

## **Creating lab tracks to accommodate diverse student populations in introductory laboratory classes**

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### **The goal(s) of the work you describe and how it supports student success**

This essay will focus on the efforts to improve student success in geology laboratory courses at Los Angeles Valley College, a diverse 2YC located in greater Los Angeles. The lab classes have traditionally used lab manuals and field trips as the primary methods of instruction. As a result, a great number of students did not successfully complete or dropped the lab class for the following reasons:

- language barriers (this is an open enrollment institution with no pre-requisites)
- inability to understand the lab manuals (most are written for majors)
- failure to purchase the lab manual, and
- Inability to participate in weekend field trips due to a work schedule or child/parental care issues.

To address this, Lab Tracks or categories of exercises and activities from which students select those needed to complete the required laboratory credit hours were created. Lab Tracks consist of the following categories:

- Laboratory exercises
- Online interactive exercises
- Field trips
- Individual research projects. The students who participate in the research projects also present a PowerPoint presentation to the class at the end of the semester.

### **The strengths of your work and its most valuable aspect**

Students are allowed to select from the categories they are most interested in and are not penalized for lack of participation in any component of the course such as field trip attendance. The most valuable aspect of Lab Tracks has been the discovery that many students have skills such as computer technology and public speaking that would be unknown without the research project and presentation component of the course.

### **The challenges you have had in implementation**

Some students have been reluctant to participate in the research component because they have not used PowerPoint before. I address this challenge by having a lab session that is dedicated to the preparation of the PowerPoint presentation and I assist students with slide preparation. Students are also required to develop a hypothesis and have it approved by the instructor before proceeding with data collection on the research project to ensure successful completion of the research project component.

### **Any evidence of the effectiveness of this work**

Comments gathered from student evaluations indicate that students feel that they are learning more from participating in the components of the course that truly interest them and not completing boring busy work. I am beginning to compile data on student completion, retention, and final grades.