

Spring 2009 Progress Report: Earth, Space and Aviation Sciences Department - Page 1 of 7

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**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.)

Department: Earth, Space, and Aviation Sciences

Instructional Discipline Reviewed

2007-08

1. 3-year trend of quantitative data

	Fall 2004	Fall 2005	Fall 2006	Definitions
Enrollment at Census	2,159	2,205	2,253	<i>Self Explanatory</i>
Census Enrollment Load %	76.75%	74.85%	73.44%	Enrollment at Census Divided By Sum of Caps (aka "Seats")
WSCH	6,660	6,763	6,998	Weekly Student Contact Hours
FTEs	222.01	225.43	233.27	One Full-Time Equivalent Student = 30 WSCH
Total FTEF	13.40	13.80	14.79	Total Full-Time Equivalent Faculty
WSCH/FTEF	497	490	473	WSCH Generated per Full-Time Equivalent Faculty Member
Full-time FTEF	6.60	6.60	7.20	FTEF from Contract Faculty
Hourly FTEF	6.20	6.33	6.59	FTEF from Hourly Faculty
Overload FTEF	0.60	0.87	1.00	FTEF from Contract Faculty Overload
Part-Time FTEF	6.80	7.20	7.59	Hourly FTEF + Overload FTEF
Part-Time FTEF %	50.75%	52.17%	51.33%	Percent of Total FTEF Taught By Part-Time Faculty
Retention Rate	92.59%	92.94%	93.09%	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	64.60%	61.68%	63.97%	A,B,C,CR Grades Divided By A,B,C,CR,D,F,FW,NC,W Grades
Degrees Awarded	5	6	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	-	2	7	Total number of Certificates awarded for the Full Academic Year
- 18 or More Units	1	4	3	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 Earth, Space, and Aviation Sciences (ESAS) as a whole is a strong program with diverse course offerings that meet a wide variety of student needs. Students served by this department include those transferring to universities as majors and non-majors,

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nontraditional students looking for continuing education, students seeking specialty certificates related to vocational goals, and the community at large. Each program within ESAS is unique. As a whole, ESAS enrollments have remained relatively steady over the 3-year period. In part this is due to the limited availability of classrooms or low capacity classrooms in the ES/LS building complex. WSCH and FTES are trending upward; retention rate is also showing a slight increase. The Aviation Sciences program has struggled of late due to industry issues and the inability to pursue aggressive marketing. The association with Southern Illinois University and their Aviation Management program and an anticipated turnaround in the aviation industry will help support our Aviation program. The GIS program is still relatively new and courses beyond the initial certificate course struggle for enrollment. We anticipate significant improvements in that area due to the new GIS computer lab, a new dedicated faculty member (began Fall 2007), and partnerships with Valley Center and Fallbrook high school GIS programs funded by the SB70 "Quick Start" grant. Increasing enrollments in the Earth Science discipline have helped support overall department numbers. Overall, retention and success rates are above MNHS Division values, but at or near college-wide values.

One area of concern is the impact of the closing of the planetarium (summer 2008) on the astronomy program. The planetarium brings great public visibility to our astronomy program; prolonged closure may impact enrollments. Another area of concern is the impending retirement of our geologist, Dr. Steve Spear after Spring 2010. Dr. Spear is the geology program. While the program is not large, he has built a high-quality, highly respected program and is especially known for his field course offerings. By combining the Earth Science and Geology disciplines, hiring a new full-time geologist effective Fall 2010 will be critical for our department.

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> <p>The ESAS department has made significant strides in the past 3 years. Our first 2 of 9 GIS certificates were awarded in 2005. The "Quick Start" grant has helped to support the growth of our GIS program. We are also looking into articulation of our GEOG120 course to universities. Our GEOG 103 and ES100 courses have supported students transferring into the CSUSM and related university liberal studies programs. The liaison between our Aviation program and SIU will yield its first SIU graduate in Spring 2008. Curriculum for both GIS and AVIA are guided by their advisory committees.</p>	<p>The GIS program is growing at a very fast rate in terms of course offerings and students. Currently awaiting approval is a GIS AA degree and Certificate programs. Our GIS program is developing into a model Community College program. Other courses, degrees, etc. remain at previous levels.</p> <p>Please see specific program reviews for details.</p>
<p>b. Class scheduling (consider enrollment trends, growth, course rotation, comprehensiveness, etc.)</p>	<p>Nearly all of our introductory level courses are full by the end of the first</p>

