



University of Colorado  
Anschutz Medical Campus

# ACADEMIC PROGRAM GUIDE

2022/2023

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Cell Biology, Stem Cells and Development PhD Program  
Computational Bioscience PhD Program  
Human Medical Genetics and Genomics PhD Program  
Immunology PhD Program  
Integrated Physiology PhD Program  
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Microbiology PhD Program  
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# ABOUT CU ANSCHUTZ

The University of Colorado Anschutz Medical Campus is the largest academic health center in the Rocky Mountain region, and a world-class medical destination at the forefront of transformative education, science, medicine and healthcare.

The campus includes University of Colorado health professional schools, numerous centers and institutes and two nationally ranked hospitals treating more than 2 million patients each year. All interconnected, these organizations collaboratively improve the quality of patient care they deliver, research they conduct and health professionals they train. Our dynamic campus offers the programs and resources to help you fulfill your academic goals and to prepare you to thrive—and lead—in your chosen field.

**Extensive course offerings:** With over 40 degree programs offered across six schools and colleges, and faculty who are among the best in their fields, here you will find an enriching learning environment and everything you need to make the most of your educational experience.

**Interdisciplinary collaboration:** We are always looking to remove barriers and promote collaboration in the health sciences. Our academic programs are designed with a real-world interdisciplinary focus and will have you learning alongside peers in a variety of career paths.

**Hospital partners:** Our campus is also home to two nationally recognized hospital partners—UCHealth University of Colorado Hospital and Children's Hospital Colorado—which not only provide some of the finest patient care in the country, but also offer hands-on training opportunities to our students.

And with more than 60 centers and institutes, robust industry connections and diverse research programs, you will find tremendous opportunities for learning and discovery beyond the classroom and the laboratory.

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**hospitals on campus:**  
UCHealth University  
of Colorado Hospital  
and Children's Hospital  
Colorado

1,659

**health education  
courses offered in  
42 fields of study/  
degree programs**

4,490

**degree-seeking  
students (2021)**

1,400+

**ongoing clinical trials  
at any one time**

60+

**health science  
centers and  
institutes**





**A nationally  
ranked health  
sciences  
education\***

**PEDIATRIC  
MEDICINE**

**6<sup>TH</sup>**

**PRIMARY CARE  
MEDICINE**

**12<sup>TH</sup>**

**PHYSICIAN ASSISTANT  
PROGRAM**

**7<sup>TH</sup>**

**ONLINE NURSING**

**4<sup>TH</sup>**

**PUBLIC HEALTH**

**19<sup>TH</sup>**

**A leading health sciences campus to help you achieve your goals:** Across all six schools and colleges at the University of Colorado Anschutz Medical Campus, our health science programs are nationally recognized as among the best in the country.

As a campus, CU Anschutz has also received several notable national designations. These include being recognized as a Military Friendly Schools Gold Award Designation and an Age-Friendly University for its commitment to older learners.

Whether you are beginning your journey in the health sciences or continuing your education, CU Anschutz offers a welcoming and innovative campus to help you make a difference in your community.

#### **SUPPORT BEYOND THE CLASSROOM:**

At CU Anschutz, we are dedicated to ensuring a welcoming and accessible campus for a diverse community of learners. We are here to support you to be your best by offering—and continuing to expand—comprehensive and confidential mental health and wellness services, learning and disability support, in addition to inclusion services. Our vibrant campus community includes student leadership opportunities, clubs and associations, as well as regular student programming that supports your professional aspirations.

**For more information on student support:**  
[cuanschutz.edu/student/services](https://cuanschutz.edu/student/services)



# SCHOOL OF MEDICINE



## about us

The University of Colorado School of Medicine offers comprehensive, lifelong, interdisciplinary learning for healthcare professionals. With state-of-the-art laboratories for discovery and innovation, a commitment to decreasing health disparities and increasing health equity, and faculty who provide world-class clinical care at Children's Hospital Colorado and UCHesth University of Colorado Hospital, the CU School of Medicine is transforming the healthcare landscape.

Located at the CU Anschutz Medical Campus, one of the nation's newest healthcare campuses, which encompasses development investments of more than \$2 billion on 227 acres in Aurora, the CU School of Medicine consistently ranks as one of the nation's best in primary care according to U.S. News & World Report's annual ranking of higher education programs.

The school offers pipeline programs to prepare our diverse and talented students for careers in healthcare. We offer graduate degrees in medicine, physical therapy, physician assistant studies, and biomedical science, and master's degrees in anesthesiology, genetic counseling, and human anatomy.

Our faculty are leaders in research and clinical care, with achievements including the world's first liver transplant, the identification of "battered child" syndrome, development of the classification and numbering system for human chromosomes, identifying the genetic factor that converts normal cells into cancer cells and making the key discovery for the foundation of modern immunology.

### Contact us

[somadmin@ucdenver.edu](mailto:somadmin@ucdenver.edu)

## Rankings\*



## Programs

Medicine (MD)  
 Physical Therapy (DPT)  
 Physician Assistant Studies (MPAS)  
 Anesthesiology (MS)  
 Biomedical Science (PhD)  
 Cancer Biology (PhD)  
 Cell Biology, Stem Cells &  
 Developmental Biology (PhD)  
 Computational Bioscience (PhD)  
 Human Medical Genetics &  
 Genomics (PhD)

Immunology (PhD)  
 Integrated Physiology (PhD)  
 Medical Scientist Training  
 Program (MD/PhD)  
 Microbiology (PhD)  
 Molecular Biology (PhD)  
 Neuroscience (PhD)  
 Pharmacology (PhD)  
 Rehabilitation Sciences (PhD)  
 Structural Biology &  
 Biochemistry (PhD)

Visit our website for  
more information



[medschool.cuanschutz.edu](https://medschool.cuanschutz.edu)



SCHOOL OF MEDICINE

# Master of Science in Anesthesiology

The University of Colorado Master of Science in Anesthesiology (MSA) Program provides students with the highest caliber of training at world-class facilities. The University of Colorado Anschutz Medical Campus, including UCHealth University of Colorado Hospital and Children's Hospital Colorado, along with faculty and a department invested in teaching, offers unparalleled clinical and didactic training.

The first 16 months of this rigorous 28-month graduate program within the CU School of Medicine are heavily focused on didactics with increasing clinical training as students progress. The final year consists of clinical immersion at sites in Colorado and across the country.

