

Horticulture Two-Year Program Review

Fall 2014

CTE Programs must conduct a full program review every four years. The full review includes answering these supplemental questions. Every two years (once between full reviews) these supplemental questions must be answered and submitted to Academic Affairs for posting on the College website.

Use labor market data, advisory committee input, and institutional data to respond to the following questions.

1. How strong is the occupational demand for the program?

The demand for the El Camino College Horticulture Department program is strong, and according to the Bureau of Labor Statistics, job prospects are expected to increase by 13% through 2022. <http://www.bls.gov/ooh/building-and-grounds-cleaning/grounds-maintenance-workers.htm#tab-6>

As indicated by the U.S. Bureau of Labor Statistics, an increase of jobs in the horticulture industry, particularly tree trimmers, shows an increase of as much as 18% over the next 10 years. Based on the visual results left behind by most tree trimmers, horticulture programs like the one at El Camino College are even more important now than ever before.

| Occupational Title | SOC Code | Employment, 2012 | Projected Employment 2022 | Change 2012-22 | |
|---|----------|------------------|---------------------------|----------------|---------|
| | | | | Percent | Numeric |
| SOURCE: U.S. Bureau of Labor Statistics, Employment Projections program | | | | | |
| Grounds maintenance workers | 37-3000 | 1,227,100 | 1,381,300 | 13 | 154,200 |
| Landscaping and grounds keeping workers | 37-3011 | 1,124,900 | 1,264,000 | 12 | 139,200 |
| Pesticide handlers, sprayers, and applicators, vegetation | 37-3012 | 29,600 | 33,000 | 11 | 3,300 |
| Tree trimmers and pruners | 37-3013 | 53,200 | 63,000 | 18 | 9,800 |
| Grounds maintenance workers, all other | 37-3019 | 19,300 | 21,300 | 10 | 1,900 |

Survey results provided by the Horticulture Department Advisory Committee has indicated a moderate to strong demand for continuing education in the field of horticulture. They also indicated less demand for the general education curriculum.

2. How has the demand changed in the past five years and what is the outlook for the next five years?

Attendance in the El Camino College Horticulture Department has been on an upward trend since the spring semester of 2009 increasing by 42% over those past five years and with the Bureau of Labor Statistics projected increase if job growth through 2022, demand for the Horticulture Department and more classes should continue to grow as well. (See table below.)

Fill rates had been strong from the economic decline of 2008-09 through Spring 2013. As the economy has begun to grow, with some increase in jobs in the marketplace, the fill rates have somewhat declined. The overall semester-over-semester trend still shows advancement in enrollment.

| Semester | # sections | # students | Fill rate |
|----------|------------|------------|-----------|
| Fa 14 | 5 | 88/181 | 51% |
| Sp 14 | 4 | 122/156 | 78% |
| Fa 13 | 5 | 120/181 | 66% |
| Sp13 | 5 | 162/181 | 89.5% |
| Fa 12 | 5 | 169/185 | 91% |
| Sp 12 | 4 | 149/156 | 95.5% |
| Fa 11 | 5 | 152/170 | 89% |
| Sp 11 | 4 | 137/156 | 88% |
| Fa 10 | 5 | 183/185 | 99% |
| Sp 10 | 5 | 134/200 | 67% |
| Fall 09 | 5 | 124/170 | 73% |
| Sp 09 | 5 | 64/200 | 32 |
| Fa 08 | 4 | 90/145 | 62 |

3. What is the district's need for the program?

If one were to take into consideration the appearance of the El Camino campus as well as surrounding businesses and neighborhoods, it could be said that the demand for the El Camino College Horticulture Department and its classes are very high particularly now with the need for water conservation and well maintained water conserving landscapes. This increasing demand for water conservation is addressed in our Basic Landscape Irrigation class (Hort 60) by teaching and training students to properly select irrigation equipment based on the site, plant materials and water demands. General Horticulture (Hort 41) offers a broad-stroke overview of knowledge and information regarding plant selection, care and culture, plant and landscape maintenance, and on-site water conservation. Plant Identification (Hort 55 and Hort 56) focuses on individual plants helping to guide the Plant ID student to making the most informed selections of plant materials for any given site.

