



University Extension  
Professional Studies

# LEVERAGE WHAT YOU KNOW



## POSTGRADUATE CERTIFICATE IN COMPUTER SCIENCE

### WHAT YOU'LL LEARN

- **Introductory and intermediate analysis of data structures and algorithms**
- **Application of discrete structures in computer science**
- **Introductory topics in computer organization, including number representation, memory organization, and assembly language programming**
- **Principles of software construction, such as debugging, component integration, and maintenance**
- **Operating system design and core principles and practices**



**TOTAL UNITS: 24**



**COMPLETION TIME: 9-15 months**



**TUITION: \$6,744**



**ENGLISH FLUENCY:**  
Minimum TOEFL PBT 550, iBT 80,  
IELTS 6.5, or Duolingo 100

**Start your journey into a career in computer science by building on your education and work experience in the sciences or engineering.** Learn about data structures and algorithms, such as dictionaries, object-oriented programming, and general algorithm design. Understand discrete mathematical structures, including graph theory, algebraic structures, and number theory. Broaden out to computer organization and assembly language programming through lectures and hands-on labs. See how these concepts work in software construction and build new skills in programming, testing, performance evaluation, and more. Take all lessons learned into the principles and practices of operation system design. After the program is completed, use your certificate to confidently apply for a MS in computer science program and get ready for the next chapter in your career.

This program is a partnership between UCR University Extension and UCR Department of Computer Science, and provides a certificate for the successful completion of the computer science department's bridge program. The bridge program aims to broaden participation in computing by opening new pathways to graduate degrees in Computer Science. Courses are completed through the concurrent enrollment process.



**CONNECT WITH A COACH**  
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## POSTGRADUATE CERTIFICATE IN COMPUTER SCIENCE



CONNECT WITH A COACH  
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### TAKE YOUR CAREER TO A HIGHER LEVEL

Now that you've earned your Bachelor's degree, or completed 3 years of your undergraduate degree, we want to help you differentiate yourself from others in your field. Our Postgraduate Certificates and Diplomas provide in-depth knowledge and on-the-job experience that will give you a unique advantage when applying for jobs. We've identified several key industries with great career potential. Take advantage of living and studying in a vibrant university community. Create new career opportunities—study with experts in your field, explore management specializations in-depth, gain a guaranteed U.S. internship, and leave UCR with a gold-standard UC diploma and work experience at an American company.

While there are as many paths to follow, as there are reasons to follow them when approaching continuing education, there is enormous value in terms of time, financial investment, and personal flexibility while gaining practical training from working professionals in your industry that extends beyond the theory of the classroom and into the real world.

#### KEY BENEFITS INCLUDE:

- UC Quality Curriculum
- Enhanced Employability
- Intercultural Management Competencies
- Instruction from Professional Leaders in the Industry
- Professional Endorsements

### PROGRAM FLOW

PROGRAM PREREQUISITES

FOCUSED COURSEWORK SPECIALIZATION

### DREAM BIG. STUDY IN CALIFORNIA.



Our postgraduate programs are the only one of their kind in the U.S., and are world recognized credentials.



Affordable, quality UC Gold Standard programs in the heart of sunny Southern California.



Gain relevant work experience to add to your CV to increase your employability either here or abroad.



Benefit from an American perspective to set you apart from your competition.



Acquire intercultural competencies, a global perspective, and the ability to work in collaborative teams that cross the lines of business and culture.

# POSTGRADUATE CERTIFICATE IN COMPUTER SCIENCE

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## STUDY PLAN

### Prerequisites

CS 9A-C or equivalency

**AND CS/MATH 11 or equivalency (required for those outside of STEM backgrounds)**

**OR**

CS 10A-B or equivalency

**AND CS/MATH 11 or equivalency (required for those outside of STEM backgrounds)**

**OR**

Pass Entry Exam (in development by CS faculty)

### Quarter 1

#### Focused Coursework Specialization

Go in-depth with experts who have extensive knowledge in your field.

#### REQUIRED COURSES (12 UNITS)

Introduction to Data Structures and Algorithms **CS 010C (CS XRC010C)**

4

Discrete Structures **CS 111 (CS XRC111)**

4

Machine Organization and Assembly Language Programming **CS 061 (CS XRC061)**

4

### Quarter 2

#### Focused Coursework Specialization

Go in-depth with experts who have extensive knowledge in your field.

#### REQUIRED COURSES (12 UNITS)

Software Construction **CS 100 (CS XRC100)**

4

Intermediate Data Structures and Algorithms **CS 141 (CS XRC141)**

4

Design of Operating Systems **CS 153 (CS XRC153)**

4

## ARE YOU READY FOR YOUR NEXT STEP?

Schedule an appointment with a **Student Success Coach** to get started. [extension.ucr.edu/coach](http://extension.ucr.edu/coach)

