

*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 Program 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
<b>Enrollment at Census</b>	613	725	666	<i>Self Explanatory</i>
<b>Census Enrollment Load %</b>	77.69%	79.23%	78.54%	Enrollment at Census Divided By Sum of Caps (aka "Seats")
<b>WSCH</b>	1,907	2,276	2,108	Weekly Student Contact Hours
<b>FTEF</b>	63.58	75.87	70.26	One Full-Time Equivalent Student = 30 WSCH
<b>Total FTEF</b>	4.00	4.73	4.39	Total Full-Time Equivalent Faculty
<b>WSCH/FTEF</b>	477	481	480	WSCH Generated per Full-Time Equivalent Faculty Member
<b>Full-time FTEF</b>	2.00	1.60	1.00	FTEF from Contract Faculty
<b>Hourly FTEF</b>	2.00	3.13	3.39	FTEF from Hourly Faculty
<b>Overload FTEF</b>	-	-	-	FTEF from Contract Faculty Overload
<b>Part-Time FTEF</b>	2.00	3.13	3.39	Hourly FTEF + Overload FTEF
<b>Part-Time FTEF %</b>	50.00%	66.20%	77.23%	Percent of Total FTEF Taught By Part-Time Faculty
<b>Retention Rate</b>	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
<b>Success Rate</b>	71.96%	74.44%	72.10%	A,B,C,CR Grades Divided By A,B,C,CR,D,F,FW,NC,W Grades
<b>Degrees Awarded</b>	-	-	-	Total number of Degrees awarded for the Full Academic Year
<b>Certificates Awarded:</b>	-	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.**

Complete enrollment data is not available for 2007 and 2008. However, census date enrollment was approximately 726 for Fall 2007 and 730 for Fall 2008. In addition, the current influx of students during Spring 2009 has driven our census date enrollment to 794. Overall, our numbers for fall semesters have been strong. Fall 2007 was our first semester with 3 full-time geographers. This has added stability to the GIS and Human Geography parts of our program. Also, our breadth of course offerings is increasing which means that enrollments should go up as Geographic Information

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**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
<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> <ul style="list-style-type: none"> <li>• Work toward articulation of GEOG 120 with CSU/UC.</li> <li>• 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."<sup>1</sup></li> <li>• Continue relationship with high school ROP GIS courses – articulation has been completed.</li> <li>• Work toward developing an Associate of Arts Degree in Geography.</li> </ul>	<ul style="list-style-type: none"> <li>• New articulation agreements for GEOG 120 have been reached between Palomar College and numerous 4-year institutions, including UC-Berkeley, CSULA, and Humboldt State University. We are in the progress of articulating the course with SDSU and CSU-Chico.</li> <li>• The application for the State Vocational Certificate is expected to be submitted to the regional vocational education deans for review by April 2009.</li> <li>• Wing Cheung (faculty) met with high school GIS instructors at Fallbrook and Valley Center High Schools to renew the articulation agreements between the College's and the high schools' GIS courses. These Tech Prep articulation agreements will be submitted to Statewide Career Pathways in order to serve as a model for high schools that may be interested in offering college-transferrable GIS courses in the future.</li> <li>• In addition to exploring the possibility of offering an A.A. degree in Geography, the discipline is also looking into offering a vocational A.S. degree in Geographic Information Systems. Its requirements will include new technical courses (e.g. CAD, Programming) and theoretical courses (e.g. Physical Geography, Human Geography) on top of what is required by the existing GIS Certificate program.</li> </ul>
<p><b>b. Class scheduling (consider enrollment trends, growth, course rotation, comprehensiveness, etc.)</b></p> <ul style="list-style-type: none"> <li>• Expand GIS program – GEOG 120 enrollment hit a record high in spring 2008.</li> </ul>	<ul style="list-style-type: none"> <li>• The enrollment capacity of GEOG 120 remained unchanged due to budget constraints, but GEOG 120 enrollment hit a record high (i.e. completely full) again in spring 2009.</li> <li>• Lecture and lab courses in physical geography remain immensely popular among students, with full classes in almost all sections of</li> </ul>