## Time for Completion

28 months

## How to Apply

The application, through CASAA, opens mid-April. Applicants are admitted on a rolling basis starting in August of each year. The application is closed once the cohort is full, which typically occurs in January.

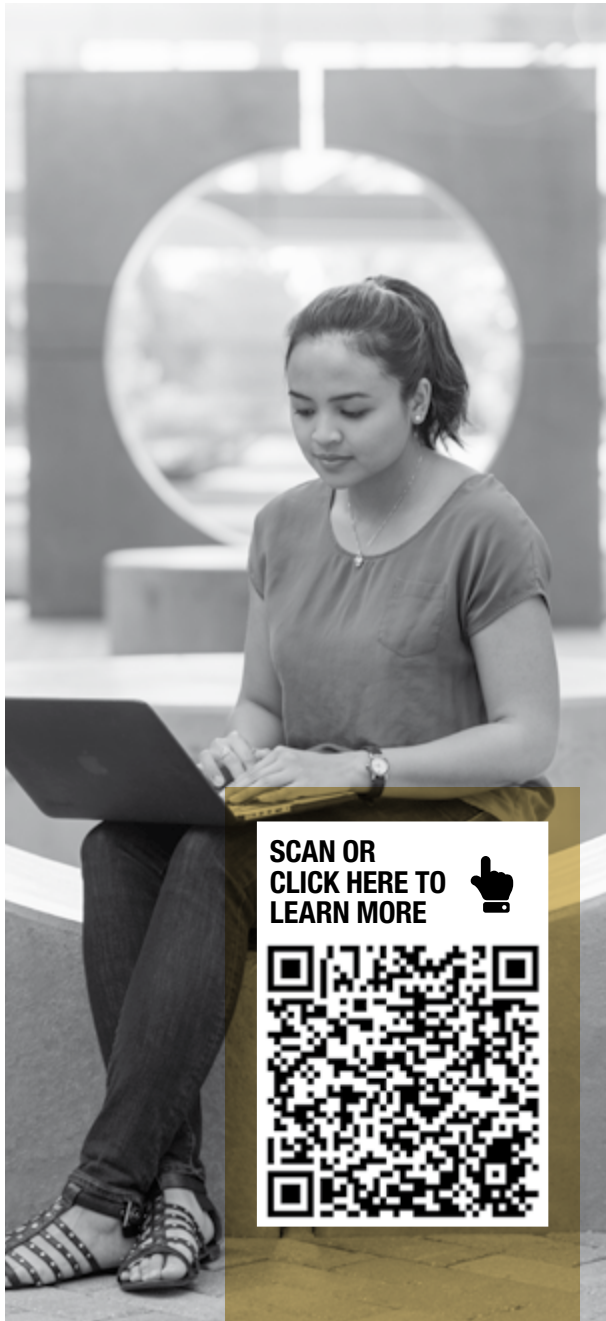
## Additional Prerequisites

- A bachelor's degree from an accredited institution
- An MCAT score attained within five years of applying to the program
- A minimum of eight hours anesthesiologist shadowing (additional shadowing is encouraged)
- 3 letters of recommendation
- CASPer assessment
- Completion of prerequisite courses:
  - English (one semester)
  - Biology I & II (with labs)
  - General Chemistry I & II (with labs)
  - Organic Chemistry I & II (with labs)
  - General Physics I & II (with labs)
  - Biochemistry (one semester)
  - Statistics (one semester)
  - Human Anatomy & Physiology (one semester combined OR one semester of each)

## Contact Information

AAProgram@cuanschutz.edu

## Curriculum





## SCHOOL OF MEDICINE

# Doctor of Medicine (MD)

Through our MD program, graduates will become leaders in healthcare and provide exceptional care for diverse communities and patients around the world.

## Curriculum

Our new curriculum, introduced in 2021, gets students into clinical settings earlier and connects them with patients in a more meaningful way, while also providing a renewed focus on community engagement and social determinants of health.

The new curriculum has students training in hospitals a full year earlier than the previous system and it changes the learning model from traditional block rotations to a longitudinal integrated clerkship, which provides meaningful, longer-term relationships with patients, preceptors and fellow students.

The curriculum focuses on the values of leadership, curiosity and commitment while integrating basic science learning to align with clinical training cycles.

### Quick Facts

- The CU School of Medicine is located on a world-class academic medical campus with two nationally ranked hospitals.
- We offer an interdisciplinary learning environment with a four-year MD integrated curriculum model.
- We emphasize individualized learning with more than 200 electives.
- We welcome 184 new students each year.

### Contact Information

somadmin@ucdenver.edu

### How to Apply

CU School of Medicine requires all prospective students to apply through the American Medical College Application Service (AMCAS). The online application opens in early June and there is three- to four-week delay before our admission office receives applications from AMCAS due to transcript verification. We encourage students to apply early.

### Additional Prerequisites

- Completion of a bachelor's degree from an accredited college or university.
- There is no preferred major. Students are expected to participate in a rigorous academic program and understand basic principles of science central to medicine.
- Students should have effective learning habits and critical thinking skills, and actively engage in lifelong learning.

### Additional Requirements

- Primary application (AMCAS)
- Secondary application (CU-specific)
- MCAT
- 3-5 letters of recommendation
- Altus Suite assessments



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SCHOOL OF MEDICINE

# Biomedical Sciences Program

The Biomedical Sciences Program (BSP) is an interdisciplinary and interdepartmental PhD umbrella program designed to provide incoming students with the greatest amount of flexibility in choosing a course of study.

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## Curriculum

At the end of the first year, following successful completion of the graduate course curriculum and preliminary exam, BSP students will select a thesis mentor and join one of our participating programs: Cancer Biology; Cell Biology, Stem Cells & Developmental Biology; Computational Bioscience; Human Medical Genetics & Genomics; Immunology; Integrated Physiology; Microbiology; Molecular Biology; Neuroscience; Pharmacology; or Structural Biology & Biochemistry.

The program begins in the fall semester each year and in the first semester, BSP students attend Core Course, Ethics in Research, and Journal Club. The Core Course covers the fundamentals of biochemistry, molecular biology, cell biology, and genetics. Three laboratory rotations are required of first-year students, running concurrently with the graduate core curriculum. In the second semester, BSP students take required courses in the program of their interest. The preliminary exam occurs at the end of the first year in the spring semester. Students who pass the exam will enter the PhD program of their choice, where they will begin their project in their thesis lab.

