

# Horticulture Certificate Curriculum Sequence

Students Can Begin the Program at Any Time

Designed for aspiring horticulturists and for professionals currently working in the landscape industry, the Horticulture Certificate provides the science-based curriculum sought by current industry employers.

The certificate provides a comprehensive approach to horticulture, teaching proper plant care, how to think strategically and holistically in any environment, and how to be successful and competitive within the industry.

This certificate is designed for:

- Landscape Professionals
- Master Gardeners
- Garden Designers
- Landscape Contractors

## Curriculum

The curriculum consists of 6 core courses and 4 units of program-approved electives. Students are able to finish the certificate in as little as one year. Students do not need to be enrolled in the certificate to take individual courses.

## Core

### Offered This Quarter

Spring	Summer	Fall	Winter
<b>General Botany for Gardeners</b> (4 units) <b>Irrigation and Water Management</b> (4 units)	<b>Plant Materials for Landscape Use</b> (4 units)	<b>Horticultural Pest Management</b> (4 units)	<b>Soils and Plant Nutrition</b> (4 units) <b>Plant Taxonomy and Identification</b> (2 units)

- 4 elective units or a program approved internship must be completed before certificate is awarded.

## For More Information

(310) 825-9414 | [horticulture.uclaextension.edu](http://horticulture.uclaextension.edu)

CHEM 917

### Preparation for College Chemistry

0.0 units

This course prepares students for the Integrated General, Physical, and Organic Chemistry for Life Sciences Students series by providing a strong problem-solving background. It covers the principles of atomic structure; periodic properties; behavior of solids, liquids, and gases; bonding and energetics; and chemical systems. Instruction also includes making and recording observations, and drawing conclusions.

**Prerequisite(s):** Math 902 (offered in Fall and Spring quarters) and Math 903 (offered in Winter and Summer quarters), or two years of high school algebra. Completion of this course with a grade C or better on the final exam is a prerequisite for enrollment in Chemistry 14A for those students who have not recently completed one year of high school chemistry.

**Reg# 359318**

**Fee: \$503**

- ❖ **Classroom**  
11 mtgs

Wednesday, 6-9:30pm, Apr. 4-June 13  
UCLA: Young Hall

Visitors not permitted. Enrollment deadline: Apr. 11.

No refund after Apr. 18. 🌐 📖

**Ochan Otim**, PhD, SVOC, winner of the 2017 UCLA Extension Distinguished Instructor Award

## Horticulture

### Horticulture & Gardening

**Enrollment is open to anyone interested in learning the science of horticulture or the common techniques to successful gardening. For more information on the Horticulture Certificate and program specializations visit [horticulture.uclaextension.edu](http://horticulture.uclaextension.edu).**

BIOLGY X 496.2

### General Botany for Gardeners

4.0 units

This course provides a general introduction to the study of plant structures and functions, emphasizing these aspects as they relate to the natural survival and cultivation of plants. Topics include types and functions of leaves, stems, flowers, and fruits; plant-water relations; basic genetics; ecological tolerances; and an introduction to plant names and groupings. Many of the topics include ample hands-on experience with plants.

**Reg# 359823**

**Fee: \$575**

- ⦿ **Hybrid**

11 mtgs

**Classroom meetings**

Monday, 6:30-9:30pm, Apr. 2 & 23;

May 14 & 21; June 11

UCLA Extension Gayley Center:

1145 Gayley Ave.

**Field Trips**

Sunday, 9am-12pm, Apr. 8 & June 3

Saturday, 9am-3pm, May 5

**Online sessions**

Apr. 16 & 30; May 28

Core course in Horticulture Certificate, elective course in the Landscape Architecture certificate.

No refund after Apr. 8. 🌐 📖

**Valerie Wong**, PhD, Plant and Microbial Biology. Ms. Wong earned a bachelor's degree in biochemistry from

Wellesley College, and her most recent research investigates microbes living inside plants and lichens of the subarctic, through work with the University of Minnesota.

BIOLGY X 499.97

### Irrigation and Water Management

4.0 units

As irrigation technology becomes more advanced, and water becomes scarcer, appropriate water application for plants is critical. Students will learn how to design and prepare a residential irrigation plan. Instruction covers foundation in hydraulic design; efficient drip line layout; appropriate use of backflow prevention devices; water conservation methods and applications; and available new technologies, such as weather station ET based controllers and the application of design principles to comply with the State of California AB-1881 Water Model Efficient Landscape Ordinance.

