

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: Biology

Instructional Discipline Reviewed

2007-08

1. 3-year trend of quantitative data

	Fall 2004	Fall 2005	Fall 2006	Definitions
Enrollment at Census	2,127	2,053	2,113	<i>Self Explanatory</i>
Census Enrollment Load %	97.35%	94.34%	94.32%	Enrollment at Census Divided By Sum of Caps (aka "Seats")
WSCH	6,940	6,620	7,032	Weekly Student Contact Hours
FTEF	231.35	220.68	234.40	One Full-Time Equivalent Student = 30 WSCH
Total FTEF	12.60	12.20	12.80	Total Full-Time Equivalent Faculty
WSCH/FTEF	551	543	549	WSCH Generated per Full-Time Equivalent Faculty Member
Full-time FTEF	4.40	3.60	2.60	FTEF from Contract Faculty
Hourly FTEF	7.20	7.40	9.20	FTEF from Hourly Faculty
Overload FTEF	1.00	1.20	1.00	FTEF from Contract Faculty Overload
Part-Time FTEF	8.20	8.60	10.20	Hourly FTEF + Overload FTEF
Part-Time FTEF %	65.08%	70.49%	79.69%	Percent of Total FTEF Taught By Part-Time Faculty
Retention Rate	93.43%	90.73%	92.23%	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	66.78%	64.81%	60.78%	A,B,C,CR Grades Divided By A,B,C,CR,D,F,FW,NC,W Grades
Degrees Awarded	2	1	-	Total number of Degrees awarded for the Full Academic Year
Certificates Awarded:	2	1	-	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	2	1	-	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.

It is clear from the above numbers that the Biology discipline within the Life Sciences Department has been at near full capacity for the years cited. Adjunct instructors carry a large FTEF% (65%-80%) and while the numbers change due to sabbatical leaves and other issues part-time instruction has impacted this discipline. The high enrollments – above 90% for all cited years – are indicating the magnitude of the enrollment pressure felt by this student group. Retention rates are all above 90% yet success rates are all low (60% - 66%) which I believe are indicating that our general education Introduction to Biology, Bio 100 course is very typical when compared to cohorts across campus.

General Biology is responsible for a disproportionate amount of our Biology discipline and generates much of our WSCH. Meeting the expanding needs of this population of students within the College takes much of our efforts.

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>The Biology discipline within the Life Sciences Department has always served a small, but important group of students. Many of these students have plans to transfer to four year institutions and make their careers in the biological sciences. There are many articulation agreements in place with local 4 year institutions. While the degrees and/or certificates awarded are few these students typically transfer to the 4 year institution of choice and pursue undergraduate degrees at that time.</p> <p>The second group of students are the general education students that use this course to satisfy their lab science breadth requirements. We need to continue to offer enough sections to meet their needs as well.</p>	
<p>b. Class scheduling (consider enrollment trends, growth, course rotation, comprehensiveness, etc.)</p> <p>Besides general biology, we offer our majors level biology and several other courses within the biological sciences, such as marine biology, animal behavior and several field biology courses. Our program is broad and satisfies the needs of several diverse populations.</p> <p>Census enrollment load % (94%+) and WSCH/FTEF ratios (543 – 551) confirm that we should add sections to our schedule of classes – especially in general biology. Yet, with the current budget crisis and pending cuts we will not have the opportunity to grow.</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.</p> <p>Moving to our new building with twice as many laboratories requires that we spread our equipment throughout the department. Each lab, while the specific needs are dictated by the courses using the facility, needs to be equipped with a full and complete set of the basic equipment and supplies. Therefore, we need to purchase many more display items and models for demonstration, microscope specimen slides, glassware and many other smaller items for each lab room.</p> <p>More costly items that we need include a microscopic video camera system similar to the system we have in our microbiology laboratory for two labs. We also need to replace a set of aged compound microscopes as well as a set of dissecting microscopes. Our majors level biology course needs more ‘high tech’ molecular biology equipment to remain current in this quickly changing and ever expanding field.</p> <p>One set of classroom ‘clickers’ for student feedback could be shared within this discipline.</p>	
<p>b. Budget – budget development process, one-time funds, grants, etc.</p> <p>Without a more stable approach to budget development, reasoned and planned growth will remain difficult.</p> <p>This discipline has the student population as confirmed by the numeric data presented above. Almost all of our sections are impacted and we could successfully offer more class sections in this discipline. However, any additional section requires a large infusion of funding to support the laboratory supply and technician support costs as well as the usual and typical costs of any course.</p> <p>The current thought process of budgeting is in this case backward. The department cannot afford to offer a costly laboratory based course because we are already supporting many sections with the budgets we have that are stretched too thin. Yet, we can not justify an increase in funding, nor even expect to remain even, during the budget development process without showing that growth has occurred.</p> <p>We are in a circular ‘Catch 22’.</p>	
<p>c. Facilities – schedule maintenance needs, additional classrooms/labs due to growth, remodeling, etc.</p> <p>Student microscopes will need ongoing maintenance and repair. There needs to be funds in the budget process for repair and/or replacement of items that fail. We should plan on a useful life for our equipment and have money set aside for replacement once that time comes. This is not the way the current thinking works.</p>	