## Time for Completion

Including the first year in BSP, the average time to complete the PhD is 5.5 years.

## Application Deadline

December 1

## Additional Prerequisites

- Completion of a bachelor's degree from an accredited institution with a minimum 3.0 GPA.
- Strong background in biology, chemistry, physical science and mathematics.
- Undergraduate or post-baccalaureate research experience.

## Cost

The Biomedical Sciences Program is fully funded. Admitted students pay no tuition or fees and receive healthcare benefits (including dental, vision and mental health).

## SCHOOL OF MEDICINE

# Cancer Biology (PhD)

The Cancer Biology Program combines training in the basic biomedical sciences with opportunities to apply clinical and translational research to studies of human cancer. Our training faculty includes more than 50 basic and clinical scientists from 13 departments and divisions.

## Curriculum

Our curriculum is rigorous, yet flexible, and provides opportunities for advanced study in cellular and molecular oncology, as well as the translational medical sciences. Our research community includes a NIH/NCI designated comprehensive cancer center, which brings together scientists with diverse research approaches to focus on the problem of cancer.

**Years 1 and 2 |** Students take Core Course and Cancer Biology Program specific courses and participate in three laboratory rotations. At the completion of the first year students take a preliminary exam and begin their thesis research. The Core Course covers the fundamentals of biochemistry, molecular biology, cell biology, and genetics. Trainees also complete a course on the Ethical Conduct of Research.

**Year 3 |** In the third year, students take their Comprehensive exam, which consists of a written document in the format of an NIH application and an oral exam. Successful completion of the written and oral exam results in admission to candidacy.

**Years 4 and 5 |** Students continue their thesis research, prepare manuscripts, and write and defend their thesis. The program requires one first-author publication for graduation.

## Time for Completion

Average time to graduation is 5.4 years.

## Application Deadline

December 1

## Additional Prerequisites

- Completion of a bachelor's degree from an accredited institution with a minimum 3.0 GPA.
- Strong background in general and organic chemistry, biochemistry, and cell and molecular biology.
- Undergraduate or post-baccalaureate research experience

## Cost

The program is fully funded. Admitted students pay no tuition or fees and receive healthcare benefits (including dental, vision, and mental health). *The training program in Cancer Biology is supported by a NIH/NCI T32 training grant.*

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SCHOOL OF MEDICINE

# Cell Biology, Stem Cells and Development PhD Program

Cell Biology, Stem Cells and Development (CSD) students and faculty have common interests in understanding the molecular and cellular mechanisms that underlie development, disease, stem cell biology, and regeneration. This common curiosity promotes extensive interaction among labs and creates a collaborative intellectual environment.

## Curriculum

Our CSD Program is structured to provide training in hypothesis-driven experimental approaches combined with cutting-edge technologies. We foster creativity and independence, enabling students to pursue important questions at the junctures among the fields of cell, developmental, and stem cell biology.

**Years 1 and 2** | Students take Core Course and program-specific courses and participate in three laboratory rotations. At the completion of the first year, students take a written preliminary exam and begin their thesis research. The Core Course covers the fundamentals of biochemistry, molecular biology, cell biology, and genetics. Trainees also complete a course on the Ethical Conduct of Research. At the completion of the second year, students must pass an oral and written comprehensive exam.

**Year 3 and Beyond** | Students continue their thesis research, prepare manuscripts, and write and defend their thesis.

## Time for Completion

Average time to graduation is 5.4 years.

## Application Deadline

December 1

## Additional Prerequisites

- Completion of a bachelor's degree from an accredited institution with a minimum 3.0 GPA.
- Strong background in biological science, chemistry, physics or engineering.
- Undergraduate or post-baccalaureate research experience.

## Cost

The program is fully funded. Admitted students pay no tuition or fees and receive healthcare benefits (including dental, vision and mental health).





## SCHOOL OF MEDICINE

# Computational Bioscience PhD Program

The Computational Bioscience Program was founded and is directed by Lawrence Hunter, PhD, founder of the International Society for Computational Biology, and the popular International Society for Computational Biology and Pacific Symposium on Biocomputing conferences.



## Curriculum

The program is globally recognized for its research and teaching of computational biology and bioinformatics. It is designed to produce graduates with depth in computational methods and molecular biomedicine, an intimate familiarity with the science and technology that synthesizes the two, and the skills necessary to pioneer novel computational approaches to significant biomedical questions.

**Years 1 and 2** | Students take Core Course and program-specific courses and participate in two laboratory rotations. At the completion of the first year, students take a written and computing preliminary exam and begin their thesis research. The Core Course covers the fundamentals of biochemistry, molecular biology, cell biology, and genetics. At the completion of the second year, students must pass an oral and written comprehensive exam.

**Year 3 and Beyond** | Students continue their thesis research, prepare manuscripts, and write and defend their thesis.

### Time for Completion

Average time to graduation is 5.4 years.

### Application Deadline

December 1

### Additional Prerequisites

- Completion of a bachelor's degree from an accredited institution with a minimum 3.0 GPA.
- Advanced education or experience in computer science or allied field, and some knowledge of contemporary molecular biology is required.

### Cost

The program is fully funded. Admitted students pay no tuition or fees and receive healthcare benefits (including dental, vision and mental health).

SCHOOL OF MEDICINE

# Human Medical Genetics and Genomics PhD Program

The Human Medical Genetics and Genomics Program (HMGGP) is an interdisciplinary, interdepartmental program designed to combine outstanding graduate training and research opportunities in all aspects of human and medical genetics. HMGGP builds on close engagement with our students, who are integral to our ongoing mission to build toward the future.

## Curriculum

The program is continually adding new training faculty, providing students with an outstanding group of scientists to select as thesis advisors and mentors. Our goal is to provide students a world-class graduate training experience in an interactive and collaborative environment that allows for an individualized learning experience.

**Years 1 and 2** | Students take Core Course and program-specific courses and participate in three laboratory rotations. At the completion of the first year students take a written and oral preliminary exam and begin their thesis research. The Core Course covers the fundamentals of biochemistry, molecular biology, cell biology, and genetics.

**Year 3** | In the third year, students take their comprehensive exam, which consists of a written document and an oral exam. Successful completion of the comprehensive exam results in admission to candidacy.

