

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: Engineering

Instructional Discipline Reviewed

2007-08

1. 3-year trend of quantitative data

	Fall 2004	Fall 2005	Fall 2006	Definitions
Enrollment at Census	71	62	73	<i>Self Explanatory</i>
Census Enrollment Load %	50.35%	42.18%	47.71%	Enrollment at Census Divided By Sum of Caps (aka "Seats")
WSCH	133	124	151	Weekly Student Contact Hours
FTEs	4.43	4.13	5.03	One Full-Time Equivalent Student = 30 WSCH
Total FTEF	0.67	0.67	0.67	Total Full-Time Equivalent Faculty
WSCH/FTEF	199	186	226	WSCH Generated per Full-Time Equivalent Faculty Member
Full-time FTEF	-	-	0.60	FTEF from Contract Faculty
Hourly FTEF	0.67	0.67	0.07	FTEF from Hourly Faculty
Overload FTEF	-	-	-	FTEF from Contract Faculty Overload
Part-Time FTEF	0.67	0.67	0.07	Hourly FTEF + Overload FTEF
Part-Time FTEF %	100.00%	100.00%	10.00%	Percent of Total FTEF Taught By Part-Time Faculty
Retention Rate	93.33%	92.31%	96.36%	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	68.33%	73.08%	76.36%	A,B,C,CR Grades Divided By A,B,C,CR,D,F,FW,NC,W Grades
Degrees Awarded	-	2	-	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.

The data over the three years shown indicates an increasing trend in all the areas. Due to the newly acquired CNC Machine in addition to the newly started Engineering Club (www.PEPSO.org) , the numbers should continue to rise.

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>Changes were made to the graduation requirements to include CAD (Computer Aided Drafting) instead of hand drafting. In addition, a unit increase for the Materials course (Engr 245) has been implemented in order to make/keep this course transferable to the CSU/UC systems.</p> <p>We will develop an Introductory Electronics course, and revise the ENGR 126 course to serve as a laboratory companion. This will be achieved by consolidating and incorporating the existing ECHT curriculum and equipment.</p>	<p>The graduation requirements and the unit increase for 245 have been completed. The course is transferable to the CSU/UC systems.</p> <p>The development of new introductory electronic courses is in the curricunet, on the way to approval.</p> <p>ECHT Department has been discontinued and we are in progress of inheriting Q-10 (electronics lab) and the equipment in the room.</p>
<p>b. Class scheduling (consider enrollment trends, growth, course rotation, comprehensiveness, etc.)</p> <p>We continuously attempt to offer the Engineering courses, so there is no overlap between the Engineering, Physics and Math courses.</p>	<p>We have eliminated course schedule conflict with Engineering, Physics, and Math 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. The recent addition of the CNC machine in the Engineering Department has afforded many opportunities for the department. In order to fully utilize this machine however, additional tools/equipment is needed to support the CNC machine. A band-saw, manual milling machine, lathe, and the required tooling for the CNC machine itself.</p> <p>Equipment from the ECHT department should be incorporated.</p>	<p>Besides the CNC machine, we have acquired a band-saw. However, other equipment has not come yet.</p>
<p>b. Budget – budget development process, one-time funds, grants, etc. With the acquisition of the CNC Machine, materials need to be purchased for the machine to be implemented. Also, the new Engineering Club will need supplies to have ongoing projects.</p> <p>A budget will be required for maintaining the new Introductory Electronics courses.</p>	<p>Since the new introductory electronics courses are not finalized yet, the budget is not changed yet.</p>
<p>c. Facilities – schedule maintenance needs, additional classrooms/labs due to growth, remodeling, etc. The Engineering Department is in need of at least four computer stations to allow student to do CAD design.</p> <p>Q-10 or similar area should be secured for the new Introductory Electronics courses.</p>	<p>We are desperately in need of Q-10 or similar room setting to offer some of engineering courses including the new courses and the engineering club, PEPSO.</p>
<p>d. Faculty position(s) – faculty priority process and projected full-time needs for 1 – 3 years The Engineering Department does not need any additional faculty at this time, or within the next three years.</p>	
<p>e. Staff position(s) – changes in instructional or support needs due to program growth, new technology, etc. Tony Kopec has been instrumental in Getting the CNC machine up and running. Additional tools are essential to allow us to expand the department. 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>Tony and our department are working out very well and we are happy to have him as a member of our 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.

The continued offering of ENGR 126, 235, 236 and ENGR 245 at least once a year will allow students to complete their transfer requirements in addition to earning an AA degree in Engineering.

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.

Quizzes and exams are given throughout the semester in order for students and faculty to gauge where their efforts will have the greatest payoff.

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.

Many former students of the Physics and Engineering Department return to Palomar College with their success stories from their experiences after transfer to various 4-year universities.

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

An Engineering Club at Palomar College has been started up, and there are currently 30 members working on a variety of projects. This allows for students with a variety of skills and different majors to work together in order to achieve a common goal.

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