4. What is the state's need for the program?

It has become painfully obvious that the state of the State's landscaping and landscape water conservation practices, the need for well-trained, skilled horticulturists and maintenance gardeners has grown exponentially. The service sector in both the local areas as well as state wide will continue to grow whereas more competition in the fields demanding more highly educated employees will hit levels where unemployment will continue to grow. The projected increase in worker demand in the horticulture industry can be found in the link below.

<http://www.bls.gov/ooh/building-and-grounds-cleaning/grounds-maintenance-workers.htm#tab-6>

As statewide, county and city regulation increase particularly in the fields of water use and conservation and pesticide use. The Horticulture Department Advisory Committee suggests through their survey results that it will be necessary to educate their future employees in the proper application usages of pesticides as demanded by state regulation. Proper pest control methods are covered in the Pest Control class (Hort 46). Local municipalities are requiring new methods be implemented for keeping water on site during irrigation and rain events. These concerns are discussed somewhat in General Horticulture (Hort 41) and Basic Landscape Irrigation (Hort 60).

5. How does the program address needs that are not met by similar programs in the region?

Since El Camino College is the only college to offer a horticulture program within a 15 mile radius, the Horticulture Department is the only program to offer quality education fulfilling the horticulture and gardening knowledge needs for the entire South bay. Therefore, there are no similar programs to address. The other programs in Southern California are at Long Beach City College, Fullerton College, Pierce College and Mount San Antonio College.

6. Are the students satisfied with their preparation for employment?

Yes and no. I've had many students over the years come back and thank me for helping them to prepare for their careers in the "Green Industry" workforce; many of whom are self-employed or desiring to be self-employed. The "no" answer is due to the lack of facilities on campus necessary for outdoor lab work and training of horticulture students. The excessive loss of plant materials campus-wide over the last eight or nine years, an imperative part of curriculum, has greatly impacted the department.

7. Are the employers in the field satisfied with the level of preparation of our graduates?

Based upon conversations with students employed in the industry and who keep in touch, as well as some of their employers, the answer is yes. Students who are self-employed often direct their students to enroll and take classes in the El Camino College Horticulture Department.

8. What are the completion, success and employment rates for our students?

Using a population of students coming into classes in the El Camino College Horticulture Department who are either already employed in the Green Industry or desiring to be employed in the Green Industry, the completion, success, and employment rates are near 100% based upon conversations with those students.

Those who are looking to be employed in the Green Industry are able to find jobs. And those already employed in the Green Industry are able to maintain their jobs often at a higher standing and pay rate or are able to find better paying jobs with different employers. (See table below.)

| NUMBER OF STUDENTS COMPLETING CLASS | | | | | | | | | Semester |
|-------------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Semester | HORT 41 | HORT 42 | HORT 46 | HORT 53 | HORT 54 | HORT 55 | HORT 56 | HORT 60 | Completion |
| SP2009 | 19 | 12 | 9 | 15 | | | 12 | | 67 |
| FA2009 | 29 | | | | 14 | 10 | | 4 | 57 |
| SP2010 | 39 | 18 | 15 | | | | 13 | | 85 |
| FA2010 | 44 | | | | 23 | 21 | | 12 | 100 |
| SP2011 | 32 | 25 | 15 | | | | 21 | | 93 |
| FA2011 | 27 | | | 31 | 21 | 19 | | 16 | 114 |
| SP2012 | 61 | 23 | 25 | | | | 23 | | 132 |
| FA2012 | 58 | | | | 33 | 14 | | 24 | 129 |
| SP2013 | 24 | 34 | 23 | | | | 17 | | 98 |
| FA2013 | 37 | | 11 | | | 20 | | 15 | 83 |
| SP4014 | 29 | | | 33 | 19 | | 14 | | 95 |
| | See note 1 | See note 2 | See note 3 | See note 4 | See note 5 | See note 6 | See note 7 | See note 8 | |

The Semester Completion numbers indicate the total number of students completing the classes each semester. The numbers indicate an increase in Student Semester Completion from SP 2009 through SP 2014

HORT 41 - General Horticulture
HORT 42 - Plant Propagation
HORT 46 - Pest Control
HORT 53 - Soils and Fertilizers
HORT 54 - Landscape Design
HORT 55 - Plant ID-Trees
HORT 56 - Plant ID-Shrubs, Vines and Groundcovers
HORT 60 - Basic Landscape Irrigation