**Years 4-5** | Students continue their thesis research, prepare manuscripts, and write and defend their thesis. The program requires one first-author publication for graduation.

## Time for Completion

Average time to graduation is 5.7 years.

## Application Deadline

December 1

## Additional Prerequisites

- Completion of a bachelor's degree from an accredited institution with a minimum 3.0 GPA.
- Strong background in biology, chemistry (general and organic), physics, genetics, calculus and statistics.
- Undergraduate or post-baccalaureate research experience.

## Cost

The program is fully funded. Admitted students pay no tuition or fees and receive healthcare benefits (including dental, vision and mental health).

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## SCHOOL OF MEDICINE

# Immunology PhD Program

The Immunology Graduate Program is amongst the most prominent basic immunology graduate research training programs in the country. Founded in 1989, the program has conferred more than 150 PhD degrees to students from a variety of backgrounds.

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## Curriculum

Our curriculum combines formal coursework with mentoring by an engaged faculty in a collaborative environment. Students in the program receive comprehensive training in diverse areas of immunology and gain the intellectual foundation and technical expertise necessary for performing cutting-edge basic and translational research. Trainees also gain skills in data analysis, technical writing, and oral presentation to further prepare them for making impactful contributions throughout their careers – whether they pursue careers within or outside of academia.

**Years 1 and 2** | Students take Core Course and program-specific courses and participate in three laboratory rotations. At the completion of the first year, students take an oral and written preliminary exam and begin their thesis research. The Core Course covers the fundamentals of biochemistry, molecular biology, cell biology, and genetics.

**Year 3 and Beyond** | Students continue their thesis research, prepare manuscripts, and write and defend their thesis. The program requires one first-author publication for graduation.

### Time for Completion

Average time to graduation is 5.8 years.

### Application Deadline

December 1

### Additional Prerequisites

- Completion of a bachelor's degree from an accredited institution with a minimum 3.0 GPA.
- Strong background in biology, chemistry (general and organic), physics, genetics, calculus and statistics.
- Undergraduate or post-baccalaureate research experience.

### Cost

The program is fully funded. Admitted students pay no tuition or fees and receive healthcare benefits (including dental, vision and mental health).

SCHOOL OF MEDICINE

# Integrated Physiology PhD Program

The study of physiology is at the core of modern biomedical research, which relies on integrating fundamental concepts of whole animal and organ physiology with sophisticated molecular and cellular approaches to investigate important questions related to human disease.

## Curriculum

Integrated Physiology faculty and students are united in the goal of improving human health through mechanistic research in areas of cellular physiology, endocrine systems and metabolism, reproductive science, and vascular biology. With a faculty composed of basic and clinical research scientists, our program offers students opportunities to learn how to target basic research to clinically important problems and to develop translational research projects. Graduates from our research programs have careers in academic and private research institutes, industry, and government laboratories.

**Years 1 and 2** | Students take Core Course and program-specific courses and participate in three laboratory rotations. At the completion of the first year, students take an oral and written preliminary exam and begin their thesis research. The Core Course covers the fundamentals of biochemistry, molecular biology, cell biology, and genetics.

**Year 3 and Beyond** | At the start of the third year, students take a written and oral Comprehensive exam. Successful completion of the Comprehensive exam results in admission to candidacy. Students continue their thesis research, prepare manuscripts, and write and defend their thesis.

## Time for Completion

Average time to graduation is 5.3 years.

## Application Deadline

December 1

## Additional Prerequisites

- Completion of a bachelor's degree from an accredited institution with a minimum 3.0 GPA.
- Students seeking admission should have taken organic chemistry, biology, general physics and college level mathematics through calculus. Courses in biochemistry, physical chemistry, genetics and physiology are recommended.
- Undergraduate or post-baccalaureate research experience.

## Cost

The program is fully funded. Admitted students pay no tuition or fees and receive healthcare benefits (including dental, vision and mental health).





## SCHOOL OF MEDICINE

# Medical Scientist Training Program (MD/PhD)

The Medical Scientist Training Program (MSTP) was established in 1983 and obtained NIH/MSTP funding in 1993. The goal of the program is to train a diverse group of dual-degree students to become outstanding physician-scientists and future leaders in biomedical research. To accomplish this goal, students are selected from an increasing national applicant pool, seeking out those candidates whose record of research, academic, and leadership achievements are exemplary.



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## Curriculum

MSTP students enter a flexible, yet highly rigorous training program that combines graduate and medical school courses in the first two years, substituting graduate for medical school courses, and vice versa. This is followed by one required MSIII clinical clerkship, with an option for a second. Students then complete close to four years of thesis work, followed by 16-24 months of MSIII/IV clinical work. A MSTP-specific Molecules to Medicine course, Reading with the Professor elective, weekly seminar series, and a longitudinal clinical experience during the thesis years have been specifically developed for our students.

For thesis research, students choose from close to 200 MSTP faculty in 15 graduate training programs. MSTPs train at three sites including the CU Anschutz Medical Campus, National Jewish Health, and the University of Colorado Boulder, which have a combined grant income of around \$1 billion. To enhance the success of our MSTP students, we provide career guidance beyond the PhD thesis years, and we work diligently to place our graduates in elite residencies and fellowships.

### Time for Completion

Average time to complete the program is 8 years.

### Application Deadline

October (AMCAS)

November (complete MSTP application)

### Additional Prerequisites

- The MSTP Admissions Committee is looking for individuals with a demonstrated commitment to medical research and service to community. The committee looks at applicants as whole individuals, equally assessing academic achievement and past experience. Letters of recommendation, substantive bench research experience, test scores, and life experiences are all considered.
- As a federally funded program, the University of Colorado MSTP is open to U.S. citizens and permanent residents of all 50 states, the District of Columbia, and Puerto Rico.

SCHOOL OF MEDICINE

# Microbiology PhD Program

The Microbiology Program prepares students to contribute to an understanding of microbial species, including archaea, bacteria, fungi, helminths, protozoa, and viruses, and their positive and negative roles in the health of humans.

## Curriculum

Our students thrive in a stimulating, research-oriented graduate program leading to careers in science in the academic, governmental, or private sectors. Faculty research interests include molecular mechanisms of bacterial and viral pathogenesis, the molecular biology of microbial gene expression, pathogen-host interactions, innate and adaptive immune responses to infection, mechanisms of immune evasion, the role of the microbiome in health and disease, structural biology, and development of novel therapeutics and vaccines.