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<p>Through Fall 2006, class scheduling was limited by room availability in the ES/LS complex. The move to the NS building has helped greatly in scheduling courses for our disciplines, especially during peak demand times. Additional class offerings during these times should also help to increase enrollments.</p> <p>One area of concern has been the decline in enrollments for Friday block classes. When we began the block schedule, Friday classes were fairly popular, but over the past 3 years, we have had more difficulty filling those classes. We have begun rotations among some of our disciplines with Friday class offerings in hopes of strengthening enrollments in specific sections.</p> <p>Another area of concern is enrollment in our AVIA and GIS certificate courses. These programs by nature are small. In order to maintain credibility and stability, we must offer these courses with reasonable frequency. At the beginning of each semester, the upper level courses come under intense scrutiny due to low enrollments. Although we certainly work to increase enrollments, these programs will never have the numbers generated by our GE courses.</p> <p>Our ESAS department maintains offerings at CPPN, PCEC, and other education centers. The remodel of ESC-402 has allowed the expansion of our OCN100L offerings and strengthened enrollments in OCN100 at that site. We view PCEC as a site of growth for our geography program as well. We will also dedicate energy as needed into the planning for the new Fallbrook center.</p>	<p>week of class each semester. We have 3 lecture rooms that contain 60 seats, 3 lab/lecture rooms that contain 40 seats and one lab/lecture room that has 30 seats. These levels surpass our old building so our overall enrollments have increased. Most of our labs fill to the levels set by safety/efficacy standards. Our follow-on courses are usually in the 20's in terms of enrollment. The Aviation program is currently suffering low enrollments beyond the introductory level courses most likely due to the poor economy. We are making adjustments by offering fewer sections in 2009-2010. However, the GIS classes, which started low last year have picked up dramatically in terms of percentage increase in enrollment.</p> <p>This semester (Spring, 2009) we are only offering two Friday classes (GEOG 100 and ASTR 100) and they are full. Our rotation experiment seems to be working.</p> <p>Including preliminary data from Fall, 2007, the department as a whole is steadily growing. Even with the move to the new building, we are averaging about 75% enrollment load at census week. Our WSCH and FTES are slowly growing. The percentage of classes taught hourly has decreased slightly but will increase next year due to several sabbatical leaves. As of Fall, 2007, only 37% of our classes were taught on an hourly basis. Our retention rate is over 93% and our success rate has risen slightly to 65%.</p> <p>We are continuing planning for PCEC and the new Fallbrook campus.</p> <p>Please see specific program reviews for details.</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>Maintaining and growing our GIS program continues to be an expensive proposition. During the past 2 years, some funds for program support have come from the Quick Start grant. Our new geographer has applied for a grant that will support the acquisition software which will be required to offer a course in remote sensing. Perkins funding will be explored for needs in both GIS and AVIA.</p>	<p>We are continuing to access Perkins Grant funds for both Aviation and GIS. Aviation moneys have been used primarily for outreach and printing to boost enrollment. The grant monies used for GIS have been used for outreach, equipment purchases and conferences. These grants will continue through 2012.</p> <p>We now have portable lap-top computers for use in our labs.</p>

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<p>Although the move to the NS building has provided more classroom space, it has come with the loss of the ES-9 computer lab. Several disciplines regularly integrated computer-based activities into their curriculum. The lab was also a place students could use discipline-specific software for tutorials or to complete an assignment. The stated plan to have a set of laptop computers on a mobile cart to be shared in the NS building did not materialize. With the lack of access to computers, disciplines have begun to omit computer-based curriculum. Unless this issue is rectified soon, faculty will permanently drop the use of this technology in their classrooms.</p>	<p>Ideally, this should be an improvement over the old ES-9 computer lab because students no longer have to leave the lab room to use a computer. However, the lap-tops have had a few glitches, particularly when using the Internet for lab assignments. Information Systems has been looking into this problem.</p> <p>Please see specific program reviews for details.</p>
<p>b. Budget – budget development process, one-time funds, grants, etc.</p> <p>The current budget year has been extremely difficult due to the high costs of moving into the NS building. While Prop M covered significant costs, our department budget was severely impacted as we tried to create a positive learning environment for students in our new space. Looking forward, the general unrestricted supply budgets for disciplines will require an increase. Increased costs for mileage/travel, minimum wage for student workers, and for supplies, postage and copy work have severely impacted our ability to function. The ESAS department has been very active in promoting our programs in a variety of ways. We have begun a tradition of participating in the national Earth Science Week celebration. There are costs involved in this worthwhile activity which need to be covered by department budgets.</p> <p>The nearly full-time scheduled use of the GIS computer lab (NS-127) by GIS and non-GIS classes has created a problem such that GIS students do not have access to the lab to complete required projects. We need to identify additional funding for staff to supervise open GIS lab hours at least one evening per week and on a Saturday (1/2 day).</p> <p>Our faculty is very active in professional organizations; these activities directly enhance student learning. We see a critical need for more funding for faculty to attend conferences and workshops.</p>	<p>Budgets are looking bleaker and bleaker. We are currently at the absolute minimum to run our programs effectively. All of the concerns listed to the left have gotten worse.</p> <p>Keeping the GIS lab open an adequate number of hours to meet student demand remains a serious problem, especially with the increased growth in the program. Without help, a program that is becoming one of the best in the region will be severely and negatively impacted.</p> <p>Please see specific program reviews for details.</p>
<p>c. Facilities – schedule maintenance needs, additional classrooms/labs due to growth, remodeling, etc.</p>	

