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: Geology

Instructional Discipline Reviewed **2007-08**

1. 3-year trend of quantitative data

	Fall 2004	Fall 2005	Fall 2006	Definitions
Enrollment at Census	212	140	212	*Self Explanatory* (I thought data always needed interpretation)
Census Enrollment Load %	78.23%	87.50%	82.81%	Enrollment at Census Divided By Sum of Caps (aka "Seats")
WSCH	656	432	657	Weekly Student Contact Hours
FTES	21.87	14.39	21.91	One Full-Time Equivalent Student = 30 WSCH
Total FTEF	1.60	1.00	1.60	Total Full-Time Equivalent Faculty
WSCH/FTEF	410	432	411	WSCH Generated per Full-Time Equivalent Faculty Member
Full-time FTEF	1.20	0.20	1.20	FTEF from Contract Faculty
Hourly FTEF	-	0.60	-	FTEF from Hourly Faculty
Overload FTEF	0.40	0.20	0.40	FTEF from Contract Faculty Overload
Part-Time FTEF	0.40	0.80	0.40	Hourly FTEF + Overload FTEF
Part-Time FTEF %	25.00%	80.00%	25.00%	Percent of Total FTEF Taught By Part-Time Faculty
Retention Rate	95.02%	92.19%	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	69.15%	60.94%	67.88%	A,B,C,CR Grades Divided By A,B,C,CR,D,F,FW,NC,W Grades
Degrees Awarded	1	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.

First, it must be noted that there is only one full-time faculty member in the Geology Program: Steve Spear. He was on sabbatical leave during the Fall, 2005 semester. Therefore the Fall, 2005 data while accurate, should NOT be construed to be typical of the program as all classes were staffed on a temporary basis and the number of class sections offered was fewer than usual. Therefore this analysis will only cover the Fall, 2004 and Fall, 2006 semesters. When comparing the data for these two semesters, one notices that they are almost identical and variations either up or down are less than statistically significant. Thus, for the three-year period, the Geology Program neither gained nor lost WSCH, FTES or FTEF. This trend holds back to Fall, 2002.

When comparing the Geology Program data to that of the Earth, Space and Aviations Sciences Department, Geology filled a higher percentage of available seats, had a slightly lower WSCH/FTEF and a much higher percentage of classes were taught by full-time faculty in Geology compared to the whole department. The retention and success rates were about the same as the whole department.

When comparing the Geology Program to the MNHS Division, Geology had a slightly lower WSCH/FTEF due primarily to small classroom size (32 seats). Geology taught more of its classes with full-time staff than did the division and had about the same success rate.

When comparing the Geology Program to the entire college, Geology had a higher census enrollment load, slightly lower WSCH/FTEF, about the same retention rate and a much better full-time faculty teaching percentage.

All of these comparisons point to only one area of desired improvement in terms of raw numbers: Geology needs to improve its WSCH/FTEF ratio. This will hopefully be accomplished now that we have moved into the new science building and the geology classroom has increased from 32 to 40 seats. Since this represents a 25% increase in available seats, we hope than the WSCH/FTEF numbers will also increase by 25%. If this happens, then WSCH/FTEF should approximate department, division and college averages.

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 see no need to make any changes in these areas as Geology continues to be a small and very successful program. When Steve Spear retires in two years, a new full-time faculty member will take over the program and will no doubt have many ideas that will involve curricular and related changes. A major part of the Geology program is field trips and field courses. When we hire Steve's replacement, he/she must have a strong commitment to field education and be willing to offer field trips and courses ranging from one to twelve days. Currently, Steve has reduced the field offerings to 4-day courses but in several years, the new hire will have to offer 8-day courses as well.	
b. Class scheduling (consider enrollment trends, growth, course rotation, comprehensiveness, etc.) The Basic Geology course (GEOL 100) and lab (GEOL 100L) continue to be offered each semester in both day and night sections. Other Geology courses are offered every other year and we anticipate this to continue for the next two years. There does NOT seem to be excess demand that offering new sections would be warranted.	