**Years 1 and 2 |** Students take Core Course and program-specific courses and participate in three laboratory rotations. At the completion of the first year, students take a written and oral preliminary exam and begin their thesis research. The Core Course covers the fundamentals of biochemistry, molecular biology, cell biology, and genetics. At the completion of the second year, students take a written and oral comprehensive exam. Successful completion of the comprehensive exam results in admission to candidacy.

**Year 3 and Beyond |** Students continue their thesis research, prepare manuscripts, and write and defend their thesis.

## Time for Completion

Average time to graduation is 5.5 years.

## Application Deadline

December 1

## Additional Prerequisites

- Completion of a bachelor's degree from an accredited institution with a minimum 3.0 GPA.
- Specific courses are not required, but coursework in the following subjects is recommended and can enhance an application: microbiology, immunology, virology, organic chemistry, biology, biochemistry, cell biology, genetics, molecular biology, molecular genetics and physiology.
- Undergraduate or post-baccalaureate research experience.

## Cost

The program is fully-funded. Admitted students pay no tuition or fees and receive healthcare benefits (including dental, vision and mental health).

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## SCHOOL OF MEDICINE

# Molecular Biology PhD Program

The Molecular Biology Program is dedicated to providing rigorous training to its students in a supportive environment. Molecular Biology faculty are members of many different departments and are applying the techniques of molecular biology to answer questions in diverse areas.

## Curriculum

Molecular biology, the science of how living things work at the molecular level, has led the recent revolution in our understanding of human disease and given birth to the biotechnology industry. In almost all aspects of modern biomedical research, a professional knowledge of molecular biology is essential. Our training program is designed to equip students for careers at the cutting edge of biology.

**Years 1 and 2 |** Students take Core Course and program-specific courses and participate in three laboratory rotations. At the completion of the first year, students take a written and oral preliminary exam and begin their thesis research. The Core Course covers the fundamentals of biochemistry, molecular biology, cell biology, and genetics. At the completion of the second year, students take a written and oral comprehensive exam. Successful completion of the comprehensive exam results in admission to candidacy.

**Year 3 and Beyond |** Students continue their thesis research, prepare manuscripts, and write and defend their thesis.

### Time for Completion

Average time to graduation is 5.6 years.

### Application Deadline

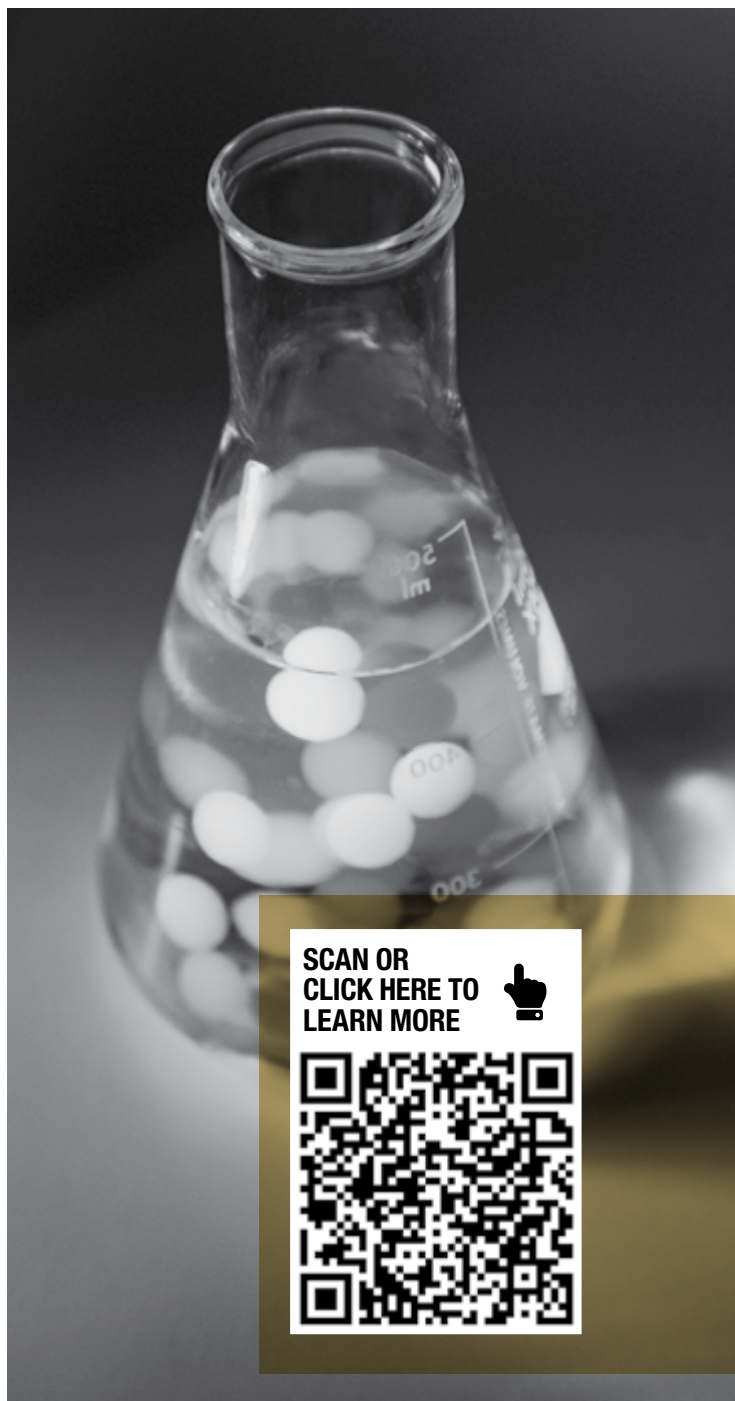
December 1

### Additional Prerequisites

- Completion of a bachelor's degree from an accredited institution with a minimum 3.0 GPA.
- Competitive applicants have skills in biology, molecular biology, biochemistry, organic chemistry, physics, mathematics or programming.
- Undergraduate or post-baccalaureate research experience.

