Wireless Engineering
Specialized Certificate

The Need for Wireless Engineers

Wireless communications technology has developed without measure in the past ten years. Initially, the worldwide success of CDMA resulted in an increased demand for engineers skilled in wireless engineering and opened the doors to the new fields of study like the standards in WiMax, LTE, and OFDMA. These rapid developments have created the need for involved individuals to build and sharpen their skills for present and future Wireless industries.

Program Overview

Our program will equip you with the cutting-edge, specialized knowledge in 4G systems and networks needed to advance your career. The program also incorporates electives in the latest wireless technologies like MIMO and beamforming. With the introduction of the OFDMA 4G technology, the program addresses changes in network management to seamlessly move from 3G to 4G.

Program Audience

This program is intended to provide practicing engineers, technical program managers, and other technical personnel with the skills required to further their careers.

Program Details

Prerequisites

If you have minimal engineering background, we strongly advise you to take Signals and Systems (ECE-40051) prior to beginning this program. This program is highly technical and not recommended for non-technical individuals.

Length

Most students complete the program in just over a year by taking one course per quarter for five consecutive quarters. You have up to five years to complete all requirements for the certificate.

Cost

Most courses in the program cost $775 each. The total cost of the program is approximately $4,020.00, which includes the $95 certificate fee. Please note that all fees are subject to change and do not include books. This is an *estimate* of

the cost of the program, which may vary based on a variety of factors. This estimate does not include textbooks, parking, transportation, or personal expenses. *All estimated costs are subject to change*; current fees are listed on our website.

Requirements

There are three required courses and six units of electives required to earn our Wireless Engineering certificate.

Course Title	Course No.	Units	Course Offered			
			Fall	Winter	Spring	Summer
Required Courses (All three courses required)						
Fundamentals of Digital Communications for Wireless Systems	EE-40034	3.0	Online		Online	
RF System Design for Wireless Communications	EE-40098	3.0		Online		Online
Introduction to OFDMA and 4G Systems	EE-40163	3.0		Online		Online
Elective Courses (Six units required)						
Antenna Theory and Design	EE-40129	3.0	Online		Online	
Microwave Transmission Engineering	EE-40153	3.0				Online
DSP in Wireless Communications	ECE-40283	3.0	Online		Online	
Introduction to 5G with New Radio	EE-40177	3.0				Online

Electives

You must take at least six units of electives to fulfil your elective requirement for the program. Electives may be taken in any order and in any combination, as long as you complete at least six units.

Frequently Asked Questions

About the Certificate

How do I apply to the certificate program?
STEP 1: If you have a My Extension student account, skip to Step 2. If you do not have a My Extension account, go to myextension.ucsd.edu, click "Create an account" on the right side of the page, and follow the instructions to create an account. Once you have a My Extension account, continue to Step 2.

STEP 2: Click on the "Apply Now" button on the certificate page. Complete the required fields on the application. Then click the "Save" button. Once you have saved the application, the "Submit" button will appear. Click the "Submit" button to submit your application for review and consideration. Once submitted, your application cannot be changed. You can track the progress of your application at My Extension.

Is there an application fee for the certificate program?
Current application or certificate enrollment fees, if any, are listed under the "Apply Now" button on the certificate page on our website.

Can I register for the certificate program at any time?
Yes, you may enroll in the program at any time. However, it is recommended that you enroll as soon as possible. The program curriculum may be updated at any time; if certificate requirements change, you must adhere to the curriculum *at the time of your enrollment into the certificate*. Enrolling in the certificate also gives you access to quarterly, personalized enrollment reminders from the program manager.

Can this certificate program be completed entirely online?
Yes! This program is designed for you to take it online in the convenience of your own home or office. Some courses may also have in-class options, but all program requirements can be completed online. For online courses, all assignments, tests, and quizzes can be completed online and submitted through Blackboard, our online learning platform. Click on the grey student tab at the top of the page, next click getting started on the left side column, next you can take-the-tour or select various topics for a more in-depth look at our Blackboard system.

How long do I have to complete the certificate?
You officially have five years from when you begin taking courses in the program to complete all requirements for the certificate.

