

Translational Science

Specialized Certificate

Translational Science, Defined

As defined by the NIH National Center for Advancing Translational Sciences (NCATS), translation is “the process of turning observations in the laboratory, clinic, and community into interventions that improve the health of individuals and populations –from diagnostics and therapeutics to medical procedures and behavioral interventions.”

Applications of Translational Science

Translational science plays a unique and critical role in fostering the flow of bidirectional information between basic and clinical scientists, optimizing new biotechnologies, improving clinical application of new therapeutic concepts, and ultimately improving the quality of life for patients. Significant intellectual and financial contributions have initiated a multitude of bench-to-bedside projects over the last decade. This Certificate program focuses on the application of Translational Science to the discovery/design & development of biomedical products—encompassing everything from drugs, cell therapies, and gene therapies, to medical devices, including diagnostics, as well as health information technology (IT) and digital health products.

Program Overview

The Specialized Certificate in Translational Science provides the opportunity for the public to enroll in graduate-level Translational Science courses. As new biomedical product companies continue to emerge and mature in San Diego’s vibrant life science ecosystem, entrepreneurial research and development (R&D) professionals are in high demand. This hand-on Certificate program provides an integrated, comprehensive, and operational understanding of what it takes to innovate in biomedical R&D, from product idea to commercialization, in a rapidly changing environment. The program aims to develop well-rounded aspiring biomedical leaders, innovators, and entrepreneurs and accelerate the translation of ideas into high-quality and highly differentiated biomedical products.

Program Benefits

- In-class courses scheduled during weekdays’ early evening hours for maximum flexibility
- Hands-on curriculum taught by experienced biomedical industry professionals
- Learn immediately applicable skills for the biomedical industry
- Gain practical training to develop as an integrative and entrepreneurial biomedical R&D professional
- Engage in San Diego’s biomedical community and UC San Diego’s academic resources
- Flexible curriculum to earn the Certificate or matriculate into the Master of Advanced Studies (MAS) in Clinical Research

Key Topics

- Biomarkers, omics, systems medicine, translational imaging, intellectual property
- Translational science applied to the discovery/ design and development of biomedical products—drugs, cell therapies, gene therapies, diagnostics, medical devices, health IT and digital health products
- Regulatory, ethical, and study design considerations for developing regenerative medicine (i.e., stem-cell-based) therapies

Translational Science

Specialized Certificate

Program Details

Audience

The Certificate program is targeting biomedical professionals that have the motivation and potential to become leaders, innovators, or entrepreneurs. The courses are designed for developing professionals currently working in the San Diego life science ecosystem who want to boost their current career in biomedical research and development (R&D) or transition to a career in biomedical R&D. The Certificate program is also ideal for graduate and post-doctoral students who want to prepare themselves for a career in biomedical R&D while completing their full-time study program.

Prerequisites

There are no prerequisites to enroll in the Certificate program. However, minimally, a bachelor degree in a scientific or engineering field (e.g., BS, BEng) with significant exposure to and familiarity with medicine and/or biomedical science is needed to meaningfully engage with this program. A doctorate degree (e.g., PhD, DPhil, DSc and/or professional doctorate, e.g., DVM, MD, DDS, DMD, PharmD) with extensive exposure to and familiarity with medicine and/or biomedical science is ideal to fully engage with this program. The UC San Diego Extension Admission Committee will judge these competencies on a case-by-case basis.

Requirements

The 10-unit (10-credit) Specialized Certificate in Translational Science requires the sequential completion of two required courses, one elective course, and a required capstone project with entry points in the Summer and Winter quarters. The matrix below shows when and in what format courses are offered.

Required Courses <small>All 4 units required</small>					
TITLE & COURSE NUMBER	UNITS	FALL	WINTER	SPRING	SUMMER
<u>Translational Research Fundamentals</u> CLRE-236	2.0		In-class		In-class
<u>Applied Translational Research</u> CLRE-238	2.0	In-class		In-class	
Electives (Pick One) <small>2 units required</small>					
TITLE & COURSE NUMBER	UNITS	FALL	WINTER	SPRING	SUMMER
<u>Applied Translational Research II</u> CLRE-239	2.0		In-class		In-class
<u>Translational Regenerative Medicine</u> CLRE-237	2.0		In-class		
Required Capstone Project <small>All 4 units required</small>					
TITLE & COURSE NUMBER	UNITS	FALL	WINTER	SPRING	SUMMER
<u>Certificate Project</u> CLRE-40004	4.0	In-class		In-class	

Electives

You must take 2.0 units (2.0 credits) to fulfil your elective requirement for the program. There are two courses to choose from.

Translational Science

Specialized Certificate

Program Length

Students can complete the program as rapidly as over one year by taking one course per quarter for four consecutive quarters. Alternately, a student can spread the course sequence over up to five years.

Program Cost

The program costs approximately \$5,300, including certificate fee, course fees, and required textbooks. This is an estimated cost of the full program. The cost of attendance does not include campus parking, transportation, or additional personal expenses. The program fees are paid on a per-course basis when you enroll online in a course.