**Prerequisite(s):** X 496.2 General Botany for Gardeners (preferred) or approval of program office.

**Reg# 359825**

**Fee: \$575**

- ❖ **Classroom**

11 mtgs

Tuesday, 7-10pm, Apr. 3-June 12

UCLA Extension Gayley Center:

1145 Gayley Ave.

Visitors not permitted. No refund after Apr. 9.

**William Kabaker**, BS Agriculture Management, Cal Poly SLO MBA, Pepperdine, CLIA, CIMIS Weather Systems

## Elective and Specialization Courses

BIOLGY X 492.67

### Basic Arboricultural Practices

4.0 units

With trees being the largest and often longest-living elements of our outdoor environment, proper tree selection and management are important to maximize the environmental, social, and economic benefits they offer. This class features a combination of lectures, discussions, research, and field trips designed for those who desire a basic understanding of tree care—both ornamental and fruit-bearing. Students will learn theoretical and practical concepts of tree selection; establishment, management, and preservation of trees in a landscape environment; and professional standards in the proper selection, planting, pruning, and training of trees. This course also prepares students for Arboriculture II: Advanced Arboricultural Practices.

**Prerequisite(s):** X 496.2 General Botany for Gardeners (preferred) or X 494 Introduction to Horticulture, or approval of program office.

**Reg# 359822**

**Fee: \$575**

- ❖ **Classroom**

12 mtgs

**Classroom meetings**

Thursday, 7-10pm, Apr. 5-May 31

UCLA Extension Gayley Center:

1145 Gayley Ave.

**Field Trips**

Saturday, 10am-1pm, Apr. 21; May 19

Saturday, 9am-12pm, May 5

Elective course in Horticulture Certificate.

Visitors not permitted. No refund after

Apr. 11. 🌐 📖

**Pieter Severynen**, BArch, landscape architect (CA 1970); ISA Certified Arborist (WC-2371-A). Director of Planning and Design at North East Trees, a non-profit design build firm dedicated to increasing green space and constructing innovative environmental improvement projects in Los Angeles.



## Gardening Specialization

Take your love of plants to the next level with the new Gardening Specialization. Designed for gardening enthusiasts, students will learn the fundamentals of gardening via lecture, hands on practice, and field trips to unique garden destinations in and around the Los Angeles area. Individuals who desire the knowledge to successfully grow and maintain plants should sign up today.

### Required Courses

- Introduction to Horticulture (Fall and Spring Quarters)
- Gardening Practices and Techniques (Summer Quarter)
- Irrigation and Water Management (Spring Quarter)
- Soils and Plant Nutrition (Winter Quarter)

All courses are open enrollment, students do not need to sign up for the specialization in order to take any of the courses.

Courses begin on page 145.

### For More Information

Visit [uclaextension.edu](http://uclaextension.edu) or call the Horticulture & Gardening program office at (310) 825-9414.



## California Natives

*Sundays: May 6 & 20, 9am-1:30pm*

Interested in learning about California's beautiful native plants? If so, then this is the course for you! In this short course intensive, students will develop a fundamental understanding of the natural systems to which California native plants have adapted. Students will also learn to properly identify and name over 65 California native plants and cultivars. Please dress for all weather, classes are outside on UCLA campus and/or at fieldtrip locations.

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### For More Information

[mmcdonald@uclaextension.edu](mailto:mmcdonald@uclaextension.edu) | (310) 825-9414



## New Horticulture

## Certificate

### Starting this Spring!

Previously the Horticulture & Gardening certificate, this new certificate is designed specifically for professionals currently working in the field or individuals pursuing a new professional career in the landscape industry. Courses are taught by accomplished academics and working industry professionals. Take the first step in your new career, enroll today!

### Certificate Specifics

- 26 units
- Completion time: 1 year (2 courses per quarter)
- Students pay for courses on a per course basis

All courses are open enrollment courses, students do not need to be part of the certificate program to take a course.

### For More Information

Visit [uclaextension.edu](http://uclaextension.edu) or call the Horticulture & Gardening program office at (310) 825-9414.

## Landscape Architecture Electives

Some Landscape Architecture courses count toward elective requirements in the Horticulture & Gardening Certificate.

To view Landscape Architecture courses visit page 16.

BIOLOGY X 499.22

### California Natives

2.0 units

A course on incorporating California native plants into your landscape design, this series of classes combines classroom presentation with field trips to explore the range of possibilities for creating successful and resilient California native landscapes. Participants study the elements of a successful native landscape including native plant communities; healthy soil, use and/or non-use of supplemental irrigation; maintenance requirements; plant sourcing; installation; and use of rainwater. The course will enable students to develop California native plant palettes for common urban micro-climates. Students take weekend field trips (itinerary discussed at the first class) to urban landscapes, campuses, gardens, arboreta, and nurseries. Students are responsible for their own transportation to remote lectures.