Is this certificate program open to non-California residents?
Yes, the program is open to non-California residents, including non-US residents. The tuition is the same for all students. If you have questions about how enrolling in courses may or may not affect your visa status, please contact our International Department at ipinfo@ucsd.edu or (858) 534-6784.

If I work full-time, will I still be able to complete this program?
Yes. Our programs are designed to be working-student friendly and most of our students are working professionals. The courses are typically three units, which amounts to approximately 27-30 hours of class time.

Will I get any hands-on experience in the program?
Most courses combine theory with hands-on exercises.

Is the program accredited?
UC San Diego is accredited by the Western Association of Schools and Colleges (WASC). UC San Diego Extension — like all other UC San Diego schools, colleges, and departments — is accredited by WASC through the University. All courses and certificate programs offered by UC San Diego Extension have been developed and are administered in accordance with Extension policy and the regulations of the Academic Senate of the University of California.

Will this program prepare me for a certification exam?
This program is not aligned with any one certification exam. Our programs are designed to provide students with knowledge that will make them valuable in the workforce.

How do I get my certificate once I have completed the program requirements?
When you have paid your certificate fee and successfully completed all program requirements, you will need to request an audit by Student Services. To request an audit:

- In your My Extension account, click on "My Courses."
- On the right side of the page under "My Certificates," click on the name of the certificate.
- On the right side of the page under "Tools," click on "Request Certificate Audit."
- Complete and submit the form that appears.

Once you have formally submitted your audit request, your certificate will be mailed to the address we have on file for you within ten business days.

Do you provide job or internship placement?
No, we do not currently offer job placement assistance, internships, or career services assistance.

Is financial aid available?
- UCSD Extension offers continuing education loans through UC Approved Lenders. Each institution offers low competitive interest rates and flexible payment options. You are also encouraged to contact your personal financial institution about possible lending solutions. Direct links to UC Approved Lenders can be found on our website's Financial Resources page. The Employment Development Department (EDD) provides a comprehensive range of employment and training services in partnership with state and local agencies/organizations. More information is available on their website at edd.ca.gov.
- Career Centers Located throughout San Diego County offer their communities comprehensive employment and training services benefiting both business and job seekers. More information is available on their website at workforce.org.
- Please click here for information about Veteran's Benefits.
- Free Application for Federal Student Aid (FAFSA) funds are limited to degree programs only, and cannot be used for courses or certificate fees at UCSD Extension.

About the Courses

When does course enrollment open for each quarter?
Our classes post to our website and become open for enrollment approximately two months prior to the new quarter starting. If you would like to get an email reminder you can sign up for our newsletter(s) in My Extension, under the "Preferences" tab.

When should I enroll in a course?
We recommend enrolling as soon as possible, as occasionally classes will reach capacity.

Once I have enrolled in a course, when will I get online access to it?
If you have enrolled at least three days before the course begins, you will have access starting on the first day of class. You should receive an email from Student Services with instructions for how to login to the course. If you have enrolled on or after the start date of the course, you will have access to the course within one business day.

When does enrollment for a course close?
Enrollment in a course may be closed for one or more of the following reasons:

- The course is at capacity. If the course is at capacity you will only be able to join the waitlist. If space becomes available in the course, students on the waitlist are contacted in the order they joined the waitlist.
- The course has progressed to a point where students will no longer be able to make-up missed work and be successful in the course.

- The course is cancelled due to low enrollments.

For all three of these reasons we recommend students enroll early in the courses they are interested in.

When is the refund deadline for courses?
The refund deadline for courses in this program is typically one week after the start of the course. This allows you to enroll in a course and participate in the course for approximately one week to determine if the course is a good fit. Then, if needed, either you may either transfer your enrollment to a different course or submit a drop request. The exact refund deadline for each section is listed in the section notes.

What are the grading options for courses?
You can take courses for one of three options: Letter Grade, Pass/No Pass, or Not for Credit. If you are taking a course towards a certificate you *must* complete your courses for credit (i.e. Pass/No Pass or Letter Grade) and receive a C-/Pass or higher grade. Grades below a C-, No Pass, and Not for Credit will *not* count towards certificate requirements.

How will I receive my final grade?
Once the course is completed, the instructor has 10 working days to submit your grades. After the grades have been posted, you can view and print them via My Extension, your online education management portal. Please contact Student Services at 858-534-3400 or unex-reg@ucsd.edu if you experience any issues with logging in.

