

Program Overview	
PR Area	Academic Affairs
PR Program	Environmental Horticulture
Review Type	Academic Affairs
Year	2012
Program Overview Narrative	
<p>The Environmental Horticultural program is designed to prepare both the continuing and newly enrolled horticulture students for a career in the field of environmental horticulture. The Horticulture program offers a valuable service to the community by providing opportunities for returning horticulture students to upgrade their horticultural skills and knowledge with the most currently available information, making them more valuable to their employers in a competitive market place. For the new Horticulture students, the information, skills and training prepare them for employment in the green industry. The skills and knowledge gained from the Environmental Horticulture Program prepare the student for work in landscape maintenance at institutional or private levels alike, in the fields of landscape nurseries, landscape design, landscape installation and maintenance, pest control and landscape irrigation.</p> <p>The instruction received by Environmental Horticultural students includes Plant Identification classes including Tree Identification, Shrub, Vine and Groundcover Identification and the Ecology of Edible, Medicinal and Poisonous Plants—the flagship courses of the department. This series of three classes shows students in excess of four hundred and fifty of the more commonly found plants in Southern California landscapes including approximately one hundred and fifty trees, one hundred and fifty shrubs, vines and groundcovers (interspersed with some annuals, perennials and bulbs). Various weeds commonly found in landscapes, along roadsides and in undeveloped areas, as well as edible, medicinal and poisonous plants found locally are also looked at in depth. The Plant Propagation class investigates various techniques commonly used in the field of plant propagation, putting the Horticulture student in a position to successfully work for a commercial grower or to start up their own nursery. The Pest Control class prepares the Horticulture student for the California Department of Pesticide Regulation licensing process and state examination. The care and culture of landscape plants is the major focus in the General Horticulture class. General Horticulture also acts as an overview of the other classes taught in the Environmental Horticulture program. The Basic Landscape Irrigation class, as the course title implies, provides the basics of landscape irrigation, the primary focus; discussing the myriad parts, installation techniques, basic hydraulics, water management and water conservation. The Soils and Fertilizer class cover the elements of soil structure, analysis, soil care and fertilizer use and application.</p> <p>All of the classes offered through the Environmental Horticultural Program are necessary elements for successful landscape installers or maintenance specialists, nursery and greenhouse professionals as well as the serious gardening enthusiast. All of our Horticulture classes in the Department of Environmental Horticulture are presented by instructors having both the knowledge and working experience in the field of environmental/ornamental horticulture.</p> <p>The Environmental Horticulture program not only serves approximately two hundred students each semester but provides an invaluable resource and service to the entire South Bay region. It is the only Horticulture program being offered in the area with Long Beach City College being the next closest then Fullerton College, and Pierce College at some distance. The typical Horticulture students at El Camino College range from a various backgrounds. Often the typical Horticulture students are already in the “Green” industry as landscape maintenance and installation professionals working privately (often for family-owned companies) or for local municipalities, nursery and greenhouse professionals often working for family-owned nurseries, and interior plant maintenance companies. Many Horticulture students are returning students with a keen interest in plants, ornamental and edible gardening and sustainable landscaping. Many of these students are looking to change their lines of work and enter into the “Green” industry. Some are hobbyists and are looking to gain more information to become better backyard gardeners. The Landscape Design class seems to fill a special niche. Often anywhere up to half of the students are interested in being able to design their own front- and backyards spaces. The General Horticulture class provides an introduction to all Horticulture students and serves as a general education class as well gaining frequent converts into the Horticulture Department.</p>	
Status of all active Recommendations	
<p>Progress on Recommendation 1 since previous Program Review 2007-2008</p> <p>2007-08 Recommendation 1: Class sizes should be reduced to a number not to exceed twenty-five students, making the classes safer and more manageable.</p>	

Class sizes are overly-large to be safe and effective. The safety issues arise when large numbers of students are on walkabout in various locations where plants are available often adjacent to parking lots and street side during the Plant Identification classes. The Plant Propagation and Basic Landscape Irrigation classes are also both outdoor classes and are both hands-on classes as well using various tools such as pruning equipment like hand pruners, loppers, pruning saws, grafting knives, pipe cutters, pipe primers and glues, plant hormones, etc. For safety's sake, students require constant supervision by the instructor during Horticulture classes. In response the Division of Natural Science has recently begun the development of a "load" committee to address the problem of large class sizes in found in the Horticulture Department as well as several other classes within the Division.

Progress on Recommendation 2 since previous Program Review 2007-2008

2007-08 Recommendation 2: The Horticulture program is in need of classrooms and storage in close proximity to the nursery/greenhouse area.

Status: Pending – The distance between the classrooms and the nursery/greenhouse area is almost one-half mile. It is necessary to be able to be able to lecture about a subject and immediately follow it up with a demonstration on the subject. This becomes virtually impossible in a physics or life science classroom. Having a dedicated Horticulture classroom would also mean having rest room facilities for use by the students and faculty immediately adjacent to the nursery/greenhouse facility.

Progress on Recommendation 3 since previous Program Review 2007-2008

2007-08 Recommendation 3: Provide adequate lighting inside and outside the nursery/greenhouse.

