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: Geography

Instructional Discipline Reviewed **2007-08**

1. 3-year trend of quantitative data

	Fall 2004	Fall 2005	Fall 2006	Definitions
Enrollment at Census	613	725	666	*Self Explanatory*
Census Enrollment Load %	77.69%	79.23%	78.54%	Enrollment at Census Divided By Sum of Caps (aka "Seats")
WSCH	1,907	2,276	2,108	Weekly Student Contact Hours
FTES	63.58	75.87	70.26	One Full-Time Equivalent Student = 30 WSCH
Total FTEF	4.00	4.73	4.39	Total Full-Time Equivalent Faculty
WSCH/FTEF	477	481	480	WSCH Generated per Full-Time Equivalent Faculty Member
Full-time FTEF	2.00	1.60	1.00	FTEF from Contract Faculty
Hourly FTEF	2.00	3.13	3.39	FTEF from Hourly Faculty
Overload FTEF	-	-	-	FTEF from Contract Faculty Overload
Part-Time FTEF	2.00	3.13	3.39	Hourly FTEF + Overload FTEF
Part-Time FTEF %	50.00%	66.20%	77.23%	Percent of Total FTEF Taught By Part-Time Faculty
Retention Rate	92.24%	94.65%	95.00%	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	71.96%	74.44%	72.10%	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:	-	2	7	Total number of Certificates awarded for the Full Academic Year
- Under 18 Units	-	2	7	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 4-year trend data. Briefly discuss overall observations and any areas of concern or noteworthy trends.

Overall, our numbers for fall semesters have been stable. However, Fall 2007 was our first semester with 3 full-time geographers. The stability that this is adding to our program is already appears to already be improving our numbers. Also, our breadth of course offerings is increasing which means that enrollments should go up as Geographic Information Systems (GIS), Human Geography, and World Regional Geography offerings expand. The physical geography component of the program remains the largest, with very solid enrollments in GEOG100, GEOG100L, GEOG110, and GEOG115. The online offerings of GEOG110 have been very popular. It is clear that if we offered other types of classes on an online basis, they would also be well received. We now have the only North County college certificate program in GIS which makes the potential for growth in this program enormous. One concern has been GIS enrollments, particularly for the more advanced classes. However, we now have a full-time GIS instructor (effective Fall 2007) and the enrollment in the introductory level GIS class this spring is 26, we are very encouraged that things are headed in the right

direction. In addition, as students from Fallbrook and Valley Center High Schools complete their introductory ROP GIS course (which has been articulated as the Palomar GIS certificate program's introductory GIS course, see pg.5), we expect many of those students to continue onto more advanced courses at Palomar College in order to finish their certificate.

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.) • **Work toward articulation of GEOG 120 with CSU/UC.** • **Expand GIS Certificate to State Vocational Certificate. This would include the addition of a course in remote sensing. The need to expand the program is driven by the fact that GIS and remote sensing continue to be booming industries. Specifically, the growing demand for GIS professional is demonstrated by facts such as: "NASA says that 26% of its most highly trained geotech staff are due to retire in the next decade, and the National Imagery and Mapping Agency is expected to need 7000 people trained in GIS in the next 3 years."[1]** • **Continue relationship with high school ROP GIS courses – articulation has been completed.** • **Work toward developing an Associate of Arts Degree in Geography.**	
b. Class scheduling (consider enrollment trends, growth, course rotation, comprehensiveness, etc.) • **Expand GIS program – GEOG 120 enrollment hit a record high in spring 2008.** • **Continue to offer strong program in physical geography with both lecture and lab courses, including popular field courses to Hawaii, Santa Catalina Island, Central California and Anza Borrego/Joshua Tree.** • **Several of our physical geography course offerings meet associate' degree and CSU and UC requirements for lower division physical science.** • **Continue offering World Regional Geography as a required course for the A.A. Liberal Arts and Human Geography as a course meeting the associate's degree and CSU and UC requirements for lower division social science.**	

[1] Gewin, Virginia. "Mapping Opportunities." Nature 427(2004): 376-377

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. • **Maintain GIS lab with annual site license and upgraded hardware as needed.** • **Acquisition of windows based GPS units that allow student to directly digitize field data into GIS format using special ESRI software (i.e. ArcPad).** • **Acquisition of ERDAS IMAGINE software for the proposed remote sensing course is $3,500 per year for 15 stations. We do not currently have this; we have applied for a grant to cover the initial 2 years of license costs.**	
b. Budget – budget development process, one-time funds, grants, etc. **Budgets will need to increase at least proportional to the growth in the program. A budget for annual renewal of 32 site licenses for ArcGIS ($2,200) and ERDAS IMAGINE ($3,500) needs to be accounted for in the geography department budget. Further increases may be needed to fund the GIS program for its equipment and software needs. Budgets also need to be increased to cover travel to annual ESRI conference for both Wing Cheung (faculty) and Russell Thomas (technician). The technical nature of this conference makes it costly; registration alone this year is $495 per person. The combined cost of sending both to the ESRI conference (in San Diego) is $1500.**	
c. Facilities – schedule maintenance needs, additional classrooms/labs due to growth, remodeling, etc. **The geography lab in the new science building is nearly 100% utilized. To expand any part of the geography lab or GIS program, we will need additional lab space in the future.**	
d. Faculty position(s) – faculty priority process and projected full-time needs for 1 – 3 years **None anticipated**	

e. Staff position(s) – changes in instructional or support needs due to program growth, new technology, etc. **Student or other part-time worker to supervise open GIS lab hours at least one evening per week and on a Saturday so GIS students can work on projects. A large number of students in this program are in the work force; evening and weekend hours are necessary to serve these students.**	
f. Other	

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

From Strategic Plan: "Advance curriculum alignment with area high schools at the discipline level"

As of fall 2007, 60 students are enrolled in a new ROP Geographic Information Systems course at Valley Center and Fallbrook high schools. The course was first offered in fall 2007 after the districts secured a two-year, $450,000 career-technical education grant from the state in 2005. Students who pass the course with an A or B grade earn course credits for GEOG 120 at Palomar College. Our department has been an integral part of this project, which will support student success by giving students an opportunity to begin completion of our GIS certificate program while still in high school, where they receive a high-degree of mentoring, tutoring and guidance.

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 GEOG 100 Physical Geography classes have exams which include the use of visual displays of information in the form of tables, maps or charts. We can gauge the success of students in interpreting visual information by how they do on exam questions developed from these displays.

All Geography classes which are part of the GIS certificate program require students to demonstrate their theoretical and technical knowledge in GIS by completing an analytical research project. These projects demonstrate real-world applications of GIS, and are assessed based on the validity of research methodologies as well as the students' reflections on the limitations of their study design.

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

After taking geography classes many students have developed an increased interest in environmental problems and a growing sense of stewardship toward the environment. It is easy to observe this attitude while simply having conversations with students, yet is difficult to measure.

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

We have successfully implemented a grant to articulate our Introduction to GIS course with similar ROP courses taught at Fallbrook and Valley Center High Schools. Students who successfully complete the course at their high school can transfer to Palomar College to finish the GIS certificate with one course already completed. The program helps to identify prospective students early, providing them a path to success at the college 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:

Doug Key **Wing Cheung**

Catherine Jain

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

Division Dean Review and Signature **Date**