

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 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: Oceanography

Instructional Discipline Reviewed

2007-08

1. 3-year trend of quantitative data

	Fall 2004	Fall 2005	Fall 2006	Definitions
Enrollment at Census	616	574	638	Self Explanatory
Census Enrollment Load %	84.97%	77.99%	79.06%	Enrollment at Census Divided By Sum of Caps (aka "Seats")
WSCH	1,911	1,760	1,981	Weekly Student Contact Hours
FTEs	63.69	58.66	66.03	One Full-Time Equivalent Student = 30 WSCH
Total FTEF	3.60	3.47	4.00	Total Full-Time Equivalent Faculty
WSCH/FTEF	531	508	495	WSCH Generated per Full-Time Equivalent Faculty Member
Full-time FTEF	1.60	2.00	2.20	FTEF from Contract Faculty
Hourly FTEF	2.00	1.40	1.80	FTEF from Hourly Faculty
Overload FTEF	-	0.07	-	FTEF from Contract Faculty Overload
Part-Time FTEF	2.00	1.47	1.80	Hourly FTEF + Overload FTEF
Part-Time FTEF %	55.56%	42.31%	45.00%	Percent of Total FTEF Taught By Part-Time Faculty
Retention Rate	92.71%	91.55%	94.32%	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	65.03%	53.63%	65.40%	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.

The Oceanography Program makes up about ¼ of the enrollment in the ESAS department. Load % shows a slight decline, but remains strong, suggesting class offerings are about right. The WSCH/FTEF is near the stated goal of 500. The Oceanography Program has 3 full-

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time faculty, however full-time FTEF is low as these faculties having reallocated their time into other areas, including Department Chair and teaching in the Earth Science discipline. Beginning in Fall 2008, the assigned time for Department Chair by an oceanography faculty will end and should increase the full-time FTEF. Retention Rates and Success Rates reflect numbers within the ESAS Department and the College as a whole.

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> <ul style="list-style-type: none"> • Due to a change in the Liberal Studies major at CSUSM, OCN 100 & 101 no longer satisfy their GE requirements; this may be reflected in decreased load percent. • Oceanography 100 Lab was made available as a lab option for those students who have completed Coastal Oceanography (OCN 115) lecture. This change provides these students with an opportunity to enhance their learning experience. • We have expanded offerings in the Oceanography Program to satisfy student interest in additional course work and experience in oceanographic research. Courses include an OCN 197 Oceanography Topics course (Plate Tectonics: An Insider's History), OCN 195 Regional Field Studies (Oceanography of the Southern California Bight), and OCN 295 Directed Study in Oceanography (Lab and Field Investigation Related to California Grunion Spawn Site Selection). • We have developed a cooperative relationship with the Ocean Institute in Dana Point in order to offer internship experiences to interested students. We have had one student successfully complete an internship study. We are currently pursuing a similar relationship with the Hubbs-SeaWorld Research Institute in Carlsbad. • Beginning with the Fall 2008 semester, OCN 100 will be offered as an on-line course. 	<p>Enrollment at census for Fall 2007 (564) and Fall 2008 (626) show numbers similar to previous years suggesting that the change in Liberal Studies GE requirements has had a minimal impact on the Oceanography Program.</p> <p>Oceanography of the Southern California Bight (OCN 195) was run in May 2007 and May 2008. The course was well received and fills an important need for students who are looking for courses beyond the introductory lecture course. OCN 195 also builds a bridge between oceanography and other disciplines within the Earth, Space, and Aviation Sciences Department by exposing students to concepts related to geology and geography. Due to budget concerns, the course is not being offered in May 2009.</p> <p>Although opportunities do exist for students to complete internships, in the current economic climate most students are not interested in a position that offers experience but not payment.</p> <p>Two sections of the on-line OCN 100 were offered in Fall 2008. Both sections filled. Two sections have also been offered for Spring 2009 and both have full enrollments.</p>