Status: Pending - A CTEA grant in excess of \$26,000 was awarded to the Horticulture Department in the spring of 2011. Since that time lights have been installed inside the greenhouse. No further progress has been made on the outdoor lighting for the Horticulture Department Nursery/Greenhouse area. Progress is currently at a hold waiting for the Campus Facilities to continue the addition of the outdoor lighting in the nursery/greenhouse area. The current "plan" is to continue the project, using the remaining funds, and install outdoor lighting in the Nursery/Greenhouse area during construction of the new sport complex.

Progress on Recommendation 4 since previous Program Review 2007-2008

2007-08 Recommendation 4: Include faculty members in the selection of landscape materials to increase plant diversity and increase use of "living laboratories" by instructors.

The Horticulture instructor has been asked on several occasions by the head of campus grounds to discuss the selection of new trees and shrubs for the campus landscape. Unfortunately, to date, nothing has come of those conversations.

2007-08 Recommendation 5: Provide focused marketing and advertising to the Horticulture program.

Status: Pending

Part 1: Review of the past four years

Research Data Analysis
Research Data Analysis Narrative
<p>Horticulture Department Retention Rates Total Annual Program Participation (4-year Trend) Years: 2007-08 to 2010-11</p> <p>Retention Rates Fall 07 Retention Rate 74.2% with 124 students Fall 08 Retention Rate 65.9% with 88 students Fall 09 Retention Rate 55.9% with 127 students Fall 10 Retention Rate 56.8% with 183 students</p> <p>Comments on Retention Rates: The four year period noted above included an increase in enrollment for the horticulture classes. In the same period, we see the retention rates declining. It is the belief that some of the student population enrolling in the Horticulture classes are doing so because of the reduced number of sections available on campus. They may not be as dedicated as the full-time Horticulture students and either failing or dropping classes by</p>

Years: 2007 to 2010

Fall 2007						
	Horticulture Department		Division of Natural Science		El Camino College	
Grade	Percentage	# Students	Percentage	# Students	Percentage	# Students
A	35.4%	44	17.19%	913	24.9%	16,247
B	11.3%	14	21.9%	1,119	17.9%	11,674
C	6.5%	8	21.5%	1,099	12.8%	8,358
D	3.2%	4	6.6%	335	4.2%	2,743
F	12.9%	16	6.6%	338	7.7%	5,035
W	21.0%	26	21.1%	1,079	18.8%	12,270

Fall 2008						
	Horticulture Department		Division of Natural Science		El Camino College	
Grade	Percentage	# Students	Percentage	# Students	Percentage	# Students
A	31.8%	28	17.3%	964	25.1%	17,999
B	11.4%	10	21.4%	1,192	17.6%	12,636
C	6.8%	6	21.5%	1,197	12.9%	9,270
D	0.0%	0	6.6%	369	4.4%	3,168
F	15.9%	14	7.8%	436	9.5%	6,825
W	31.8%	28	19.6%	1,092	14.9%	10,672

Fall 2009						
	Horticulture Department		Division of Natural Science		El Camino College	
Grade	Percentage	# Students	Percentage	# Students	Percentage	# Students
A	19.7%	25	17.2 %	972	26.4%	18,868
B	17.3%	22	21.9%	1,239	18.5%	13,261
C	5.5%	7	23.0%	1,298	13.8%	9,888
D	1.6%	2	7.0%	396	4.5%	3,193
F	11.8%	15	7.1%	404	8.3%	5,916
W	30.7%	39	18.1%	1,024	13.9%	9,939

Fall 2010

	Horticulture Department		Division of Natural Science		El Camino College	
Grade	Percentage	# Students	Percentage	# Students	Percentage	# Students
A	25.7%	47	17.2%	890	25.8%	15,859
B	14.2%	26	23.5%	1,213	19.7%	12,145
C	6.0%	11	21.9%	1,132	14.3%	8,816
D	1.6%	3	6.3%	327	4.5%	2,772
F	9.3%	17	5.3%	274	7.2%	4,452
W	36.6%	67	20.3%	1,049	14.7%	9,029

Comments on Success Rates: The typical Horticulture student does well because of the elective nature of the program. Grades tend to be leaning towards A-grades and B-grades – grades as high, and often higher than, the Division and College averages respectively. There are a higher number of F grades, however, than the Division and College. At this time there is no specific reason for this other than conjecture: It appears that some students come into Horticulture with the idea that “it’s only plants, so how difficult can it be?” and is tend to be high because of the difficult nature of the courses.

Horticulture Department Seat Counts
Total Annual Program Participation (4-year Trend)
Years: 2007-08 to 2010-11

Horticulture Annual Seat Count
2007-08 - 218
2008-09 - 172
2009-10 - 259
2010-11 - 348
4 Year Average - 249.25

Comment regarding Annual Seat Count: Seat count has increased by 130 students, almost double over the school years of fall 2008 through spring 2011. This is largely due to the growing interest in sustainability in the environment.

Horticulture Course Sections
Total Annual Program Participation (4-year Trend)
Years: 2007-08 to 2010-11

Horticulture Course Sections
2007-08 - 14
2008-09 - 10
2009-10 - 10
2010-11 - 11
4 Year Average - 11.25

Comment regarding Course Sections: There is no notable change in course sections during the semesters in question. The 2007-2008 school year shows an increase by three (3) sections during which time there were two (2) adjunct faculty each with one class and the full time instructor carried one extra class during one of the two (2) semesters.

