

*This is the review your department or program submitted in Spring 2008. For Questions #3 and #4 on this form, please provide a progress or status report on the plans you identified last year. For each item, type your progress report in the right column titled, Progress-2008-09. Also, please list the faculty and staff who participate in this progress report. Forward (1) a hard copy to Instructional Services for review by IPC and (2) an electronic copy to [jdecker@palomar.edu](mailto:jdecker@palomar.edu) no later than 3/2/2009*

## 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: Microbiology**

Instructional Discipline Reviewed

2007-08

**1. 3-year trend of quantitative data**

	Fall 2004	Fall 2005	Fall 2006	Definitions
Enrollment at Census	249	264	267	Self Explanatory
Census Enrollment Load %	103.75%	111.86%	114.10%	Enrollment at Census Divided By Sum of Caps (aka "Seats")
WSCH	1,140	1,217	1,230	Weekly Student Contact Hours
FTEs	38.00	40.57	40.99	One Full-Time Equivalent Student = 30 WSCH
Total FTEF	2.40	2.40	2.40	Total Full-Time Equivalent Faculty
WSCH/FTEF	475	507	512	WSCH Generated per Full-Time Equivalent Faculty Member
Full-time FTEF	1.00	1.00	1.00	FTEF from Contract Faculty
Hourly FTEF	1.20	1.20	1.20	FTEF from Hourly Faculty
Overload FTEF	0.20	0.20	0.20	FTEF from Contract Faculty Overload
Part-Time FTEF	1.40	1.40	1.40	Hourly FTEF + Overload FTEF
Part-Time FTEF %	58.33%	58.33%	58.33%	Percent of Total FTEF Taught By Part-Time Faculty
Retention Rate	94.96%	97.56%	94.44%	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	81.51%	81.30%	73.02%	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.**

It is clear from the above numbers that the Microbiology 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 – well above 100% for all cited years – are indicating the magnitude of the enrollment pressure felt

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<p><b>by this student group. This discipline represents a single course rather than several different courses and within the Life Sciences Department consumes an inordinate amount of department resources.</b></p> <p><b>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 Microbiology course (+20% growth) yet the number of students seeking this course has hardly been reduced. The largest three issues that control growth within this discipline are 1) funds to support the added laboratory expense 2) additional instructional support staff and 3) recruitment of well trained instructors.</b></p>	
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**3. Reflecting on the 3-year trend data, describe/discuss discipline planning related to the following:**

PLAN – 2007-08	Progress – 2008-09
<p><b>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.)</b></p> <p><b>We have recently added a new Chemistry course – Chemistry 104, as a alternate prerequisite to our Microbiology 200. 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 microbiology course and provides for several chemistry course alternatives.</b></p> <p><b>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></p>	<p>This past year we have updated and reviewed the microbiology curriculum and made changes to the unit load from 5 to 4 units.</p> <p>This change was designed to help our Nursing Department meet the requirements placed upon their program by the National Accreditation Agency.</p>
<p><b>b. Class scheduling (consider enrollment trends, growth, course rotation, comprehensiveness, etc.)</b></p> <p><b>While the department would like to service more students the largest three issues that control growth within this discipline are 1) funds to support the added laboratory expense 2) additional instructional support staff and 3) recruitment of well trained instructors.</b></p>	<p>We have recruited and hired an additional contract instructor to help with teaching microbiology.</p> <p>However, in spite of the continued increasing student demand for this course we have eliminated the fifth section due to budget constraints.</p>

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<p><b>We added a fifth section of microbiology 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 microbiology, anatomy or human physiology. The reality is that we could add a sixth section (+40 %) of microbiology and still have high census enrollment load percentages.</b></p>	
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**4. Discuss/identify the resources necessary to successfully implement the planning described:**