**Reg# 359824**

**Fee: \$410**

❖ *Classroom*

4 mtgs

*Classroom meetings*

Sunday, 9am-1:30pm, Apr. 8

UCLA Extension 1010 Westwood:

1010 Westwood Blvd.

*Field Trips*

Sunday, 9am-1:30pm, Apr. 22; May 6 & 20

*No refund after Apr. 7.* 🌐

**Katherine Superfisky**, who spearheads ecological design projects at Studio-MLA and is the Co-Founder and Executive Director of Grown in LA. She holds a Master of Landscape Architecture, Master of Science in Conservation Ecology and Teaching Certificate from the University of Michigan.

**Stephen Blewett**, recognized for his expertise with ecological systems, has made it his life's passion to infuse every landscape in southern California with indigenous vegetation. A graduate of the UC Davis Landscape Architecture program, Stephen presently consults as living systems specialist.

🌐 ONLINE COURSE, page 4.

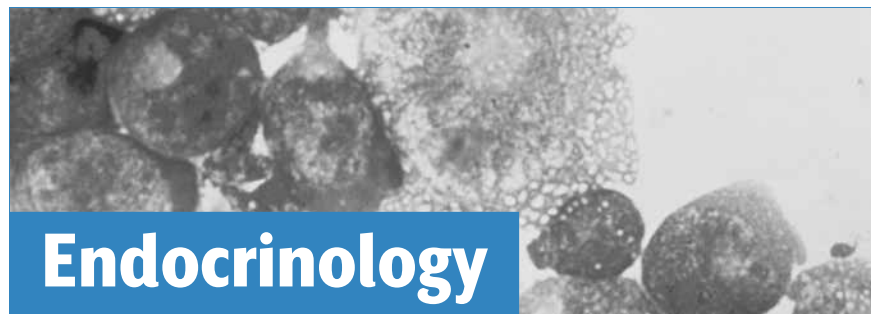
🎧 HYBRID COURSE, page 4.

🌐 WEB-ENHANCED COURSE, page 4.

❖ ON-GROUND COURSE, page 4.

📖 TEXTBOOK REQUIRED

🏠 UC CREDIT, page 5.



# Endocrinology

## Offered Online

The endocrine system is a complex of hormone-producing glands that maintain homeostasis and healthy function of the body. This course explores the molecular and cellular mechanisms that mediate how hormones affect metabolism, growth, and sexual development. Students gain practical experience applying their knowledge by reviewing case studies and the current clinical diagnosis and interventions for treating endocrine diseases, such as hyperthyroidism, hypothyroidism, diabetes, and pituitary disorders.

Instructor: **Joseph Esdin, PhD**

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## BIOLGY X 489.6 Urban Food Production

4.0 units

The production, packaging, and transportation of food are large contributors to our global carbon emissions. Throughout the Los Angeles basin, food gardens have sprung up producing local healthy and nutritious fruits and vegetables while contributing energy and financial savings in difficult economic times. Using the history and current practices of growing food in the city as a template, this course explores how urban grown food reduces food budgets, encourages food sovereignty while addressing environmental concerns. Participants are each given a small plot for growing food where they can experiment with new ideas and enjoy their harvest. Topics include fruit trees, vegetables, and berries that do well in our climate as well as often overlooked food-producing perennials. We address pitfalls, challenges and practical answers to growing food in modern city lots where the "back 40" describes square feet and not acres.

### Reg# 359821

**Fee: \$575**

- ❖ **Classroom**  
8 mtgs  
Sunday, 1-5:30pm, Apr. 8-May 20; June 3  
Venice: Venice High School  
13000 Venice Blvd.

*Elective course in the Horticulture Certificate and in the Sustainability Certificate*

*Visitors not permitted. No refund after Apr. 14.* 🌐

**David King**, gardener for more than 50 years, specializing in edible plants. A long-standing member of Seed Savers Exchange and the American Community Gardening Association (former board member), he is the founding chair of the Seed Library of Los Angeles.

## Math and Statistics

For more information call (310) 825-7093.

### Mathematics

#### MATH XL 1 Precalculus

4.0 units

This course covers function concept; linear and polynomial functions and their graphs; applications to optimization; inverse, exponential, and logarithmic functions; and trigonometric functions. 🏠  
*Prerequisite(s):* Math 903 Intermediate Algebra for College Students with a grade of C or better, or two-and-a-half years of high school mathematics.

#### Reg# 359493

**Fee: \$925**

- ❖ **Classroom**  
20 mtgs  
Monday, Wednesday, 6:30-9pm, Apr. 2-June 11  
UCLA Extension DTLA: 261 S. Figueroa St.