Horticulture Department Student Count
Total Annual Program Participation (4-year Trend)
Years: 2007-08 to 2010-11

Horticulture Student Count

2007-08 - 122
2008-09 - 115
2009-10 - 182
2010-11 -217
4 Year average - 159

Comment regarding Student Count: There has been an increased interest in the urban environment with an emphasis on sustainability in the last couple of years likely leading to an increase in the student count in Horticulture.

Horticulture Department Seats per Student
Total Annual Program Participation (4-year Trend)
Years: 2007-08 to 2010-11

Horticulture Seats per Students
2007-08 - 1.8
2008-09 - 1.5
2009-10 - 1.4
2010-11 - 1.6
4 Year Average - 1.6

Comment regarding Seats per Student: The data exhibits no real change from year-to-year.

Horticulture Department Class Times
Total Annual Program Participation (4-year Trend)
Years: 2007-08 to 2010-11
Class Times

Fall 2008
Students - 82
Daytime - 31
Evening - 51
Unknown/Weekend - 0

Fall 2009
Students - 66
Daytime - 16
Evening - 50
Unknown/Weekend - 0

Fall 2010
Students - 104
Daytime - 63
Evening - 41
Unknown/Weekend - 0

Fall 2011
Students - 131
Daytime - 95
Evening - 36
Unknown/Weekend -0

Comments regarding Class Times: Except for a Saturday class offered each semester, all classes are taught in the evenings to better accommodate the requirements of the Horticulture students. The numbers here do not seem to accurately represent the Horticulture Department Day/Evening/Weekend numbers. Apparently the numbers given by the campus data analyst are intended to represent a population different from that of the Horticulture Department population and class times typical within the department. Horticulture classes are typically evenings (starting at 4:00pm or 6:00pm) and Saturdays. The data received from campus for Fall 2010 and Fall 2011 do not represent the typical semesters. A Saturday class is offered every semester. The data received from campus shows zero population on weekends.

Horticulture Department Forward Looking Course Sequence
Total Annual Program Participation (4-year Trend)
Years: Fall 2012 to Fall 2016

Fall 2012

Hort 41 – General Horticulture
Hort 54 – Landscape Design
Hort 55 – Plant Identification—Identification of Trees
Hort 60 – Basic Landscape Irrigation
Hort 50 – Special Topics in Horticulture – as necessary
Hort 95abcd – Cooperative Career Education – as necessary
Hort 99abd – Independent Study – as necessary

Spring 2013

Hort 41 – General Horticulture
Hort 42 – Plant Propagation
Hort 44 – Ecology of Edible, Medicinal and Poisonous Plants
Hort 46 - Pest Control
Hort 56 – Plant Identification— Identification of Shrubs, Vines and Groundcovers
Hort 50 – Special Topics in Horticulture – as necessary
Hort 95abcd – Cooperative Career Education – as necessary
Hort 99abd – Independent Study – as necessary

Fall 2013

Hort 41 – General Horticulture
Hort 53 – Soils and Fertilizers
Hort 54 – Landscape Design
Hort 55 – Plant Identification—Identification of Trees
Hort 60 – Basic Landscape Irrigation
Hort 50 – Special Topics in Horticulture – as necessary
Hort 95abcd – Cooperative Career Education – as necessary
Hort 99abd – Independent Study – as necessary

Spring 2014

Hort 41 – General Horticulture
Hort 42 – Plant Propagation
Hort 46 - Pest Control
Hort 56 – Plant Identification— Identification of Shrubs, Vines and Groundcovers
Hort 50 – Special Topics in Horticulture – as necessary
Hort 95abcd – Cooperative Career Education – as necessary
Hort 99abd – Independent Study – as necessary

Fall 2014

Hort 41 – General Horticulture
Hort 54 – Landscape Design
Hort 55 – Plant Identification—Identification of Trees
Hort 60 – Basic Landscape Irrigation
Hort 50 – Special Topics in Horticulture – as necessary
Hort 95abcd – Cooperative Career Education – as necessary
Hort 99abd – Independent Study – as necessary

Spring 2015

Hort 41 – General Horticulture
Hort 42 – Plant Propagation
Hort 44 – Ecology of Edible, Medicinal and Poisonous Plants
Hort 46 - Pest Control
Hort 56 – Plant Identification— Identification of Shrubs, Vines and Groundcovers
Hort 50 – Special Topics in Horticulture – as necessary
Hort 95abcd – Cooperative Career Education – as necessary
Hort 99abd – Independent Study – as necessary

Fall 2015

Hort 41 – General Horticulture

Hort 53 – Soils and Fertilizers

Hort 54 – Landscape Design

Hort 55 – Plant Identification—Identification of Trees

Hort 60 – Basic Landscape Irrigation

Hort 50 – Special Topics in Horticulture – as necessary

Hort 95abcd – Cooperative Career Education – as necessary

Hort 99abd – Independent Study – as necessary

Spring 2016

Hort 41 – General Horticulture

Hort 42 – Plant Propagation

Hort 46 - Pest Control

Hort 56 – Plant Identification— Identification of Shrubs, Vines and Groundcovers

Hort 50 – Special Topics in Horticulture – as necessary

Hort 95abcd – Cooperative Career Education – as necessary

Hort 99abd – Independent Study – as necessary

Fall 2016

Hort 41 – General Horticulture

Hort 54 – Landscape Design

Hort 55 – Plant Identification—Identification of Trees

Hort 60 – Basic Landscape Irrigation

Hort 50 – Special Topics in Horticulture – as necessary

Hort 95abcd – Cooperative Career Education – as necessary

Hort 99abd – Independent Study – as necessary

Comments regarding Forward Looking Course Sequence: Sequence is subject to change with the addition of new courses.