PLAN – 2007-08	Progress – 2008-09
<p><b>a. Equipment/Technology – block grant funds, VTEA, other resources, etc.</b></p> <p>Currently we have two microbiology laboratory rooms while in our old facilities we had only one. We still need to fully equip both classrooms as they are both required due course duration and to avoid scheduling conflicts. Although we tried to anticipate this dilemma, pre-move planning and funding fell short and many of the smaller cost items are still required to bring both labs to completion. Items such as hot plates, dilution bottles, petri dish racks, portable UV sterilizing chambers, while not in them selves extremely expensive the total package is and items such as these are still required. The department cannot assume these costs and still meet the ongoing supply costs associated with microbiology laboratory instruction.</p>	<p>Due to budget constraints we are still making do with less than two completely outfitted teaching laboratories.</p>
<p><b>b. Budget – budget development process, one-time funds, grants, etc.</b></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 microbiology discipline as it is a labor intensive course. A tremendous amount of staff support – whether from our lab staff technicians or from our student workers, is required to keep this program at it’s high academic level. Special techniques and safety skills are required by all who participate in this large part of our department.</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</p>	<p>No change</p>

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<p><b>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.</b></p>	
<p><b>c. Facilities – schedule maintenance needs, additional classrooms/labs due to growth, remodeling, etc.</b></p> <p><b>Microbiology has several scheduled maintenance needs. They are 1) regular service and maintenance of the autoclave 2) regular service and maintenance of the ice maker and 3) regular service and maintenance of the microscopes.</b></p> <p><b>Each of these items represent large capitol expense for equipment that have a long functional life span , if and only if, they are well maintained. It would be foolish to fail to plan for this fiscal responsibility and let these items prematurely deteriorate for lack of maintenance.</b></p>	<p><b>No change.</b></p> <p><b>This will lead to future problems when the new facilities and equipment ages without proper maintenance.</b></p>
<p><b>d. Faculty position(s) – faculty priority process and projected full-time needs for 1 – 3 years</b></p> <p><b>I can anticipate several faculty retirements in the future, although they are unlikely to occur within the next 1-3 year time frame. The department is currently in the process of hiring new faculty and one will likely have a microbiology background. This will take some pressure off our adjunct instructors.</b></p>	<p><b>Lesley Williams (Fall 2008) was hired to teach in the Biology and Microbiology disciplines.</b></p>
<p><b>e. Staff position(s) – changes in instructional or support needs due to program growth, new technology, etc.</b></p> <p><b>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.</b></p> <p><b>This is especially true within the microbiology discipline as it is a labor intensive course. A tremendous amount of staff support – whether from our lab staff technicians or from our student workers, is required to keep</b></p>	<p><b>No changes.</b></p>

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<p><b>f. Other</b></p>	

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

To provide students with background knowledge and skills to support them in allied health vocational programs and careers such as nursing and dental hygiene.

Laboratory skills learned within this microbiology course are directly applicable to any clinical setting. Personal and patient safety within potentially dangerous, and infectious environments is a milestone goal within this course.

**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.**

Students will be able to use the scientific process to answer questions, solve problems and think critically about microbiology and it's implications within their career and our society.

In microbiology, as is true throughout the department, students work in groups to design and carry out independent research projects.

A research paper is turned in with a background literature search, experimental design, actual results presented in tables and graphs and a discussion of whether the results support or nullify their stated hypothesis.

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

Students will develop safe habits for working with microorganisms in a clinical laboratory or medical setting.

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

Students who complete this microbiology course have a very high success rate within the Palomar Nursing department. They pass the theory portion of the nursing curriculum at the 96% level. Other students pass at the 93% level.

**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:

Gary Alderson                      Chris Hall                      Ralph Ferges                      Margarita Vega

Ralph Ferges  
Department Chair/Designee Discipline Review and Signature                      Date

\_\_\_\_\_  
Division Dean Review and Signature                      Date

Please identify faculty and staff who participated in the development of the reviewer's progress/status report -  
Input Names Here: Gary Alderson, Lesley Williams, Ralph Ferges

Ralph Ferges  
Department Chair/Designee Discipline Review and Signature                      Date

\_\_\_\_\_  
Division Dean Review and Signature                      Date