*No meeting May 28.*

*All students must take the placement exam given at the first class.*

*Students who are not qualified to take this course should enroll in 903 Intermediate Algebra for College Students.*

*Visitors not permitted. Enrollment deadline: Apr. 4.*

*No refund after Apr. 9.* 🌐 📖

**Shanna Nicole Dobson, MS**

#### Reg# 359492

**Fee: \$925**

- ❖ **Classroom**  
20 mtgs  
Tuesday, Thursday, 7-9:30pm, Apr. 3-June 7  
UCLA: Geology

*All students must take the placement exam given at the first class.*

*Students who are not qualified to take this course should enroll in 903 Intermediate Algebra for College Students.*

*Visitors not permitted. Enrollment deadline: Apr. 5.*

*No refund after Apr. 10.* 🌐 📖

**John Sepikas, PhD**

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# Study Science & Math

## Online

### STATS X 402 Introduction to Statistics and Quantitative Methods

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### STATS X 402.1 Advanced Statistics and Quantitative Methods

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### PHYSICI X 452.6 Foundations in Human Physiology

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### M PHARM X 401 Introduction to Pharmacology

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### MATH X 402.1 Introduction to Calculus

Page 148.

### PHYSICI X 412 Functional Neuroanatomy

Page 142.

### PHYSICI X 415 Endocrinology

Page 142.

### PHYSICI X 425 Animal Physiology

Page 142.

### ORL BIO X 401 Osteoimmunology: Bone and Immune Interactions and Related Pathologies

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### HLT POL X 456 Introduction to Pediatrics and Child Health

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### PHYSICI X 449 The Human Body: How it Functions

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### PHYSICI X 452 Applied Anatomy and Biomechanics

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### COM HLT X 438 Food, Mood, and Eating Behaviors

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#### Reg# 359648

**Fee: \$925**

- ❖ **Classroom**  
20 mtgs  
Tuesday, Thursday, 6:30-9pm, Apr. 3-June 12  
UCLA Extension Woodland Hills:  
21650 Oxnard Street

*No meeting Apr. 5.*

*All students must take the placement exam given at the first class.*

*Students who are not qualified to take this course should enroll in 903 Intermediate Algebra for College Students.*

*Enrollment limited; early enrollment advised. Visitors not permitted. Enrollment deadline: Apr. 5. No refund after Apr. 10.* 🌐 📖

**Shanna Nicole Dobson, MS**

#### MATH XL 31A

### Differential and Integral Calculus

4.0 units

This course covers differential calculus and applications and the introduction to integration. 🏠

*Prerequisite(s):* Math 1 Precalculus with a grade of C- or better, or three-and-a-half years of high school mathematics, including some coordinate geometry and trigonometry.

#### Reg# 359504

**Fee: \$925**

- ❖ **Classroom**  
14 mtgs  
Tuesday, 6:30-9:30pm, Apr. 3-June 12  
UCLA Extension DTLA: 261 S. Figueroa St.

*Three online meetings, dates to be arranged.*

*All students must take the placement exam given at the first class.*

*Students who are not qualified to take this course should enroll in XL 1 Precalculus.*

*Visitors not permitted. Enrollment deadline: Apr. 10.*

*No refund after Apr. 17.* 🌐 📖

**Ryan Valles, MS**

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#### Reg# 359503

**Fee: \$925**

- ❖ **Classroom**  
14 mtgs  
Tuesday, 6:30-9:30pm, Apr. 3-June 12  
UCLA Extension Woodland Hills:  
21650 Oxnard Street  
Saturday, 10am-1pm, Apr. 14 & 28; May 5  
UCLA Extension Woodland Hills:  
21650 Oxnard Street

*All students must take the placement exam given at the first class. Students who are not qualified to take this course should enroll in XL 1 Precalculus.*

*Visitors not permitted. Enrollment deadline: Apr. 10.*

*No refund after Apr. 14.* 🌐 📖

**Nathan Agassi**, PhD in Physics, MS in Mathematics

#### Reg# 359496

**Fee: \$925**

- ❖ **Classroom**  
14 mtgs  
Wednesday, 6:30-9:30pm, Apr. 4-June 13  
UCLA: Math Sciences  
Saturday, 1:30-4:30pm, Apr. 14; May 5; June 2  
UCLA: Math Sciences

*All students must take the placement exam given at the first class. Students who are not qualified to take this course should enroll in XL 1 Precalculus.*

*Visitors not permitted. Enrollment deadline: Apr. 11.*

*No refund after Apr. 14.* 🌐 📖

**Anait Barsegyan, MS**