Curriculum

Curriculum Narrative

No changes have been made to the Horticulture Department curriculum in the last four years.

Based on conversations with the newly formed Horticulture Department Advisory Committee consisting of a local landscape contractor, two arboretum directors, two nursery directors and a representative from a major irrigation and landscape maintenance manufacturer, in addition to the current line-up of classes, these new courses could be added to make the Horticulture Department more well-rounded and more competitive, including:

General Horticulture (change to include lecture and lab)

Plant Identification – Annuals, Perennials and Houseplants

Plant Identification – California Native and Drought Tolerant Plants

Landscape Management

Advanced Landscape Design

Advanced Landscape Irrigation

Nursery and Greenhouse Management

Plant Taxonomy (though Biology)

Vegetable and Fruit Production in an Urban Environment

Sustainable Landscape Practices

CAD Applications in Landscape Design

Arboriculture

Landscape Construction

Turfgrass Management

The addition of new courses will allow the Horticulture Program the opportunity to grow continuing to meet the needs of the community and to add new certificates to the certificate program.

The 4 year program and SLO cycle has been attached: SLO and assessment 4-yr timeline_completed.pdf

Assessments of Student Learning (SLO)

Assessment of Student Learning Narrative

Upon completion of their studies of the course materials in the Environmental Horticulture program, the successful Horticulture student will be able to correctly identify a set of plant materials by recognition and spelling their scientific names correctly using those plant materials in a landscape design.

Upon completion of their studies of the course materials in the Environmental Horticulture program, the successful Horticulture student will be able to create an irrigation design for a given landscape design and create a suitable watering schedule based upon plant materials and soil types.

Upon completion of their studies of the course materials in the Environmental Horticulture program, the successful Horticulture student will be able to create a maintenance and pest control program for a given landscape with a given set of plant materials.

Environmental Horticulture Program SLO statements are available in CurricUNET.

ACCJC Rubric

Development

Describe how well the assessment process works within your program and justify the rating you gave the assessment work in your program.

In the ACCJC rubric under the "Development" section, the statement is made "Appropriate resources are being allocated to support student learning outcomes and assessment." The biggest challenge to the department lies in the lack of facilities.

No assessments have been made on SLOs at this time.

Facilities and Equipment

Facilities and Equipment Narrative

The Horticulture Program's facilities currently include a greenhouse in a postage-stamp size nursery area with a small adjoining garden area.

The greenhouse (about 20' x 30') is really a beautiful glass and metal-framed structure. It is about eight years old and is in relatively good shape. There are condition issues with the growing tables: the tops are loose and unbalanced and the galvanized metal legs are beginning to rot at the bases. The concrete floor was poorly installed and is a constant source of puddles causing the table legs to rot and creating a slip-and-fall hazard. The irrigation system was installed about five years ago and will need to be retrofitted once new growing tables are installed. The irrigation controller is original to the greenhouse and should also be replaced.

A twenty foot overseas shipping container was donated to the Horticulture Department about seven years ago. The container provides all of the storage for the nursery/greenhouse area. Additional storage is a must at some time in the very-near future as the container is full to the gills. The doors on the container are also in need of repair as they are badly rusted along their bottom edges. They were already rusting when we received the container and have only gotten worse in the last seven years.

The outdoor nursery area is used for cultivation and sales of plant materials. The ground has been covered with a weed-barrier material and has recently been covered by the Plant Propagation class (Hort 42) with gravel purchased using CTEA grant funds recently received by the Horticulture Department. An irrigation system was installed by the Basic Landscape Irrigation class (Hort 60) in the fall 2010 semester covering about one half of the outdoor growing area in the Horticulture Department nursery. The other half of the outdoor growing area irrigation system will be installed during the fall 2012 semester by the Basic Landscape Irrigation class (Hort 60).

The garden area immediately adjacent to the nursery/greenhouse area currently contains approximately 30 different species of plants and is used as a specimen garden to supplement the Plant Identification classes (Hort 55 and Hort 56). The plant material in the garden also provides “mother stock” for the Plant Propagation class (Hort 42). The garden area will also be irrigated in future semesters by the Basic Landscape Irrigation class (Hort 60).

Unfortunately, the Horticulture Department nursery/greenhouse does not see the regular use that it deserves. First: The nursery/greenhouse area is approximately one-half mile from the classes being used to teach the horticulture classes. Therefore the nursery/greenhouse area is really not conducive to the regular usage it so deserves. Second: There are no restroom facilities that can be depended upon in the immediate area during evening or Saturday classes. And with classes consisting of a large female population this can make life difficult for those students – for all students in the department. Third: Only recently, during the spring 2012 semester, were lights installed inside the greenhouse; again using CTEA grant monies. There are still no lights anywhere in the outdoor nursery area. Considering the fact the nursery/greenhouse area is an outdoor classroom facility, it is unusable for night classes. This forces the classes being taught in the nursery/greenhouse area to be taught on Saturdays. The installation of outdoor lighting in the nursery/greenhouse area is supposed to be scheduled to coincide with the construction of the new sports facility. This brings up a point of concern.

