Building Strong Geoscience Departments Using Strategies for Success in Field Instruction

by Alan P. Trujillo
Earth Sciences Department, Palomar College

Abstract
Located in northern San Diego County, Palomar Community College is one of the largest of California’s 108 community colleges with an annual enrollment of more than 30,000 students. The Earth Sciences Department, which enrolls over 3000 students each year, includes the disciplines of aeronautics, astronomy, geography, geology, and oceanography that are taught by nine full-time faculty and over 20 adjunct instructors. Success of the Earth Sciences Department is strongly tied to quality instruction, diverse curriculum, and especially its strong field programs.

Due to our prime location with rapid access to a variety of field sites, we have been offering a steadily increasing variety of in-class and weekend field trips, multi-day field courses, and other hands-on experiences. These field experiences incorporate a wide range of costs, distances, physical environments, and academic levels.

Our success in offering field experiences is closely tied to strategies that maintain and enhance student interest and administrative support for field experiences. Our success in generating wide student participation is closely linked to promoting field experiences as an integral part of learning and providing a wide range of field opportunities. In addition, we have developed effective and specific logistical procedures that optimize organization and safety in the field.

At Palomar, we have been fortunate to have had strong administrative support for our field programs. One of our strategies of proactively maintaining administrative support is to be involved in the hiring process of administrators. Another strategy is to emphasize the pedagogical value of field instruction within curriculum. Still, several issues remain that can hinder future field experiences.

Top 10 Tips for Running Successful Field Programs
1. Be punctual: provide and maintain explicit itineraries
2. Always preview field trip route and stops
3. Maintain in-field communications with FRS radios
4. Inform and enforce rules and safety concerns
5. Carefully consider the timing of stops
6. Use a voice amplifier so that all participants can hear you
7. When using graphics, make them big
8. Be knowledgeable about the area including other aspects of the natural environment
9. Plan for mechanical breakdowns
10. Have a back-up plan for everything

Logistical Procedures
- Caravan in private vehicles
- Students arrange their own transportation
- Meet and dismiss at the field trip site
- Collect waivers for all participants
- Verification of insurance on extended trips
- No students ride in instructor vehicles

Issues to Address
- Increasing bureaucratic regulation from federal agencies (see Report Card below)
- Rapid urbanization limiting access to nearby field locations
- Many students have little experience with the outdoors
- Increasing legal considerations
- Increasing costs

Report Card
Ease of Field Trips in Selected Federal Agency (NPS and USFS) Public Lands

<table>
<thead>
<tr>
<th>Location</th>
<th>Grade</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mojave National Preserve</td>
<td>D</td>
<td>Requires $1 million insurance policy for every trip</td>
</tr>
<tr>
<td>Death Valley National Park</td>
<td>D-</td>
<td>Belligerent behavior and threats by patrol rangers; multiple barriers</td>
</tr>
<tr>
<td>Grand Canyon National Park</td>
<td>C</td>
<td>OK as long as we avoid being designated as a group</td>
</tr>
<tr>
<td>So. California US Forest Service</td>
<td>D</td>
<td>Need permits for every district of every forest we visit</td>
</tr>
</tbody>
</table>

Bibliography/For More Information
1. Palomar College Earth Sciences Department Web site at: http://www.palomar.edu/earthscience