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<p>On the whole, the move to the NS building has been an improvement. We still have some unresolved issues with the HVAC system, lighting, screens, display areas, office furniture and cabinetry. Major issues we still face include the installation of adequate ventilation in our technicians' workroom (NS-119) so that he can use tools necessary to complete needed projects. The ventilation in the 128A room which was designated for rock cutting is wholly inadequate; we have identified an area outside the building to have a concrete pad poured on which to place the large rock saw. We are still waiting for completion of the solar telescope and construction of a storage building for telescopes on the roof. Many of these projects are in the process for approval by the State architect.</p> <p>Our ESAS department looks forward to the completion of the new planetarium. We are ready to be involved in this process.</p>	<p>Using NS-125 as a model, we hope the HVAC system continues to improve. The temperature concerns seem to have been helped but the noise factor still concerns many in the department. The other three lab rooms are much worse than NS-125.</p> <p>The ventilation/rock saw matter apparently has been resolved with the planned construction of a separate small building/shed between the NS building and the new Planetarium.</p> <p>The solar telescope and roof construction are slowly moving forward as is completion of the viewing area for these in the main NS-building lobby.</p> <p>Planning for the new Planetarium is well under way and the department is please with how things are going so far.</p> <p>Please see specific program reviews for details.</p>
<p>d. Faculty position(s) – faculty priority process and projected full-time needs for 1 – 3 years</p> <p>With the addition of our new geography faculty member (Fall 2007), the ESAS department is adequately staffed based on college norms. However, Dr. Spear, our geologist, and Professor Pesavento are planning to retire in the near future (Fall 2010 and Fall 2011). The replacement of these positions is critical to maintaining the programs in our department. When the new planetarium opens, Mark Lane will resume his position as Planetarium Director, however, additional staffing will be required.</p> <p>The growth of the Earth Science discipline, along with scheduling pressures in other disciplines suggests that a multi-disciplinary faculty member will be required within the next 3 years. Such a position would be able to take charge of the Earth Science discipline, as well as teach classes in other oceanography, geology, and geography.</p>	<p>Steve Spear is going to retire in 2010. Jim Pesavento (and perhaps Jerry Houser) will follow shortly thereafter. Patty Deen will be on leave for the next two years. When the Planetarium is completed in 2011, Mark Lane will be teaching far less. Therefore we will need to hire a geology/earth science instructor in 2010 and an astronomy instructor in 2011. Due to Patty Deen's absence, we cannot rely upon current staff to pick up the slack. The persons filling these positions should also have the ability to teach other courses in our multi-disciplinary department.</p> <p>Please see specific program reviews for details.</p>
<p>e. Staff position(s) – changes in instructional or support needs due to program growth, new technology, etc.</p>	<p>In addition to the two or three new faculty members we will need</p>

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<p>Staffing will be needed to support the planetarium. Staff is needed to supervise open GIS lab hours at least one evening per week and on a Saturday (1/2 day).</p>	<p>in the coming three years, we will need some student/adult hourly help in the GIS lab and the Planetarium.</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.

See specific programs.

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.

See specific programs.

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

See specific programs.

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

The ESAS department, in partnership with faculty from Mira Costa College and CSUSM will host the National Association of Geoscience Teachers—Far Western Section (NAGT-FWS) Spring Field Conference March 14-16, 2008. Partial funding support was awarded by NCHEA. A total of 175 teachers are expected to participate in field trips and conference activities designed to support geoscience education.

The ESAS department supports an active Geoscience Connection club. The club has sponsored trips places or events of interest to students including a behind-the-scenes tour of the Palomar Observatory and mineral collecting at the Oceanview Tourmaline mine. They are currently promoting a “Movie of the Week” and a visit to the special “Pompeii” exhibit at the San Diego Museum of Natural History.

The ESAS department sponsors activities during national Earth Science Week. Special guest speakers, planetarium shows, panning for gems, and “volcanic eruptions” have been highlights.

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

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

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10. Other comments, recommendations:

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

Patricia Deen

Steve Spear

Brenda Morris

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:**

Jerry Houser, Patty Deen, Mark Lane, Lisa Yon, Wing Cheung, Doug Key, Cathy Jain, Al Trujillo, Jim Pesavento

Department Chair/Designee Discipline Review and Signature Date

Division Dean Review and Signature Date