After having been to the “Are We Done Yet” breakout sessions put on by Campus Facilities’ Tom Brown and Bruce Hoerning, over the past two August flex days, this brings up a major concern for the Horticulture Department nursery/greenhouse area: The Horticulture Department nursery/greenhouse does not exist anywhere on the “Master Plan” drawings shown in either breakout sessions. And it appears that in the very near future it may no longer exist. One must wonder how the local voters of the recent bond measures would react to the loss of the only Horticulture Department and its current program in the South Bay region. This inspires a solution.

The Horticulture Department at El Camino College both requires and deserves its own facility. The area south of Redondo Beach Boulevard, west of Crenshaw Boulevard and immediately adjacent to the Dominguez Creek channel known as the Child Development Center is a prime location for a Horticulture Department. The facility would provide classrooms with wet-lab facilities and restrooms immediately adjacent to what will be an outdoor classroom area with ample area for growing grounds, greenhouses, mist houses, shade and lath houses, a potting house, storage, etc. A Horticulture Department will allow classes to go from lecture in a classroom to an outdoor lab seamlessly. It will provide a place to maintain specimen plants used for the Plant Identification classes (Hort 55 and Hort 56). It will provide a place to teach landscape maintenance classes. The location will provide an excellent facility to have weekend plant sales with easy access from Crenshaw Boulevard and parking for the guests patronizing the Horticulture Department plant sales. The current facility is so well hidden it’s even difficult for campus faculty and staff to find it let alone people unfamiliar with the campus trying to get to one of our plant sales. The plant sales will assist in funding the Horticulture Department guiding it towards becoming more self-sustaining. A budget starting at \$1,000,000 would be necessary to retrofit the Child Development Center turning it into a usable Horticulture Department. This has been added to PlanBuilder.

A Horticulture Department with its own facility will allow the department to grow and to better compete with the other horticulture programs here in the Los Angeles-Orange County area. The department could easily add eight to ten more courses in the next four years and with the addition of other faculty could add courses capitalizing on their particular expertise.

Technology and Software

Technology and Software Narrative

Disregard the "Recommendations" section for this section "Technology and Software" as they cannot be deleted. Note: they are from this current Program Review, 2012, and ARE NOT from a previous version.

Staffing

Staffing Narrative

The current staffing for the Horticulture Department consists of one full-time faculty who teaches all of the classes in the spring and fall semester rotation. There is also one adjunct faculty member who teaches one class every other spring semester (Hort 44).

The way things stand currently; there is no need for other faculty members. There is, however, a need for a part-time lab tech for the nursery greenhouse area. The lab tech would be responsible for maintaining the nursery/greenhouse area throughout the year keeping the facilities clean and weed-free, propagating and maintaining plant materials for the Horticulture Department plant sales, order materials, and prepare the area for the classes being taught in the nursery/greenhouse area. This has been added to PlanBuilder.

If the Horticulture Department is, in time, able to add more classes to the course rotation, another instructor would be warranted: either full- or part-time depending upon the number and nature of the classes added.

If the Horticulture Department is able to gain its own dedicated classroom, lab, nursery and greenhouse facility then a full-time lab tech would be warranted as would a full time faculty member.
Career and Technology Education (CTE)
How strong is the current occupational demand for the program?
The demand is strong for the Horticulture Program as shown by the increasing enrollment. The public's trend in increasing interest in sustainability in landscaping and in urban agriculture is increasing the demand for classes in Environmental Horticulture.
What is the district's current need for the program?
Student demand for the program is increasing as shown by increasing enrollment in the Horticulture Program. The public's desire for education in environmental awareness, sustainability and urban agriculture is increasing. Very few community colleges in the area are still offering any kind of horticulture program. As the demand increases locally El Camino College is already in a position to offer and continue to develop a sustainable Horticulture Program.
What is the state's current need for the program?
Very few community colleges in the state of California are offering any kind of teaching programs that educate in horticulture, sustainable landscaping or urban agriculture. It is the State's responsibility to maintain the few remaining programs horticulture programs encouraging their growth.
How does the program address needs that are not met by other similar programs in the area?
The Horticulture Program at El Camino College is only one of three programs in the immediate area, including Long Beach City College and Fullerton College. The Horticulture Program is the only program of its kind serving the South Bay region.
Are the students satisfied with their preparation for employment? Are the employers in the field satisfied with the level of preparation of our graduates?
<p>Yes. And yes. Although there is a list of suggested new classes listed above in the Curriculum section reflecting suggestions made by Horticulture students as well as the Horticulture Department Advisory Committee and Faculty. Unfortunately there is no real way to track student success in the industry once they move on from El Camino College unless they return to "keep in touch." I have in the last years given interviews to federal investigators regarding students applying for jobs with the United States Department of Agriculture and United States Customs. I know at least one student was hired by the federal government. I recently gave a letter of recommendation to a student for his application with the California State Contractors Board for his C-27 Landscape Contractors license. Just days prior to this writing he informed me that he did in fact receive his C-27 California State Landscape Contractors License. I know that several of my Pest Control students have taken and passed the California Department of Pesticide Regulations exams because they told me so and because I have seen them at the continuing education seminars.</p> <p>These seem to be the only ways I am able to measure success of the levels of preparation for Horticulture Department students entering into the field. I am also convinced the addition of the list of new classes mentioned above will make our Horticulture students that much more competitive.</p>
What are the completion success and employment rates for the students?
<p>Numbers received are from the campus analyst.</p> <p>Horticulture Program Success Rates:</p> <p>Fall 2007 – 53.2%</p> <p>Fall 2008 – 50%</p> <p>Fall 2009 – 42.5%</p> <p>Fall 2010 – 45.9%</p> <p>Horticulture Program Retention Rates:</p> <p>Fall 2007 – 74.2%</p> <p>Fall 2008 – 65.9%</p> <p>Fall 2009 – 55.9%</p> <p>Fall 2010 – 56.8%</p> <p>No numbers were provided for employment rates.</p>
What impact does the advisory board have on the program?
The Horticulture Department Advisory Committee, consisting of a local landscape contractor, two arboretum directors, two nursery directors and a representative from a major irrigation and landscape maintenance manufacturer, has now met two times: winter 2011 and winter 2012. Their main suggestion is the implementation of new courses that fall in line with sustainable horticultural and landscape practices. Their suggestions are to take whatever actions necessary to make the department more visible in the region and to make the Horticulture Program grow.