What kind of credit do I earn?
The courses in this program are post-baccalaureate, professional-level, credit bearing courses. Credit earned in these courses may lead to the award of a formal certificate by UC San Diego Extension or may be applied toward an academic degree or professional credential, *subject to the approval of the receiving institution*.

If you wish to transfer credit, it is your responsibility to confer with the receiving institution before enrolling, as each individual academic institution decides whether or not to accept Extension's credits.

Are courses transferrable?
UC San Diego Extension is not a degree granting institution, however many UC San Diego Extension courses can be transferred to other colleges or universities. The transferability of credit is determined solely by the *receiving* institution. You should discuss how your individual courses will transfer with the Office of the Registrar at the receiving institution *prior to enrolling*.

Can I take a course without registering for the certificate?
Yes, you may take any course in this program without registering for the certificate, provided you have fulfilled any and all prerequisites for the course.

How long is each course?
Three unit courses run for approximately 8-10 weeks. For exact course dates of upcoming sections, visit the webpage of the course you are interested in taking on our website.

When is each course offered?
Please visit the course page on our website to see when courses are typically offered. You can also see a full program schedule by clicking on the "View Schedule" button under the "Courses" section on the certificate page or on page 2 of this document.

Can I enroll in more than one course per quarter?
This will vary according to your background and experience. If you wish to take more than one course per quarter, you may do so at your discretion.

How can I get more information on the specific courses?
Please email unexengr@ucsd.edu to request specific course syllabi.

How many hours can I expect to spend studying outside of class time?
Each student has their own learning style so this can vary greatly. As a rule of thumb, expect to spend an average of two hours studying for every hour you spend in-class.

How are the online courses formatted?
Online courses are asynchronous with prerecorded lectures, corresponding PowerPoints, and subsequent materials as provided by the instructor. They have a start and end date but all the lessons are uploaded to our Learning Management System, so that you can learn at your own pace. However, please be aware that you may have weekly assignments, quizzes and/or tests that are due on specific dates. To access your online course, first login to your My Extension account, next select "My Courses" from the menu. From your list of courses, select the course you would like to access, and click the link that appears in the "Location" section. You will then be redirected to the Learning Management System (LMS) where your course is located.

We are currently using Canvas as our (LMS) for all our online courses. While students do not get access to their respective courses until the first day of the course, we encourage students who are new to Canvas to click on the following link to Canvas and Take a free tour of Canvas.

What if I am having trouble with Canvas or My Extension?
Please contact Student Services at (858) 534-3400 or unex-reg@ucsd.edu if you experience any issues logging in to any of our systems.

For online courses, will I ever need to attend in person?
The online courses in this program are offered entirely online. All course requirements, including lectures, tests, quizzes, and assignments will be completed online. You will not be required to attend in person.

What are the instructors' credentials?
The program courses are taught by seasoned professionals and overseen by an advisory board of leaders in the field. You can view the advisor list under the "Advisors" section on the certificate page. You can find information about a course instructor, including a biography and credentials, on the course page.

What are the required textbooks for a course?
Instructors will post the current text requirements and recommendations on the course page on our website. Please note the textbooks requirements are subject to change every quarter and different instructors may require different books, even if they are teaching the same course in the same quarter, so be sure to check the textbook requirements *for the section in which you are enrolling*.

Will I be able to order the required textbooks before the class begins?
Yes, you can order the book(s) any time after enrolling in the course. You may order books through the campus bookstore or online retailers, such as Amazon.com.

After I enroll in a course, how can I retrieve a receipt or enrollment verification for my records?
Login to your My Extension account and select "Documents" as the top of the page.

How will I receive my final course grade?
Once the course is completed, the instructor has 10 business days to submit your grades. Once grades have been posted, you can view and print them from your My Extension account.

Can I get a copy of my receipt?
Yes, please login to the My Extension website and select 'Documents' as the top of the page. Please contact Student Services at 858-534-3400 or unex-reg@ucsd.edu if you experience any issues with logging in.

For More Information
For program specific questions, please visit the certificate page on our website or contact a program representative at unexengr@ucsd.edu or (858) 534-9152. For administrative questions, please contact our Student Services Department at unex-reg@ucsd.edu or (858) 543-3400.