Notes

- 1 HORT 41 - offered in spring semesters and some fall semesters HORT 41 is offered as two separate sections
- 2 Hort 42 - was offered every spring semester through SP2013. It will now be offered every other spring beginning again in SP2015
- 3 HORT 46 - was offered every spring through SP2013 the changed to every fall beginning in FA2013
- 4 HORT 53 - is offered every other year
- 5 HORT 54 - was offered every other fall through FA2012 then was changed to every other spring beginning in SP 2014
- 6 HORT 55 - is offered every fall
- 7 HORT 56 - is offered every spring
- 8 HORT 60 - is offered every fall

As described in the link from Institutional Research (see the link below page 17 for degrees and page 19 for certificates), there have been twelve degrees issued to Horticulture students from Fall 2008 through Spring 2013 and four certificates issued over that same period of time.

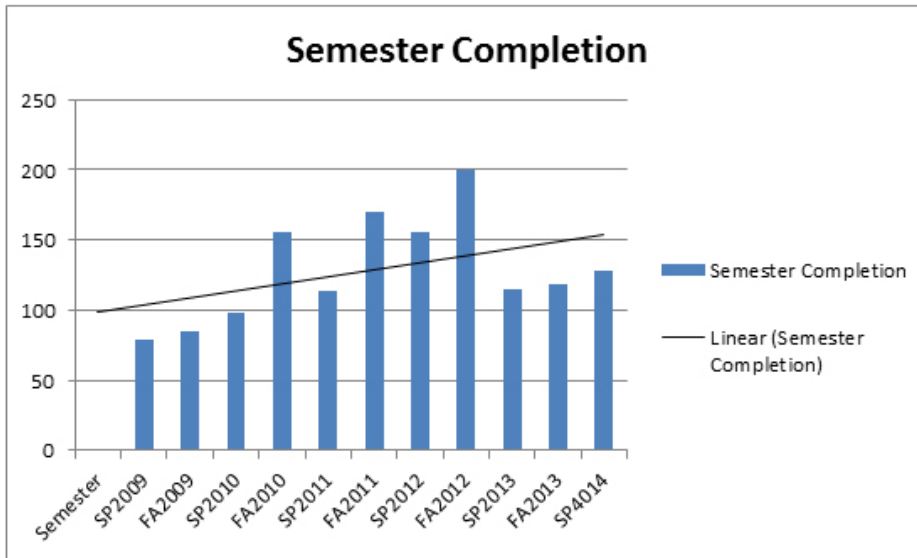
http://www.elcamino.edu/administration/ir/docs/research/DegreesCertificates_2012-13_v2.pdf

9. What is the role of the advisory committee and what impact does it have on the program?

It has helped the El Camino College Horticulture Department greatly to make contacts that are being used by the department, e.g. the landscape irrigation representative of the advisory committee has been able to provide irrigation product catalogs necessary for the Basic Landscape Irrigation class; These are essentially free text books necessary for the education of the Basic Landscape Irrigation students. The arboretum director member graciously allows our Plant Identification classes to use his arboretum as necessary. The landscape contractor member makes his home available to our students for sustainability seminars which he provides free of charge to those interested. The nursery manager committee member, from a local land conservancy, allows and encourages students to use that facility for field trips.

10. If there is a licensure exam for students to work in their field of study, please list the exam and the pass rate. If there are multiple licensure exams in the program, include them all.

There are two California exams most frequently taken by horticulture students of the El Camino College Horticulture Department. They are both offered through the California Department of Pesticide Regulation (CA DPR). One is the Qualified Applicators License (QAL), and the other is the Qualified Applicators Certificate (QAC). I have the QAL and frequently see students at the continuing education seminars necessary for license renewals. The classes offered through the El Camino College Horticulture Department are also preparatory for the California State Contractors License Board's Landscape Contractors License.



Semester Completion numbers in shaded area are indicated by the above chart.

| | |
|------------------------------|--------------|
| Student completion SP2009 | 67 |
| Student completion SP2014 | 95 |
| Percentage increase/decrease | 42% increase |

Using the "Number of Students Completing Classes" table above, the above chart distinctly shows a long-term upward trend in student completion of classes from Spring 2009 through Spring 2014.