Part 2: Future Direction

Direction and Vision
<p>Direction and Vision Narrative</p> <p>The Horticulture Program at El Camino College must be allowed to grow into a dedicated facility with classrooms, wet laboratory, propagation facilities, growing areas, greenhouses, shade and lath houses. A list of new classes must also be added to the Program's course rotation. In doing so El Camino College can be at the forefront of education in sustainable landscaping and urban agriculture in not just the South Bay but across southern California.</p> <p>The Horticulture Department at El Camino College has been growing in population and shrinking in facilities over the last several semesters. Interest in a sustainable environment is increasing. The campus has taken an unsustainable approach to landscaping and the environment with the increase of flat "hard surfaces" in the way of concrete, and the reduction of landscape spaces including the loss of the large variety of trees and shrubs that once existed on campus.</p> <p>The Horticulture Department has been forced to share classrooms in the Physics, Life Sciences and Natural Sciences buildings and has been relegated by the lab tech in Life Sciences to one small shelf in one small cupboard. The existing Nursery/Greenhouse facility is almost one-half mile from the classrooms used by the Department making it impossible to "pop out" to the nursery for instruction and examples.</p> <p>The Horticulture Department is in dire need of dedicated facilities for both lecture and lab—indoors and out. These facilities must include classrooms where displays related to the subjects at hand can be exhibited throughout the courses of semesters: display boards, counter spaces, growth chambers; restrooms within the department; outdoor lighting for all of the night classes the department offers; landscaped areas for the plant identification classes; storage facilities for containers, potting soil, tools, carts, wheelbarrows; etc. The outdoor areas must have adequate space for greenhouse and mist-house facilities, shade structures, lath-house, and outdoor growing areas that can sustain crops for department fundraising plant sales. The Department also requires a full-time laboratory technician to oversee the nursery facilities.</p> <p>There is an opportunity for El Camino College to build and grow a sustainable Horticulture Department on campus. Such an area already exists. The Child Development facility is an underused area, and along with the adjacent parking area running along the Dominguez Creek, would make an ideal area for a dedicated El Camino College Horticulture Department. The existing building could be retrofit to provide the necessary classrooms, faculty and lab-tech office space, restrooms, as well as the necessary outdoor facilities including growing structures and areas and storage areas.</p> <p>The potential for growth includes a myriad of new Horticulture courses with faculty to go along with them. When we compare ourselves to other community colleges around California offering courses horticulture, there is much room to grow. Fullerton College offers forty-two (42) courses in their program with a dedicated horticulture facility (http://horticulture.fullcoll.edu/ClassList.shtml). Long Beach City College offers twenty-one (21) courses in their dedicated facility (http://departments.lbcc.edu/deptinfo.cfm?deptabbr=HORT). In their dedicated facility at Cuyamaca College they offer forty-two (42) horticulture courses (http://www.cuyamaca.edu/ohweb/). Cabrillo College in Aptos carries twenty-two (22) courses, again in a dedicated horticulture facility (http://www.cabrillo.edu/academics/horticulture/). These are just a few examples.</p> <p>As the interest in the environment and sustainability continue to grow, and as more and more conservation oriented regulations are mandated by local governments, the El Camino College Horticulture Department is in a unique position to provide the necessary education to landscape designers and landscapers, irrigators, pest control technicians, plant care technicians, home owners and plant enthusiasts.</p>

Recommendations
<p>Justification for Prioritization</p> <p>The primary recommendation for the Horticulture Program is in regards to class sizes. The current class sizes are approximately 40 students per class. It is necessary to reduce the number of seats required to fill the classes for safety reason, the challenges teaching many of these classes outdoors, and overall effectiveness of instruction; all are explained in other portions of the program review.</p> <p>It is recommended the required seat number to fill Horticulture Department classes be reduced to twenty-four (24) to</p>

twenty-five (25) students depending on the specific class:

Hort 41 – General Horticulture – 24 maximum – for safety reasons – reduced to an even number so students can comfortably work in pairs, once the class has a lab written into it constant supervision will be required during the lab sections when pruning and grafting tools are in use.

Hort 42 – Plant Propagation – 24 maximum – for safety reasons – reduced to an even number so students can comfortably work in pairs – constant supervision is required during the lab sections when pruning tools, grafting tools, plant hormones, etc. are in use.

