offered Physics 201L to serve life science majors. Hence the course has not been upgraded.</p>
<p>b. Class scheduling (consider enrollment trends, growth, course rotation, comprehensiveness, etc.)</p> <p>We have lost one 48-student-lecture-room, but instead, we have a 32-student-room. Due to this smaller size classroom, a creative scheduling is required to accommodate this difference without losing students.</p>	<p>We have started using some of lecture halls so that we can have more than 32 students. We will have to look into more usage for other physics courses.</p>

4. Discuss/identify the resources necessary to successfully implement the planning described:

PLAN – 2007-08	Progress – 2008-09
<p>a. Equipment/Technology – block grant funds, VTEA, other resources, etc. We will try to add a computer acquisition system (such as Pasco) to Physics 101L. This will allow faster and more accurate data collections.</p> <p>Physics 230, 231, and 232 need replacement/upgrade equipment for labs</p> <p>NS245 needs new computers and data acquisition systems. The current setups are surplus computers from IS and 8 year old DAQ systems. At least one computer fails each semester causing disruption of labs. The DAQ systems require old serial ports no longer supported on new computers and are beginning to fail.</p>	<p>101L: This has not been successful due to the failure of awarded granted money.</p> <p>230 & 231: Some of our equipment are old and are not replaceable. We will have to start looking into purchasing new sets to replace some of lab exercises.</p> <p>232: Some of equipment is replaced slowly. Computer replacement has not been occurred.</p>
<p>b. Budget – budget development process, one-time funds, grants, etc.</p> <p>NS255 will be remodeled to a lecture/lab room. The room needs basic measuring devices such as electronic scales (0 – 1000.00 g with 1/100 g accuracy), triple beam scales, stop watches, meter sticks, two meter sticks, 50-m tape measures, straight edge rulers, protractors, compasses.</p>	<p>Triple beam scales, stop watches, meter sticks, two meter sticks, 50-m tape measures, straight edge rulers, protractors, and compasses are ordered in this year's supply/equipment budget.</p>
<p>c. Facilities – schedule maintenance needs, additional classrooms/labs due to growth, remodeling, etc.</p>	
<p>d. Faculty position(s) – faculty priority process and projected full-time needs for 1 – 3 years</p> <p>We do not plan to hire a physics instructor, but we desperately need to hire a physical science instructor to oversee the program since there is no full time instructor to do so.</p>	
<p>e. Staff position(s) – changes in instructional or support needs due to program growth, new technology, etc.</p> <p>At this point, we have to share a person with Earth Sciences Department, but we do need a full time Physics/Engineering lab technician to service/maintain/fix old/new equipment. Some of them are old and irreplaceable, but still very valuable for students to understand important physics concepts.</p>	<p>We have not been able to hire a full time instructional support for the department.</p>
<p>f. Other</p>	

5. Discuss one discipline goal linked to Palomar's Strategic Plan 2009 and how it will support the success of students.

We have a better communication with CSUSM Physics Department so that our PHSC, Physics, and engineering students now have smooth transfer to their programs

6. Student Learning Outcome progress:

a. Describe a learning outcome at the course or program level and the assessment used to measure student learning of that outcome.

All of our students who took Physics 230 series successfully transfer to four-year-universities including SDSU, UCSD, UCLA, UC Berkeley, CalPoly in SLO, Cal-Tech, etc.

b. Discuss a learning outcome that is observable yet difficult to measure.

Upon transfer to four-year-universities, our students seem to perform well in physics & engineering majors. They come back to Palomar to tell us how well they are adapting new environment and perform well in those big schools. So far, we have never had a student who came back and told us that he/she could not perform well in the new environment.

7. Describe a discipline accomplishment that you want to share with the college community.

Our department started “Engineering Club”. For detail, please see Engineering’s Institutional Review and Planning.

8. Are there other resources (including data) that you need to complete your discipline review and planning?

Our allocated budget seems to be lower than other departments’ budget according to WSCH percentage.

9. For programs with an external accreditation, indicate the date of the last accreditation visit and discuss recommendations and progress made on the recommendations.

10. Other comments, recommendations:

Please identify faculty and staff who participated in the development of the reviewer's planning:

Department Chair/Designee Discipline Review and Signature

Date

Division Dean Review and Signature

Date