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. We have adequate equipment at this time although housing the rock-cutting and related equipment is a critical need because the facilities in the new building are inadequate. This is currently being assessed by the Dean and appropriate others. Hopefully, this will be resolved as the new Planetarium is completed. With the completion of the Geology portion of the main entrance to the new building display area, the completion of book cases in the department office suite, and installation of the pilot projected earth sciences/art wall display, the new building should then be more than adequate in terms of equipment. We await the completion of these projects. Computers play an increasingly important role in Geology. It was hoped that when we moved into the new building, the Geology Lab Room would have at least 6 computers. Current assessment indicates that we need ten computers in the lab room with internet access at least 3 times during the course of the semester.	
b. Budget – budget development process, one-time funds, grants, etc. Current budget is adequate for the next two years. This assumes the items listed immediately above are fully funded.	
c. Facilities – schedule maintenance needs, additional classrooms/labs due to growth, remodeling, etc. The HVAC system in NS-125, the Geology lab/classroom is wholly inadequate. The noise interferes with classroom instruction and the extremely cold room temperatures have not been resolved despite months of complaints.	
d. Faculty position(s) – faculty priority process and projected full-time needs for 1 – 3 years Steve Spear is planning to retire in June, 2010. Thus a new, full-time geology instructor will need to be found to replace him. We currently have 3 full-time faculty members in the department who have master's degrees in Geology but they may not wish to abandon their current programs in Oceanography and Earth Science. In any case, even if one of them were to take the geology position, then someone would have to be found to take the position they in	

turn left open. So….***WE WILL NEED TO HIRE A NEW FACULTY MEMBER EFFECTIVE FALL, 2010.*** This person must be committed to offering field programs at the 2006-2007 level.	
e. Staff position(s) – changes in instructional or support needs due to program growth, new technology, etc. Since we have recently hired a new lab technician, we have no needs in this area.	
f. Other Reiterate "c" above, the HVAC system needs to fixed ASAP.	

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

"Continue the dialogue and implementation efforts to assess student learning outcomes."

Steve Spear has completed a Student Learning Outcomes Assessment grid with appropriate feedback loops for the Geology 100 and Geology 100L courses. By implementing the feedback loops in both lecture and lab, we are able to reinforce salient points about the topic at hand that the students may have missed. In labs, this can be done within the same class section and in lecture classes, it can be done within two class periods.

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.

In the Geology 100 class, the use of computers/on-line labs has increased from 2 assignments to 3 required assignments, and 4 bonus assignments. Thus students in the lecture section now complete 2 on-line labs through the "Geology Labs On Line" website, 2 assignments on line through the United States Geological Survey, one assignment using the Geology Program Website here at Palomar college, and two assignments on rivers and glaciers from other federal websites. Students who complete the assignments average about 95% correct responses. Three of the assignments (dealing with earthquakes and radiometric dating) have instantaneous feedback so students end up being 100% successful (in terms of percentage of correct answers) if they complete the assignment. Educational efficacy would be remarkably improved if we actually had computers in the classroom to do these assignments.

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

Teamwork, which has always been a major part of the laboratory sections, has been increased in the lecture sections. While not quantifiable, it is apparent that students are getting better grades on those portions of exams that cover material that require a joint effort in assignments and other test-preparatory activities.

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

We successfully and quickly moved into the new building and re-organized all the rock, mineral and fossil collections. This took weeks, but these materials are more organized and more accessible than in the old building. This makes lab set-ups and lecture demonstrations much easier. This puts Dr. Spear in a better mood which improves education.

We also completed the Virtual Death Valley Field Trip and placed it on the Geology program website. This document of over 100 pages is used both for assignments and field trip planning and familiarization.

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

Enrollment and success data for the new building is eagerly anticipated to see if all those millions actually improved education.

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

N/A

10. Other comments, recommendations:

None

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

Steve Spear

Department Chair/Designee Discipline Review and Signature **Date**

Division Dean Review and Signature **Date**