Hort 44 – Ecology of Edible, Medicinal and Poisonous Plants – 25 maximum – plant identification classes require outdoor walkabouts often adjacent to parking lots and street-sides; large numbers of students in plant identification classes pose safety issues while trying to maintain the group of students in a confined space where the instructor is lecturing.

Hort 53 – Soils and Fertilizers – 24 maximum – for safety reasons – reduced to an even number so students can comfortably work in pairs – constant supervision is required during the lab sections when scales, blenders, microwave ovens, various reagents, etc. are in use.

Hort 54 Landscape Design – 25 maximum – due to the subjective nature of the landscape design drawing homework, a reduced student load will allow the instructor the time necessary to the reviewing of landscape drawings on a weekly basis and being able to provide viable feedback.

Hort 55 – Plant Identification–Shrubs, Vines and Groundcovers – 25 maximum – plant identification classes require outdoor walkabouts often adjacent to parking lots and street-sides; large numbers of students in plant identification classes pose safety issues, while trying to maintain the group of students in a confined space where the instructor is lecturing.

Hort 56 – Plant Identification–Trees – 25 maximum – plant identification classes require outdoor walkabouts often adjacent to parking lots and street-sides; large numbers of students in plant identification classes pose safety issues while trying to maintain the group of students in a confined space where the instructor is lecturing.

Hort 60 – Basic Landscape Irrigation – 24 maximum – for safety reasons – reduced to an even number so students can comfortably work in pairs – constant supervision is required during the lab sections when pipe cutters and saws, glues and primers, and various hand tools such as picks and shovels, etc. are in use.

Recommendation #1: test

Program Review Reference	
Current Status	New
Status Report	

Impact and Required Resources

No Impacts or Required Resources for this Recommendation

Recommendation #2: Several new classes should be added to the Horticulture program.

Program Review Reference	
Current Status	New
Status Report	

Impact and Required Resources

No Impacts or Required Resources for this Recommendation

Recommendation #3: The primary recommendation for the Horticulture Program is in regards to class sizes. The current class sizes are approximately 40 students per class. It is necessary to reduce the number of seats required to fill the classes for safety reason, the challenges teaching many of these classes outdoors, and overall effectiveness of instruction; all are explained in other portions of the program review.

It is recommended the required seat number to fill Horticulture Department classes be reduced to twenty (24) to twenty-five (25) students depending on the specific class:

Hort 41 ? 24 maximum

Hort 42 ? 24 maximum

Hort 44 ? 25 maximum

Hort 46 ? 25 maximum

Hort 53 ? 24 maximum

Hort 54 ? 25 maximum

Hort 55 ? 25 maximum

Hort 56 ? 25 maximum	
Hort 60 ? 24 maximum	
Program Review Reference	
Current Status	New
Status Report	
Impact and Required Resources	
No Impacts or Required Resources for this Recommendation	
Recommendation #4: .	
Program Review Reference	
Current Status	New
Status Report	
Impact and Required Resources	
No Impacts or Required Resources for this Recommendation	
<p>Recommendation #5: The Horticulture Department at El Camino College both requires and deserves its own facility. The area south of Redondo Beach Boulevard, west of Crenshaw Boulevard and immediately adjacent to the Dominguez Creek channel known as the Child Development Center is a prime location for a Horticulture Department. The facility would provide classrooms with wet-lab facilities and restrooms immediately adjacent to what will be an outdoor classroom area with ample area for growing grounds, greenhouses, mist houses, shade and lath houses, a potting house, storage, etc. A Horticulture Department will allow classes to go from lecture in a classroom to an outdoor lab seamlessly. It will provide a place to maintain specimen plants used for the Plant Identification classes (Hort 55 and Hort 56). It will provide a place to teach landscape maintenance classes. The location will provide an excellent facility to have weekend plant sales with easy access from Crenshaw Boulevard and parking for the guests patronizing the Horticulture Department plant sales. The current facility is so well hidden it's even difficult for campus faculty and staff to find it let alone people unfamiliar with the campus trying to get to one of our plant sales. The plant sales will assist in funding the Horticulture Department guiding it towards becoming more self-sustaining. This has been added to PlanBuilder.</p> <p>A Horticulture Department with its own facility will allow the department to grow and to better compete with the other horticulture programs here in the Los Angeles-Orange County area. The department could easily add eight to ten more courses in the next four years and with the addition of other faculty could add courses capitalizing on their particular expertise.</p>	
Program Review Reference	
Current Status	New
Status Report	
Impact and Required Resources	
No Impacts or Required Resources for this Recommendation	
<p>Recommendation #6: The Horticulture Department at El Camino College both requires and deserves its own facility. The area south of Redondo Beach Boulevard, west of Crenshaw Boulevard and immediately adjacent to the Dominguez Creek channel known as the Child Development Center is a prime location for a Horticulture Department. The facility would provide classrooms with wet-lab facilities and restrooms immediately adjacent to what will be an outdoor classroom area with ample area for growing grounds, greenhouses, mist houses, shade and lath houses, a potting house, storage, etc. A Horticulture Department will allow classes to go from lecture in a classroom to an outdoor lab seamlessly. It will provide a place to maintain specimen plants used for the Plant Identification classes (Hort 55 and Hort 56). It will provide a place to teach landscape maintenance classes. The location will provide an excellent facility to have weekend plant sales with easy access from Crenshaw Boulevard and parking for the guests patronizing the Horticulture Department plant sales. The current facility is so well hidden it is even difficult for campus faculty and staff to find it let alone people unfamiliar with the campus trying to get to one of our plant sales. The plant sales will assist in funding the Horticulture Department guiding it towards becoming more self-sustaining. An arbitrary budget of \$1,000,000. This has been added to PlanBuilder.</p> <p>A Horticulture Department with its own facility will allow the department to grow and to better compete with the other horticulture programs here in the Los Angeles-Orange County area. The department could easily</p>	

add eight to ten more courses in the next four years and with the addition of other faculty could add courses capitalizing on their particular expertise.