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<p>b. Class scheduling (consider enrollment trends, growth, course rotation, comprehensiveness, etc.)</p> <p>The Oceanography Program continues to have one of the most extensive course offerings in the ESAS Department. For Fall 2004 and 2005, we offered 8 to 10 sections on the San Marcos campus with an additional 2 to 4 sections at PCEC, CPPN, MCHS, and PHS. The completion of the remodel of EC-402 into a lab facility in Fall 2006 allowed us to increase our offerings at PCEC to 3. Our offerings for Oceanography lecture will increase to 15 sections in Fall 2008 with the addition of two on-line sections to the course offerings.</p> <p>We have traditionally offered a total of 6 sections of Oceanography lab on the Main Campus, with offerings in the morning, afternoon, and on Saturdays. In Fall 2006, an additional lab section was added at PCEC, increasing our lab offerings to a total of 7 sections. Currently, we are the only discipline in the ESAS Department to offer a lab class at PCEC. Students may now fulfill their entire general ed requirements at the Escondido Education Center. We also intend to add both lecture and lab course offerings at the Fallbrook Education Center when that site is completed.</p>	<p>The Oceanography Program continues to provide extensive course offerings. The success of the on-line sections of OCN 100 during the Fall 2008 semester and the strong interest in on-line offerings for the Spring 2009 semester suggest that this might be a potential growth area in the future (when budgetary concerns are less).</p> <p>Due to budgetary concerns, requests for section cuts resulted in the reduction of Oceanography 100 lab offerings. The weakest lab offering (Friday morning) was removed from the course schedule in Fall 2008. We still continue to offer a variety of options for students interested in taking Oceanography lab, including day, evening, and Saturday classes. We also continue to offer an Oceanography 100 lab at the Escondido Center. Strong enrollments at the Escondido Center suggest that the addition of an additional lab section at this site might be an area of potential growth for the future.</p>
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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>Fall 2007 has marked the move into the new NS Building, which has resulted in a loss of technology facilities. In the previous location of the ES building, our students had access to the ES-9 Computer Lab and technology was an important part of the learning process.</p> <p>Without access to computer facilities in the NS Building, several Oceanography lecture and lab assignments have been either discontinued or substantially modified. A total of 3 Oceanography lab exercises have had their content substantially modified due to the lack of computer access during the lab sessions. Acquiring computer facilities for the Oceanography Program is an important short-term goal</p>	<p>For the Fall 2008 semester, the Earth, Space, and Aviation Sciences Department received a total of 30 refurbished laptop computers from Palomar College Information Systems (IS). Access to these computers has filled a very important need in the Oceanography Program. A concern does remain in that access to the Internet during the Fall semester was sporadic. Information Systems is aware of the problem and is working to correct it.</p> <p>During the Fall 2008 semester, the 3 full-time Oceanography faculty completed revisions for the 6th Edition of the lab manual. This new edition of the Oceanography lab manual includes color images to enhance student interest and learning. Also, with access to the Internet provided via the laptop computers, we</p>

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<p>for not only the Oceanography Program, but for the ESAS Department as a whole.</p>	<p>were able to update three labs so that students could investigate and analyze oceanographic phenomena using current images and data.</p>
<p>b. Budget – budget development process, one-time funds, grants, etc.</p> <p>The current allocation of funds for supplies, printing, and travel with students is insufficient for the program. We consistently run short in funds for our travel with students for lab sessions and with the increased offering of sections, this becomes more of a problem. Increased offerings of sections also require an increase in budgets for supplies and printing. Several of our lab sessions require the use of a Teaching Assistant to enhance student learning; our budget needs to be increased in this area due to the increase in minimum wage.</p>	<p>Allocation of funds for supplies, printing, and travel with students continues to be insufficient for the program. Compounding the problem is the current issue regarding state budget concerns. Existing funds have been cut 25%.</p>
<p>c. Facilities – schedule maintenance needs, additional classrooms/labs due to growth, remodeling, etc.</p> <p>The new NS Building has several shortcomings that have been noticed as we began to utilize the classrooms. There is an existing list of remodeling/changes to be completed such as additional whiteboard space and movement of digital projectors and projection screens, that when completed, will better serve the needs of the students and instructors.</p>	<p>Remodeling and changes to the NS Building are ongoing. Since these changes are funded via Prop M, renovations should continue despite state budget concerns. Digital projectors and screens have been moved.</p> <p>The lack of large lecture rooms in the NS Building has presented a problem for our Oceanography Guest Speaker Program. The previous Earth Science lecture hall facility held 110 people and our guest lecture presentations typically filled to capacity. The current the NS lecture rooms will hold only 60 people, thus limiting attendance at any guest lecture. We anticipate a renewed Guest Speaker Program with the 2011 opening of the new Palomar College Planetarium facility, which will be able to accommodate at least 140 people.</p>
<p>d. Faculty position(s) – faculty priority process and projected full-time needs for 1 – 3 years</p> <p>As we continue to expand our offerings, we anticipate the need for an additional full-time position. Under the guidance of a full-time faculty member, the program at the Escondido Education Center has begun to grow and to thrive. With the opening of the Fallbrook Education Center, we foresee the need for a new full-time faculty member to ensure the success of a program there. Increased offerings within the ESAS Department would justify a new full-time faculty member with expertise</p>	<p>The Fallbrook Education Center is expected to move forward since it was funded under Prop M. Thus we expect the need for a new full-time faculty member in the future.</p> <p>One of our current full-time faculty (Patty Deen) has been approved for a sabbatical during the 2009-2010 academic year. Course offerings in the Oceanography Program will not be affected during this time as classes can be covered by other full-</p>

