Service Learning: An avenue for outreach, retention, and training

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About the University of La Verne and its Biology Program:

- Small, Private, Liberal Arts University
- Traditional Undergraduates – 2,200
- 8 fulltime biology faculty
- 60-120 incoming biology students/year
- No graduate program in biology
- Senior Research Projects
Program Development through the HSI USDA Grant:

- Service learning course that is major-specific
- Outreach and recruitment
- Connection with the program
- Awareness of new career pathways
- Training of our students in leadership and research skills
CS 305: Learning through community service
Science Squads: Opening doors in science education for a diverse community

- Outreach to primarily high schools, but also middle and elementary
- Private and public schools
- LV students develop science lessons/activities
- Present lessons and lead activities
- Write reflection papers
- Log 15 hours with the students/1 unit course
Recruitment of students for science camp and future LV science majors:

- A fun learning experience.
- Share information about college
- Announce USDA camp opportunity

King of the Herd: Carrying Capacity
Crossroads School, Corona CA
Middle School
Adaptation Lab
Curtis Elementary, Rialto CA

CSI Lab
Crossroads High School
USDA Summer Science Camp:

- High School Students
- Community College Students
- New LV Freshmen
Mt. Baldy, San Antonio Creek
Sample Collection and
Laboratory Study

Teaching Assistants – CS 305 Students
Day 2:

Molecular Biology Lab Experience
Day: 3
USDA Seminars: US Forest Service and APHIS Wildlife Service

Field trip to UCR ARS: Salinity Lab
National Germplasm Repository for Citrus and Dates
<table>
<thead>
<tr>
<th>Spring/Summer</th>
<th>Enrollment CS 305</th>
<th>Student Contact numbers</th>
<th>USDA Camp</th>
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<tbody>
<tr>
<td>2012</td>
<td>11</td>
<td>1800</td>
<td>32</td>
</tr>
<tr>
<td>2013</td>
<td>16</td>
<td>2000</td>
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### Camp Ethnicity

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Hispanic Latino</td>
<td>41%</td>
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<tr>
<td>White Caucasian</td>
<td>41%</td>
</tr>
<tr>
<td>African American</td>
<td>12%</td>
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<td>Asian Pacific Islander</td>
<td>6%</td>
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### Exit Evaluations: USDA Camp 2012

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<th>Overall</th>
<th>Knowledge USDA jobs</th>
<th>Future Career USDA</th>
<th>Molecular Biology Lab</th>
<th>Field Biology Experience</th>
<th>USDA Speakers</th>
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<td>9.0</td>
<td>7.0</td>
<td>9.1</td>
<td>9.2</td>
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Agricultural Biology Option within Environmental Biology Major

- Rangeland Ecology
- Plant Productivity
- Soils-based Microbiology
- Biochemistry – Pesticides and Food Safety
Plant Productivity

Rangeland Ecology
Student Research

Types of projects:

- Increasing maize productivity
- Impact studies, Climate Change
- Effects of pesticides on T-cell development
- Food antioxidants
- Floriculture

Student support:

- Summer stipends
- Scholarships
- Student Mini-research Grants
Studies in gene expression during PCD of endosperm tissue in maize kernels

Technique: cDNA AFLPs
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