Additional Learning

After taking the three initial courses (the two required ones and one of the two electives), instead of completing the capstone project, students can forego the Certificate and instead pursue an application to the Master of Advanced Studies (MAS) in Clinical Research (<https://clre.ucsd.edu/>). Provided admission to this Master program, students will be credited the three completed Certificate courses as a Concentration in Translational Science for this Master program and will only have to complete the remaining requirements for that program.

Frequently Asked Questions

About the Certificate

How do I apply to the Certificate program?

Create a My Extension student account at <https://myextension.ucsd.edu/>, click “Create an account” on the right side of the page, and follow the instructions to create an account. Click on the “Apply Now” button on the Certificate page (<https://extension.ucsd.edu/translational>) to complete the required fields on the application. Once you have saved the application, the “Submit” button will appear allowing you to submit your application for review and consideration. Once submitted, your application cannot be changed and you may track the progress of your application at My Extension.

Is there an application fee for the Certificate program?

No.

Can I apply for the Certificate program at any time?

Yes, you may apply to the program at any time but there is two entry points during the year to start the Certificate: Summer and Winter quarters (see Requirements section above).

Is this Certificate program open to non-California residents?

Yes, the program is open to non-California residents, including non-US residents. However, students must be able to attend in-class sessions. The concurrent enrollment process and tuition are 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 Certificate program?

Yes. The program is specifically designed for accommodating working professionals. Courses are offered in the weekday early evenings, one course per quarter consisting in one 2-hour evening class and approximately 4 hours of study and coursework per week. Each course is offered twice per year (see Requirements section above) allowing the working professional to complete the Certificate as rapidly as over one year or take up to five years to complete it.

Translational Science

Specialized Certificate

Is this Certificate 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 Certificate 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 and skills that will make them more valuable in the workforce.

Do you provide job or internship placement?

No, we do not currently offer job placement assistance or internship placement, but the Certificate Capstone Project does provide real-world work-relevant experience and a connection to the local biomedical industry, mentoring, and career assistance.

Is financial aid available?

Yes, there are various financial aid options available to students. Please contact our Student Services Department at unex-reg@ucsd.edu or (858) 534-3400 for more information.

- **Student Loans:** UC San Diego Extension offers continuing education loans through UC Approved Lenders. Each institution offers low competitive interest rates and flexible payment options. Links to UC Approved Lenders can be found on our website. You are also encouraged to contact your personal financial institution about lending solutions.
- **Federal Employment Development Department:** The EDD provides a comprehensive range of employment and training services in partnership with state and local agencies. More information is available on their website.
- **San Diego Workforce Partnership:** Career centers located throughout San Diego County offer comprehensive employment and training services. More information is available on their website.
- **Veterans Education Benefits:** You may be able use your Veterans Education Benefits to help pay for your education at UC San Diego Extension. You can find more information on our website.
- **Free Application for Federal Student Aid (FAFSA):** Unfortunately, courses or Certificates at UC San Diego Extension (such as this program) are not eligible for FAFSA funds.

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 (see Requirements section for detailed schedule). 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 full capacity.

What are the grading options for courses?

If you are taking courses towards the Certificate, you *must* complete your courses for credit (i.e., 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.

Translational Science

Specialized Certificate

What kind of credit do I earn?

The courses in this Certificate program are graduate-level credit-bearing courses. Credits earned in these courses may lead to the award of the Specialized Certificate in Translational Science or may be applied towards the Master of Advanced Studies (MAS) in Clinical Research provided that you get admitted to this Master program (see Additional Learning section above for details).

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—except the Capstone Project—without registering for the Certificate, provided you have applied to the Certificate for review of credentials.

How long is each course?

The courses run for approximately 11 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 each course webpage on the Certificate website (<https://extension.ucsd.edu/translational>) by clicking on the course title in the full-program general schedule table under the Courses section to see specific offering dates. You can also see the full-program general schedule in the Requirements section above.

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. Students should plan to spend approximately 4-5 hours per week reading and completing coursework.

What are the instructors' credentials?

The program courses are taught by experienced biomedical R&D 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 the instructors, including a biography and credentials, on the course webpage, which can be accessed by clicking on the course title in the full-program general schedule table under the Courses section of the Certificate website (<https://extension.ucsd.edu/translational>).

How do I communicate with a course instructor if I have a question during the course?

Each instructor has his/her own preferred method of communication and response policy, which is detailed in the course syllabus. However, most instructors utilize email or the discussion board and will respond within 24-48 hours.

Will I get any hands-on experience in the program?

This Certificate program is focused on hands-on training. All courses combine theory with hands-on exercises. For more information about practical experience in any course, visit the course webpage by clicking on the course title in the full-program general schedule table under the Courses section of the Certificate website (<https://extension.ucsd.edu/translational>).

Translational Science

Specialized Certificate

How will I receive my final course grade?

Once the course is completed, the main instructor (Course Director) has 10 business days to submit your grades. Once grades have been posted, you can view and print them from your My Extension account.

What if I am having trouble with Blackboard or My Extension?

Please contact Student Services at unex-reg@ucsd.edu or (858) 534-3400 if you experience any issues logging in to any of our systems.

For More Information

For program specific questions, please visit the certificate page on our website or contact a program representative at rhoughtaling@ucsd.edu. For administrative questions, please contact our Student Services Department at unex-reg@ucsd.edu or (858) 534-4041.