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<p>in both Oceanography and Earth Science courses.</p>	<p>time Oceanography instructors or by instructors from our pool of qualified adjuncts.</p>
<p>e. Staff position(s) – changes in instructional or support needs due to program growth, new technology, etc.</p> <p>Recent hiring of a full-time instructional support person for the ESAS Department has satisfied the current needs of the program. There are no additional staff requirements for this discipline.</p>	<p>The full-time instructional support person for the Earth, Space, and Aviation Sciences Department has proven to be an invaluable asset.</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 is linked to Palomar's Strategic Plan 2009 is to ensure that the needs of the students are being met by properly aligning our scheduling and course offerings. By offering our classes at a variety of times and education sites, we provide students with the opportunity to successfully complete science coursework required for graduation and/or transfer. We have recently addressed this need by offering an Oceanography lab section at the Escondido Education Center. Since Fall 2006, students have been able take both Oceanography lecture and lab at this site thereby allowing them to complete their general ed requirements. Beginning with the Fall 2008 semester, students will also have the additional option of completing Oceanography lecture on-line with the addition of two on-line sections of Oceanography lecture.

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 courses within the Oceanography Program incorporate learning activities in an effort to assist students with developing their critical thinking skills. Students learn how to evaluate the sources of information as well as the data being presented. Students also learn how to develop a conclusion based on the information presented and how to justify their position as stated in their conclusion. Examples of such learning activities include the evaluation of coastal development proposals or the evaluation of the cost-effectiveness and political issues of seawater desalination. As part of these learning activities, the students are assessed based on their performance on a graded take-home assignment or their participation in an in-class activity.

Although very few of our students will choose to continue their studies in the sciences or even in oceanography, a successful student is given the tools to be able to function in our rapidly changing technological society. Our learning activities are designed to give the students the skills they need to make informed decisions in many oceanographic issues.

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

A learning outcome that is often observed involves the successful student applying the insight gained from the course to current events. There is no easy way to measure or grade this process, but it is a testament to the knowledge gained by the student that they recognize a situation where the scientific concepts learned in the course can be applied. One example of this is recognizing the sequence of events leading up to a coastal landslide and being able to successfully analyze the incident in an Earth Science framework and to recognize the potential role of human activities in the process.

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

The full-time oceanography faculty continue to publish our own oceanography lab manual (*Laboratory and Field Exercises in Oceanography*, by Deen, DuBois [Yon], and Trujillo, which is currently in its 5th Edition. We will be updating and expanding the manual in 2008.

The Oceanography Program continued their highly successful Oceanography Guest Speakers Program, which included talks from research scientists from Scripps Institution of Oceanography (Drs. Donna Blackman, Robert Guza, and David Sandwell) as well as the Assistant Project Manager for the Poseidon Resources Carlsbad Desalination Project (Ms. Jessica Jones).