Program Review Reference	
Current Status	New
Status Report	

Impact and Required Resources

No Impacts or Required Resources for this Recommendation

Recommendation #7: The Horticulture Department at El Camino College both requires and deserves its own facility. The area south of Redondo Beach Boulevard, west of Crenshaw Boulevard and immediately adjacent to the Dominguez Creek channel known as the Child Development Center is a prime location for a Horticulture Department. The facility would provide classrooms with wet-lab facilities and restrooms immediately adjacent to what will be an outdoor classroom area with ample area for growing grounds, greenhouses, mist houses, shade and lath houses, a potting house, storage, etc. A Horticulture Department will allow classes to go from lecture in a classroom to an outdoor lab seamlessly. It will provide a place to maintain specimen plants used for the Plant Identification classes (Hort 55 and Hort 56). It will provide a place to teach landscape maintenance classes. The location will provide an excellent facility to have weekend plant sales with easy access from Crenshaw Boulevard and parking for the guests patronizing the Horticulture Department plant sales. The current facility is so well hidden it's even difficult for campus faculty and staff to find it let alone people unfamiliar with the campus trying to get to one of our plant sales. The plant sales will assist in funding the Horticulture Department guiding it towards becoming more self-sustaining. A budget starting at \$1,000,000 would be necessary to retrofit the Child Development Center turning it into a usable Horticulture Department. This has been added to PlanBuilder.

A Horticulture Department with its own facility will allow the department to grow and to better compete with the other horticulture programs here in the Los Angeles-Orange County area. The department could easily add eight to ten more courses in the next four years and with the addition of other faculty could add courses capitalizing on their particular expertise.

Program Review Reference	
Current Status	New
Status Report	

Impact and Required Resources

No Impacts or Required Resources for this Recommendation

Recommendation #8: The Horticulture Department at El Camino College both requires and deserves its own facility. The area south of Redondo Beach Boulevard, west of Crenshaw Boulevard and immediately adjacent to the Dominguez Creek channel known as the Child Development Center is a prime location for a Horticulture Department. The facility would provide classrooms with wet-lab facilities and restrooms immediately adjacent to what will be an outdoor classroom area with ample area for growing grounds, greenhouses, mist houses, shade and lath houses, a potting house, storage, etc. A Horticulture Department will allow classes to go from lecture in a classroom to an outdoor lab seamlessly. It will provide a place to maintain specimen plants used for the Plant Identification classes (Hort 55 and Hort 56). It will provide a place to teach landscape maintenance classes. The location will provide an excellent facility to have weekend plant sales with easy access from Crenshaw Boulevard and parking for the guests patronizing the Horticulture Department plant sales. The current facility is so well hidden it's even difficult for campus faculty and staff to find it let alone people unfamiliar with the campus trying to get to one of our plant sales. The plant sales will assist in funding the Horticulture Department guiding it towards becoming more self-sustaining. A budget starting at \$1,000,000 would be necessary to retrofit the Child Development Center turning it into a usable Horticulture Department. This has been added to PlanBuilder.

A Horticulture Department with its own facility will allow the department to grow and to better compete with the other horticulture programs here in the Los Angeles-Orange County area. The department could easily add eight to ten more courses in the next four years and with the addition of other faculty could add courses capitalizing on their particular expertise.

Program Review Reference	
Current Status	New
Status Report	

Impact and Required Resources	
No Impacts or Required Resources for this Recommendation	
Program Review Reference	
Current Status	New
Status Report	
Impact and Required Resources	
No Impacts or Required Resources for this Recommendation	
<p>Recommendation #10: The way things stand currently; there is no need for other faculty members. There is, however, a need for a part-time lab tech for the nursery greenhouse area. The lab tech would be responsible for maintaining the nursery/greenhouse area throughout the year keeping the facilities clean and weed-free, propagating and maintaining plant materials for the Horticulture Department plant sales, order materials, and prepare the area for the classes being taught in the nursery/greenhouse area. This has been added to PlanBuilder.</p> <p>If the Horticulture Department is, in time, able to add more classes to the course rotation, another instructor would be warranted: either full- or part-time depending upon the number and nature of the classes added.</p> <p>If the Horticulture Department is able to gain its own dedicated classroom, lab, nursery and greenhouse facility then a full-time lab tech would be warranted as would a full time faculty member.</p>	
Program Review Reference	
Current Status	New
Status Report	
Impact and Required Resources	
No Impacts or Required Resources for this Recommendation	

Attached Files	
SLO and Assessment Timeline: Four-Year Cycle	
slo and assessment 4-yr timeline completed	
Horticulture 6-year review	