### Cost

The program is fully-funded. Admitted students pay no tuition or fees and receive healthcare benefits (including, vision and mental health). *The Molecular Biology Program has been supported by a T32 from the National Institutes of Health since 1999.*

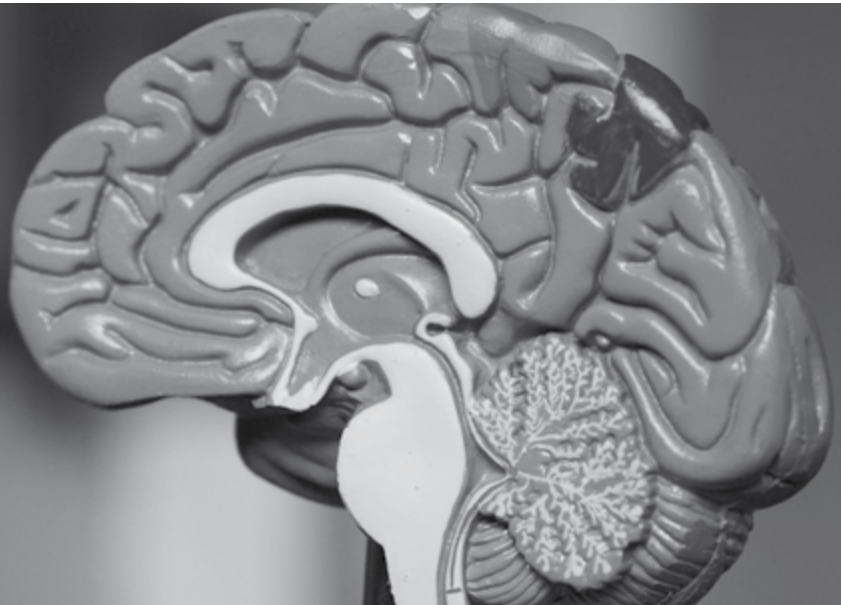


SCHOOL OF MEDICINE

# Neuroscience PhD Program

The Neuroscience Graduate Program (NSP) at the University of Colorado School of Medicine features diverse faculty spanning modern neuroscience. Through rigorous training and mentoring, the program aims to train critical thinkers poised for success in any endeavor they choose.

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## Curriculum

Students are offered a series of core courses covering the breadth of neuroscience, providing a broad and solid foundation. Cell and molecular neuroscience, systems neuroscience, developmental neurobiology, statistics, quantitative methodology, and coding are core components of the curriculum.

**Years 1 and 2 |** Students take Core Course and program-specific courses and participate in three laboratory rotations. At the completion of the first year, students take a written and oral preliminary exam and begin their thesis research. The Core Course covers the fundamentals of biochemistry, molecular biology, cell biology, and genetics.

**Year 3 and Beyond |** In the third year, students take a written and oral comprehensive exam. Successful completion of the comprehensive exam results in admission to candidacy. Students continue their thesis research, prepare manuscripts, and write and defend their thesis.

## Time for Completion

Average time to graduation is 5.5 years.

## Application Deadline

December 1

## Additional Prerequisites

- Completion of a bachelor's degree from an accredited institution with a minimum 3.0 GPA.
- A strong background in a biological science, chemistry, physics or engineering is recommended.
- Undergraduate or post-baccalaureate research experience.

## Cost

The program is fully-funded. Admitted students pay no tuition or fees and receive healthcare benefits (including dental, vision and mental health). *The Neuroscience Program has been supported by the prestigious Jointly Sponsored Institutional T32 Predoctoral Training Grant since 1997.*



## SCHOOL OF MEDICINE

# Pharmacology PhD Program

With one of the longest-standing NIH-funded pre-doctoral training grants, our program has an established history of biomedical science training. Program faculty are nationally and internationally renowned in the areas of neuroscience, cancer biology, signal transduction, structural biology, cardiovascular biology, and bioinformatics.

## Curriculum

**Years 1 and 2** | Students take Core Course and program-specific courses and participate in three laboratory rotations. The Core Course covers the fundamentals of biochemistry, molecular biology, cell biology, and genetics. At the completion of the first year, students take a written preliminary exam and begin their thesis research. At the completion of the second year, students take a written and oral comprehensive exam. Successful completion of the comprehensive exam results in admission to candidacy.

**Year 3 and Beyond** | Students continue their thesis research, prepare manuscripts, and write and defend their thesis.

### Time for Completion

Average time to graduation is 5.5 years.

### Application Deadline

December 1

### Additional Prerequisites

- Completion of a bachelor's degree from an accredited institution with a minimum 3.0 GPA.
- Although not an absolute requirement, competitive candidates will typically have completed undergraduate coursework in molecular biology, chemistry (general and organic), biochemistry, physics and mathematics through calculus.
- Undergraduate or post-baccalaureate research experience.

### Cost

The program is fully-funded. Admitted students pay no tuition or fees and receive healthcare benefits (including dental, vision and mental health). *The Pharmacology NIH-sponsored pre-doctoral T32 Training Grant has been continuously funded since 1978, making it one of the longest standing pharmacology training programs in the country.*



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SCHOOL OF MEDICINE

# Rehabilitation Science PhD Program

Rehabilitation Science is an interdisciplinary field that focuses on human function, disability, and rehabilitation from the perspectives of the health sciences, psychology, engineering and related fields.



## Curriculum

Research conducted by program faculty and staff is supported by research teams, centers, a variety of satellite laboratories and clinical research sites located across the medical campus and surrounding community. In addition to core research facilities and labs, faculty collaborate with other scientists both regionally and nationally to conduct interdisciplinary and translational research.

**Years 1 and 2 |** Students take core coursework and participate in three laboratory rotations. Core coursework includes lecture- and laboratory-based instruction in foundations of rehabilitation science, statistical methods and data management, scientific writing, research ethics, professional skills, and electives in the student's primary area of specialization. At the completion of the first year, students take a written preliminary exam and begin their thesis research.

**Year 3 and Beyond |** During the third year, students take a comprehensive exam. Successful completion of the comprehensive exam results in admission to candidacy. Students continue their thesis research, prepare manuscripts, and write and defend their thesis.

## Time for Completion

Average time to graduation is 4.3 years.

## Application Deadline

December 1

## Additional Prerequisites

- Completion of a bachelor's degree from an accredited institution with a minimum 3.0 GPA.
- A strong background in a biological science, chemistry, physics, or engineering is recommended.
- Undergraduate or post-baccalaureate research experience.

## Cost

The program is fully funded. Admitted students pay no tuition or fees and receive healthcare benefits (including dental, vision and mental health).