Al Trujillo continues to co-author two leading oceanography textbooks with Hal Thurman and is a contributing author for two Earth science textbooks. The 9th Edition of *Essentials of Oceanography* (Pearson Prentice Hall) was published in January 2007 and Al Trujillo was recognized by the San Diego Public Library and awarded a medal for his accomplishment in January 2008. In addition, he contributes articles for a new UK-based magazine called *The Sea*.

Al Trujillo is widely recognized as a leader in geoscience education and serves on several nationwide geoscience education panels including the National Science Foundation (NSF) Geoscience Education Committee of Visitors, the American Geological Institute Workforce Advisory Committee, and a NSF-sponsored grant to support minorities in the geosciences.

Al Trujillo also works for Lindblad Expeditions/National Geographic aboard their expedition ships as a naturalist and interpreter in southeast Alaska and Baja California/Sea of Cortez where he generates interest about Palomar College amongst shipboard guests. Some guests have expressed interest in participating in the on-line Oceanography course to be offered Fall 2008.

Dr. Lisa Yon continues to be active in public outreach programs, including serving for the past 3 years as a science judge at the National Ocean Sciences Bowl (NOSB). NOSB is an educational program developed to stimulate high school students' interest in ocean sciences and broaden public understanding of the value of ocean research. NOSB is organized by the Consortium for Oceanographic Research and Education, a Washington, D.C.-based association of U.S. oceanographic research institutions, universities, laboratories and aquaria. While serving at the NOSB competition, Dr. Yon has the opportunity to interact with local high school students considering enrollment at Palomar College.

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Dr. Yon is also interested in the basic science preparation of students within the Palomar College District service area and recently served as co-chair for a Science Fair event held within the Poway Unified School District. She is also serving as a science coach for elementary students participating in the San Diego County Office of Education Science Field Day. Her involvement in these activities serves as a means for evaluating the science background of potential Palomar College students since many students in our 100-level science courses seem to lack basic skills necessary for success as a college student.

Dr. Yon expects to utilize information on the science background of students within our service area to improve basic science literacy and to better prepare students for college classes. Students entering community college science classes are expected to have science skills reflecting 8th Grade Science Standards. In this regard, she is developing a progressive curriculum for elementary and middle school students based on the California Science Standards. She expects this project to form the basis for a future sabbatical that will focus on concepts related to wetlands and the use of wetlands by humans.

Patricia Deen and Dr. Yon, along with Dr. Steven Spear in Geology and Ana Dowey in Life Sciences, developed and presented outreach activities for 2nd Graders in the Oceanside Unified School District in Spring 2006. The program involved bringing 120 students to the Palomar College campus for a day to complete a series of hands-on activities designed to promote an interest in science. It is hoped that such outreach activities can be established on a regular basis and that this will generate future students for Palomar College who are better prepared to be successful in college level science courses.

One of our adjuncts, Mr. Ray Wolcott, was invited to represent us at the NSF-sponsored "Council on Undergraduate Research/National Council of Instructional Administrators Conversation on Research in Community Colleges" in February, 2007. He presented curriculum related to OCN 295 Directed Study in Oceanography: Lab and Field Investigation Related to California Grunion Spawn Site Selection, which was first offered in the Spring 2007 semester.

Joined by other colleagues within the ESAS Department, as well as colleagues from MiraCosta College and Cal State San Marcos, the Oceanography Program instructors will host the Spring 2008 Field Conference for the Far Western Section of the National Association of Geoscience Teachers. Patricia Deen has served as the Chief Coordinator for the event.

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

None

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

NA

10. Other comments, recommendations:

The Oceanography Program may face some scheduling challenges in the coming years if we are not able to add a new full-time faculty member. Patricia Deen is expected to take a year long sabbatical and a year of academic leave during the 2010 and 2011 calendar years. During this time, both Al Trujillo and Dr. Lisa Yon are eligible to apply for sabbaticals. Rotation of the Department Chairmanship will also fall to Dr. Yon either Fall 2010 or Fall 2011. A new full-time faculty member would help to ensure the continuity and quality of

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the Oceanography Program as we expand into the new Fallbrook Education Center.

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

Dr. Lisa D. Yon

Alan P. Trujillo

Patricia Deen

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 -

Lisa Yon

Department Chair/Designee Discipline Review and Signature Date

Division Dean Review and Signature Date