Giving High School Students the Confidence to Seek Higher Education

Seven years ago Windward Community College teamed up with the University of Hawai'i at Mānoa Hawai'i Institute of Marine Biology to create a unique learning experience for high school students. The concept was simple: Outdoor experiences and hands-on college level laboratory work with an emphasis on the environment to get students excited about college.

Students engage in laboratory exercises, outdoor field and ocean research, lectures, research projects, and stewardship activities:

- Soil and aquatic sediment analyses
- Ocean current mapping
- Aquatic microbiology
- Deoxyribonucleic acid (DNA) research on living organisms
- Coral reef habitat mapping, disease identification and assessment
- Molecular approaches to environmental research
- Use of global positioning systems (GPS) Geographic Information Systems (GIS) and Remote Sensing (RS)
- Stream dynamics: velocity, depth, width, character, discharge, etc.
- Stream flora, fauna and water analyses
- Beach profiling: measuring/data sampling of backshore, foreshore, high and low tide, erosion, etc.
- Stewardship/service projects: Hawaiian fishpond restoration, native habitat restoration, mangrove clearing, alien seaweed eradication, etc.
- Water safety, first aid, and CPR

What Students Say About PaCES

“PaCES prepared me for opportunities that high school couldn’t provide. The final project was demanding and required me to prepare, problem solve, and dedicate myself to work. Later that year, I excelled in WCC’s Certified Nurse’s Aide training. I couldn’t have done it without the previous experiences I had through PaCES.

Above all, PaCES was a fun program. I enjoyed learning in and out of the classroom. The teachers and mentors were knowledgeable, yet approachable for any student who had difficulties grasping concepts. I always recommend PaCES to any student interested in biology or to anyone who would like to be more aware of the environment.” —Julia Gomes, PaCES 2009, 2010
Who are PaCES students?

Each summer, 24 high school students from Windward O‘ahu and as far away as Wai‘anae are accepted into PaCES. Although a high GPA is not a requirement, enthusiasm and interest in the environment is. Some get up at 4 a.m. to ride several City buses to arrive on campus by 8 a.m. and stay until 5 p.m. or later each day to do field study or work in the lab. Many may have not even thought about going to college, but PaCES is changing that.

Far-Reaching Benefits for You and the Community:
- Young adults with the desire and confidence to go to college
- Future employees who embrace a positive work ethic
- A cadre of environmental stewards who will be role models for the next generation
- Our future leaders

The PaCES College Experience Needs your Commitment

Instructional and support staff costs not covered by tuition $1,472
College tuition (includes students & mentors) 1,250
Stipends (includes students & mentors) 850
Services (lifeguards, HIMB analyses, boat usage, etc.) 233
Supplies 278
Transportation 167

Per student cost each summer $4,250

“PaCES is one of the most successful grants the Harold K. L. Castle Foundation has ever awarded.”

—Terry R. George, Vice President and Executive Director, Harold K. L. Castle Foundation

This program was accepted for funding in 2012 by the Louis Stokes Alliances for Minority Participation for outstanding performance in the STEM fields for underrepresented minority students.

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Photos top to bottom:
1. Studying the effects of ocean acidification on reef organisms
2. Removing invasive mangrove to restore a Hawaiian fishpond
3. Studying the antibiotic effects of seaweed on bacteria associated with diseased coral
4. Doing a bioassessment of Kamo‘o‘ialii Stream in Kāne‘ohe
5. Conducting a coral reef survey on Moku o Lo‘e