## SCHOOL OF MEDICINE

# Structural Biology and Biochemistry PhD Program

The Structural Biology and Biochemistry (STBB) PhD Program is an interdepartmental graduate training program offered within the CU School of Medicine. Student training places an emphasis on research experiences, both in lab rotations and thesis projects, and includes a range of coursework in biochemistry, biophysics, drug design, pharmacology, and cellular, molecular, and structural biology.

## Curriculum

**Years 1 and 2** | Students take Core Course and program-specific courses and participate in two or three laboratory rotations. The Core Course covers the fundamentals of biochemistry, molecular biology, cell biology, and genetics. At the completion of the first year, students take a written preliminary exam and begin their thesis research. Before the completion of the second year, students take a written and oral comprehensive exam. Successful completion of the comprehensive exam results in admission to candidacy.

**Year 3 and Beyond** | Students continue their thesis research, prepare manuscripts, and write and defend their thesis.

### Time for Completion

Average time to graduation is 5.9 years.

### Application Deadline

December 1

### Additional Prerequisites

- Completion of a bachelor's degree from an accredited institution with a minimum 3.0 GPA.
- Strong foundation in math and the biological and chemical sciences. It is suggested that applicants have completed courses in biology, chemistry, biochemistry, and cell and molecular biology.
- Undergraduate or post-baccalaureate research experience.

### Cost

The program is fully funded. Admitted students pay no tuition or fees and receive healthcare benefits (including dental, vision and mental health).



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SCHOOL OF MEDICINE

# Physical Therapy (DPT)

The University of Colorado Physical Therapy Program (CU PT) prepares physical therapists to treat patients across their lifespan and assume multifaceted responsibilities for high-quality care in today's healthcare environment. CU PT offers a Doctor of Physical Therapy degree (DPT).

## Curriculum

**Academic Curriculum:** On-campus courses include classroom and laboratory learning experiences, beginning with foundational science and clinical skill content, and progressing to patient management, advanced clinical skills, and professional topics. Content learned in the classroom and laboratory complement the integrated and full-time clinical experiences that begin in the second semester.

**Clinical Education Curriculum:** Our unique clinical education curriculum includes 38 weeks of clinical education prior to graduation. The first two years include one- and two-week integrated clinical education, as well as 8- and 10-week full-time clinical experiences. In the third year, the final clinical experience may include a paid yearlong internship, with pre- and post-graduation phases at the same site.



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## Application Deadline

October 3, 2022 (opens mid-June 2022)

## Prerequisites & Other Requirements to Apply

- All prerequisite courses must be completed prior to matriculation.
- Only one prerequisite science course may be in progress in the spring semester prior to matriculation.
- Courses completed with a C- or below are not acceptable.
- It is recommended that all science and math courses be completed within the last five years. Anatomy, physiology, and one upper-division science exercise physiology/ biomechanics course must have been completed within the last 10 years, and preferably within the last five years.
- Prerequisites include general chemistry I and II (8 semester hours), general physics I and II (8 semester hours), anatomy and physiology (8 semester hours), upper-division basic science (3 semester hours), any upper-division science (300/3000 level or higher) OR exercise physiology OR biomechanics (lower-division OR upper-division are acceptable; upper-division is strongly recommended), psychology (6 semester hours), and English/writing (3 semester hours).
- GPA is an important factor in admissions decisions. It is important to consider that the average cumulative GPA of admitted applicants is above 3.6.

## Program Eligibility

- A bachelor's degree must be earned by the start of the program.
- Minimum cumulative GPA of 3.0.
- Two references from people who know the applicant well, with the exception of family, friends, and clergy. The most common references are from professors, supervisors and licensed physical therapists.



## SCHOOL OF MEDICINE

# Physician Assistant Studies (MPAS)

Founded in 1968, the University of Colorado's Physician Assistant Program is consistently ranked as one of the best PA programs in the country. The program is a master's level, primary care PA program preparing graduates to provide comprehensive medical care for patients of all ages.

## Curriculum

The three-year, innovative curriculum of the University of Colorado PA program is designed to integrate clinical and basic sciences to prepare graduates with the knowledge, skills, and attitudes to practice medicine as part of a health care team. Graduates practice in all areas of medicine and serve patients of all ages.

### Program Eligibility

- To be considered for admission, applicants must have a minimum cumulative and science GPA of 3.0 on a scale of 4.0.
- A bachelor's degree from an accredited institution is required to be completed prior to matriculation to the program. Applicants from all academic disciplines are welcome to apply, provided they meet the prerequisite course requirements.
- CASPer assessment is required for all applicants.

### Prerequisite Course Requirements

- All prerequisite courses must have a grade of "C" or higher to be accepted. Pass/Fail grades are not accepted toward prerequisite courses.\*
- Online courses and labs are accepted.
- Advanced Placement credit (AP), or International Baccalaureate (IB) credit are not accepted to fulfill the prerequisite course requirements.
- Research, thesis, teaching assistant, independent studies, and experiential courses are also not accepted to fulfill prerequisite courses. Students must request approval to use any courses with general titles such as "Special Topics of Biology," "Senior Seminar," or "Techniques of Biological Science" toward the BIO prerequisite coursework.

*\*We will accept Pass/Fail grades for Spring 2020 courses only. Letter grades are strongly preferred.*

### Additional Prerequisites

#### To be completed prior to the application deadline:

- Chemistry: 8 Semester Hours (or 12 Quarter Hours)
- Biology: 14 Semester Hours (or 20 Quarter Hours) with 6 Semester Hours (or 9 Quarter Hours) of Upper Division Course Work and 3 Semester Hours of Anatomy and 3 Semester Hours of Physiology.

#### To be completed prior to matriculation:

- Genetics: 3 Semester Hours (4 quarter hours)
- Psychology: 6 Semester Hours (or 8-9 quarter hours)
- Statistics: 3 Semester Hours (4 quarter hours)



# COLLEGE OF NURSING



## about us

CU Nursing offers the opportunity to learn in an environment that is steeped in history and driven by the future. State-of-the-art simulation facilities and clinical opportunities abound on the CU Anschutz Medical Campus—the Rocky Mountain region's largest academic medical campus. Access to clinical rotations at the college's four nurse-led practices in the Denver metro area, numerous clinical partners throughout Colorado, and two Colorado hospitals on campus provide a unique setting to learn.