<p>d. Faculty position(s) – faculty priority process and projected full-time needs for 1 – 3 years</p> <p>This discipline seems to be well staffed with fulltime instructors, since the addition of Kim Marshall, Fall 2007 and the return to the classroom by Dr. Gage, Spring 2008.</p> <p>We have a large, dedicated pool of adjuncts and recruitment or retention does not appear to be a problem.</p>	
<p>e. Staff position(s) – changes in instructional or support needs due to program growth, new technology, etc.</p> <p>Support staff will need to be increased at the same rate that classroom instruction increases. The three department support staff are working at and above capacity. Further growth will come at the expense of instructional quality in our laboratories. The department will curtail growth that impacts instructional quality.</p> <p>This is especially true within the majors level biology course as it is a labor intensive course. A large amount of staff support is required to keep this program at it’s high academic level. Our general biology course also requires significant staff support due to the high section count each term.</p> <p>Staff training opportunities are currently slight or not available due mostly to time constraints. Training time takes away from valuable actual work time and job responsibilities have grown over the past few years and especially have increased due to the move into the new building. Much more time is required by each of our technicians in servicing the ‘building’ needs as compared to our old facilities. Safety is significantly more complicated due to the nature of a multiple floor, enclosed building as well as the issues of fires, bomb threats, evacuation plans, elevators, open stairs, wheelchairs and a multitude of others.</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.

One discipline goal that directly supports student success pertains to the biology transfer student. This course prepares them with background prerequisite knowledge and credit that fully transfers with them as they move through their educational program.

A majors level course, with a laboratory component is in the core body of knowledge for most biological science curricula.

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.

One learning outcome is the ability to describe and apply scientific methodologies, recognize errors in experimental design and procedures as well as to recognize pseudoscience as they apply to our academic lives as well as our lives in general.

These are assessed by the ability to design, perform and prepared written laboratory and research reports.

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

The outcome that is hard to measure is how well the students can apply the information to real world situations that occur outside of the classroom. It is hard to gauge changes in critical thinking, the ability to identify personal bias and preconceived ideas and the ability to remove these from the discussions that occur outside of the classroom. This is where the true test of our success occurs and we are not there to measure it.

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

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

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:

_____ **Jim Gilardi**

_____ **Beth Pearson-Lowe**

_____ **Dan Sourbeer**

_____ **Ralph Ferges**

Ralph Ferges

Department Chair/Designee Discipline Review and Signature Date

Division Dean Review and Signature Date

* By no later than 2/14/08, forward a hard copy to Instructional Services for review by IPC.

* Also, by no later than 2/14/08, forward an electronic copy to Institutional Research and Planning.