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: Zoology

Instructional Discipline Reviewed **2007-08**

1. 3-year trend of quantitative data

	Fall 2004	Fall 2005	Fall 2006	Definitions
Enrollment at Census	916	870	907	*Self Explanatory*
Census Enrollment Load %	107.27%	100.69%	102.72%	Enrollment at Census Divided By Sum of Caps (aka "Seats")
WSCH	3,704	3,505	3,626	Weekly Student Contact Hours
FTES	123.48	116.83	120.85	One Full-Time Equivalent Student = 30 WSCH
Total FTEF	6.60	6.60	6.80	Total Full-Time Equivalent Faculty
WSCH/FTEF	561	531	533	WSCH Generated per Full-Time Equivalent Faculty Member
Full-time FTEF	1.80	2.80	3.80	FTEF from Contract Faculty
Hourly FTEF	3.80	3.00	1.60	FTEF from Hourly Faculty
Overload FTEF	1.00	0.80	1.40	FTEF from Contract Faculty Overload
Part-Time FTEF	4.80	3.80	3.00	Hourly FTEF + Overload FTEF
Part-Time FTEF %	72.73%	57.58%	44.12%	Percent of Total FTEF Taught By Part-Time Faculty
Retention Rate	91.53%	93.14%	91.89%	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	68.78%	70.13%	67.39%	A,B,C,CR Grades Divided By A,B,C,CR,D,F,FW,NC,W Grades
Degrees Awarded	1	-	-	Total number of Degrees awarded for the Full Academic Year
Certificates Awarded:	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	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 Zoology discipline within the Life Sciences Department has been at full capacity for the years cited. Adjunct instructors carry a large FTEF% and while the numbers change due to sabbatical leaves and other issues part-time instruction has impacted this discipline. The high enrollments – above 100% for all cited years – are indicating the magnitude of the enrollment pressure felt by this student group.

Now that we have moved into the new Natural Sciences Building all the disciplines within the department have room to grow. This Spring 2008 we have 1 additional Anatomy course (+20% growth) yet the number of students seeking this course has hardly been reduced. The largest two issues that control growth within this discipline are 1) funds to support the added laboratory expense and 2) recruitment of well trained instructors.

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

PLAN – 2007-08	Progress – 2008-09
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.) **We have recently added a new Chemistry course – Chemistry 104, as a alternate prerequisite to our Physiology Zoo 203. This course was developed by the Chemistry department but can be used by our transfer students to meet chemistry requirements at CSU/UC institutions. This course also meets our needs by providing adequate chemistry background in our physiology course and provides for several chemistry course alternatives.** **This discipline supports the health care and pre-nursing student populations as they seek to complete their background prerequisites. There has been and will continue to be a shortage of health care workers and nurses so job market projections are strong for these students.**	
b. Class scheduling (consider enrollment trends, growth, course rotation, comprehensiveness, etc.) **While the department would like to service more students the largest two issues that control growth within this discipline are 1) funds to support the added laboratory expense and 2) recruitment of well trained instructors.** **We added a fifth section of anatomy to our offerings for the Spring 2008 term (+20% growth) that filled and closed almost immediately. The student needs are still not being met as we turned away many students that were seeking to enroll in either anatomy or human physiology. The reality is that we could add a sixth section (+40 %) of anatomy and also add a fifth section (+20 %) of physiology and still have high census enrollment load percentages.**	**Work towards increasing the funding of our laboratory supply accounts and increasing our support staff so that sections can be added to our anatomy and physiology offerings.** **While we now have the room to grow, the student population to serve without the increase in support funds we cannot grow in the future.**

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

PLAN – 2007-08	Progress – 2008-09
a. Equipment/Technology – block grant funds, VTEA, other resources, etc. **Update and repair physiology laboratory equipment to include:** **Automatic pulse monitors, sphygmomanometers and stethoscopes.** **Galvanic Skin Response equipment from AD Instruments** **Reflex testing equipment from AD Instruments** **Classroom set of "Clickers" for lecture feedback**	
b. Budget – budget development process, one-time funds, grants, etc. **Without a more stable approach to budget development, reasoned and planned growth will remain difficult.** **This discipline has the student population. All of our sections are impacted and we could successfully offer one more class section in our two advanced subjects. However, these additional sections require a large infusion of funding to support their laboratory supply and technician support costs as well as the usual and typical costs of any course.** **The current thought process of budgeting is in this case backward. The department cannot afford to offer a costly laboratory based course (like Anatomy or Physiology) because we are already supporting 4 or 5 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.** **We are in a circular 'Catch 22'.**	
c. Facilities – schedule maintenance needs, additional classrooms/labs due to growth, remodeling, etc. **Computer gear will need maintenance and repair as will the PowerLab equipment from AD Instruments. 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.** **Macintosh computers used during the laboratory are on the schedule for replacement in the future based upon plans provided in other planning councils (Technology Planning Council) on campus that are outside of department control as this is a campus wide issue.**	
d. Faculty position(s) – faculty priority process and projected full-time needs for 1 – 3 years **There will be at least one and likely two tenured faculty leaving the department in the near future. Just to stay even they will need to be replaced with new tenure track faculty.** **To meet the student needs and consider discipline growth these faculty will need to be replaced and additional faculty are required.**	

e. Staff position(s) – changes in instructional or support needs due to program growth, new technology, etc. **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.** **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.**	
f. Other	

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

Increase the appropriate use of technology in our lectures and laboratories to prepare our Life Science, Zoology, Health Science, Biology and Nursing students for modern and current job opportunities.

The use of technology currently drives almost all aspects of our society. Our goal is to help make the student aware of the foundational life science background material so that the current technology is used and understood in an appropriate manner. This will provide rich understanding and the ability to think critically about the issues at hand, be they in the advanced biology lab, the hospital or patient teaching and care.

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.

The ability to think critically about large and very complicated scientific course material is a learning outcome that is throughout the Life Sciences. In the Zoology discipline and especially in the Physiology course this outcome is stressed throughout the course.

Lectures are designed to present the specific factual material as well as integrate those facts into a critical conceptual understanding. Links are made to previous course material, case studies are used to tie chapters together and the hands on knowledge from the laboratory exercises is integrated.

The primary assessment used to measure this outcome is the essay style questions used on all of our exams. Each exam has objective style questions that test the fact base and then essay questions are used to test the critical thinking ability of the student.

A secondary assessment tool used is the student designed, implemented, analyzed and reported instructor supervised independent research during the laboratory portion of the course. Students work in teams doing the research and then write a research paper following standard editorial style of the APA.

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

The learning outcome that is most important to me personally and is also the hardest to measure is 'student maturity'. By this I mean that students mature into the role of a dedicated strong college student. They function as a mature student and show that maturity in a variety of ways.

Most of the students entering our courses are not 'mature students' even if they are mature in years. Many of them lack strong study skills, read and comprehend at sub-college levels, have poor math backgrounds and while they may have been successful in previous lower level courses they struggle in our advanced science courses.

Each instructor tries to bring this group of students to maturity by teaching study skills, encouraging study groups, participating in office hours and generally encouraging high levels of performance in the lecture and laboratory course components from our students. After a semester of Anatomy and another of Physiology a large proportion would be considered as 'mature students' at the college level. When they move into other more advanced programs of study they are capable and ready to succeed.

This is hard to measure but you can see it in their attitude, course performance and self confidence.

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:

Richard Albistegui-DuBois **Carey Carpenter**

Ralph Ferges **Steve King**

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.**