<sup>1</sup> Gewin, Virginia. "Mapping Opportunities." Nature 427(2004): 376-377

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<ul style="list-style-type: none"> <li>• 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.</li> <li>• Several of our physical geography course offerings meet associate' degree and CSU and UC requirements for lower division physical science.</li> <li>• 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.</li> </ul>	<p>GEOG 100, GEOG 100L, GEOG 110, and GEOG 115. Field trips and field classes remain an important component of the geography program. For example, field courses such as the Santa Catalina Island field course fills up often in the first few days of open enrollment.</p> <ul style="list-style-type: none"> <li>• There are no changes with respect to the lower division CSU and UC requirements that the Physical and Human Geography courses fulfill.</li> </ul>
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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> <ul style="list-style-type: none"> <li>• Maintain GIS lab with annual site license and upgraded hardware as needed.</li> <li>• Acquisition of windows based GPS units that allow student to directly digitize field data into GIS format using special ESRI software (i.e. ArcPad).</li> <li>• 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.</li> </ul>	<ul style="list-style-type: none"> <li>• With the generous support of the VTEA (Perkins) Grant, the GIS program is able to upgrade the GIS lab's software licenses. However, five additional Arc/Info software licenses is needed since we currently only have twenty five licenses for the thirty computers that are in the lab.</li> <li>• The VTEA (Perkins) Grant provided the funding needed for the acquisition of 8 windows based GPS units for our GIS class of 30 students. Funding is needed for the acquisition of additional windows based GPS units, so each student will receive the opportunity to collect field data independently.</li> <li>• The VTEA (Perkins) Grant paid for the maintenance of 15 ERDAS IMAGINE software licenses for 5 years. However, future funds will be needed to maintain the ERDAS IMAGINE licenses beyond the initial 5 year period. In addition, should the enrollment of the remote sensing course exceeds 15 students, new funding will be needed to secure additional software licenses.</li> </ul>
<p><b>b. Budget – budget development process, one-time funds, grants, etc.</b></p> <p>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</p>	<ul style="list-style-type: none"> <li>• While the GIS Program has undergone tremendous growth, funding needed for software and hardware upgrades remained constant. This can potentially become problematic as the number of students exceeds the number of computer workstations or software licenses that is available. Meanwhile, funding allocated for professional development workshops and technical conferences has been slashed, thereby creating hardships for staff members who need to learn about the latest trends in the industry in order to update the program's curriculum.</li> </ul>

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<p>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.</p>	
<p>c. Facilities – schedule maintenance needs, additional classrooms/labs due to growth, remodeling, etc.</p> <p>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.</p>	<ul style="list-style-type: none"> <li>• Despite the steady growth in the geography and GIS programs, the available lab and classroom spaces remained constant, thereby creating a crowded and potentially uninviting learning environment.</li> </ul>
<p>d. Faculty position(s) – faculty priority process and projected full-time needs for 1 – 3 years</p> <p>None anticipated</p>	<ul style="list-style-type: none"> <li>• None anticipated</li> </ul>
<p>e. Staff position(s) – changes in instructional or support needs due to program growth, new technology, etc.</p> <p>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.</p>	<ul style="list-style-type: none"> <li>• A student or part time worker who is qualified to supervise the GIS lab on a Saturday is still much needed. Many students may not have the resources needed to complete the GIS course exercises at home, while others cannot find the time to use the GIS lab in the few time slots when the GIS lab is vacant on a weekday.</li> <li>• A teaching assistant may become necessary as the GIS class size continues to grow. The teaching assistant will be able to give additional support to the few students who have fallen behind. This allows the instructor to progress with the rest of the students, and avoid alienating the more advanced students in the course.</li> </ul>
<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.**

**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.