CU Nursing offers four programs (BS, MS, DNP & PhD) and a variety of specialties. With numerous pathways (online, traditional classroom, hybrid) to earn your degree, you are sure to find the right option for you.

### Contact us

303-724-1812

[nursing.admissions@ucdenver.edu](mailto:nursing.admissions@ucdenver.edu)

### Why Choose CU Nursing?

- The birthplace of the nurse practitioner program, CU Nursing boasts a reputation as a leader and pioneer in nursing education.
- Top 5% in BS, Top 15% in MS and Top 5% in iLEAD programs in the country.
- CU Nursing has a 120-year legacy of excellence in nursing education.
- Our partnerships with healthcare institutions and our own nurse-led clinics open up clinical training opportunities that are unmatched by other nursing programs.
- Brand new state-of-the-art simulation and clinical training facility with access to dozens of high-fidelity mannequins, training scenarios and actors who take our students through a multitude of possible healthcare situations. Preparing our students for real life.

## Rankings\*

**#31**

Nursing (BS)

**#23**

Nursing (MS)

**#26**

Nursing (MS)  
Online

**#35**

Doctorate in  
Nursing Practice  
(DNP)



## Programs

Nursing (BS)  
Nursing (MS)  
Nursing Practice (DNP)  
Nursing (PhD)  
Nursing Post-Graduate Certificates

Visit our website for program  
and admissions information



[nursing.cuanschutz.edu](https://nursing.cuanschutz.edu)

## COLLEGE OF NURSING

# Undergraduate Nursing Program

A Bachelor of Science (BS) degree in nursing provides a wide variety of career choices. Upon successful completion of the BS nursing program and the national licensure examination (NCLEX), baccalaureate-prepared nurses are able to choose from a wide variety of practice settings.

The University of Colorado College of Nursing offers four baccalaureate pathways that lead to the Bachelor of Science degree. Most of the undergraduate programs are considered entry to practice programs or programs for those interested in becoming a nurse. The exception is the RN to BS program which is designed for students who are currently enrolled or who have earned an associate degree in nursing (ADN) and are looking to advance to the BSN level.

## Pathway Options

### Traditional Nursing Pathway (TRAD)

Traditional Pathway is a full-time, 24-month, on-campus option. The pace of the Traditional Pathway facilitates integration of learning and acknowledges that students balance several responsibilities while completing their nursing education. However, due to the rigor many students find it difficult to work more than 10-20 hours per week while in the program.

**Admit Term:** Summer only

**Modality:** On-campus program with limited online courses

### Integrated Nursing Pathway (INP)

The Integrated Nursing Pathway is a unique partnership for students enrolled at the Community College of Aurora, the Community College of Denver, and Red Rocks Community College.

Students admitted to the INP program are provided early/conditional admission to the Traditional Pathway. INP admission is offered one year in advance of the Traditional Pathway start. During this time INP students will complete any remaining prerequisites and also receive advisement support services from CU including an early introduction to the role of the professional nurse in the context of quality and safety.

**Admit Term:** Fall only (TRAD pathway start in the following summer term)

**Modality:** The TRAD program is an on-campus program with limited online courses. The participating community colleges offer courses in a variety of modalities.

### University of Colorado Accelerated Nursing Program (UCAN)

The UCAN program is a full-time, 12-month program, on-campus accelerated nursing program for students who have already earned a bachelor's degree in another field. Due to the rigor of the UCAN program, working while in the program is not recommended.

**Admit Term:** Spring/January-start only

**Modality:** The UCAN is an on-campus program with limited online courses.

### RN to BS

The RN to BS program at CU Nursing is a 100% online program built for ADN-prepared RNs. The program consists of seven courses (including one community clinical course) that can be completed in as few as four semesters. Due to the online format, applications are accepted from Colorado as well as out-of-state. Students charged out of state tuition are eligible to receive a tuition buy-down which will apply funds to the last semester of enrollment that levels the cost to in-state tuition rate.

Students currently enrolled in an ADN program and seeking a seamless transition to the BSN can apply for Early Decision admission after the first semester of ADN courses.

**Admit Terms:** Fall, Spring, Summer

**Modality:** Online





## COLLEGE OF NURSING

# Graduate Programs (MS, BS to DNP, Certificates)

CU Nursing offers several options for bachelor-prepared registered nurses (RNs) including the Master of Science, BS to DNP, Post-Master's Certificate (for MSN-prepared RNs) and Graduate Certificate (for BS prepared RNs).

## Curriculum

### The available specialties are as follows:

- Adult-Gerontology Acute Care Nurse Practitioner
- Adult-Gerontology Primary Care Nurse Practitioner
- Adult-Gerontology Clinical Nurse Specialist (CNS)
- Family Nurse Practitioner
- Healthcare Informatics
- i-LEAD Nursing Leadership and Healthcare Systems
- Nurse-Midwifery
- Women's Health Nurse Practitioner
- Pediatric Nurse Practitioner Acute Care
- Pediatric Nurse Practitioner Primary Care
- Psychiatric Mental Health Nurse Practitioner
- Veteran and Military Healthcare

Admit terms for the graduate programs vary by specialty but are generally in the fall and/or spring. The graduate programs are hybrid with courses offered online with limited on-campus attendance. On-campus time is communicated well in advance and respects the demands of working nurses.

### Interested in Taking a Class?

Prospective students interested in exploring graduate education can request enrollment for select graduate courses as a non-degree seeking student. This option allows students to enroll in courses without being formally admitted to the program. Up to 12 non-degree courses can be applied to the graduate program upon admission if offered.

### Things to Consider Before Enrolling in a Graduate Program

State authorization and Board of Nursing requirements may restrict application and/or enrollment for students who reside outside of Colorado or may require relocation to Colorado for clinical activities. Please be sure to have researched your state's requirements before applying.



COLLEGE OF NURSING

# Nursing (PhD)

The Doctor of Philosophy (PhD) degree in Nursing is a research degree designed for bachelor and master's-prepared nurse scholars to advance the art, science and practice of the discipline.

Students in the PhD program work with nationally funded researchers, editors of major nursing journals, endowed professors and faculty chairs, scholars with joint academic-clinical appointments and faculty recognized for excellence in teaching and mentorship. Sixteen faculty have been recognized as fellows of the American Academy of Nursing; the highest honor bestowed.

## Pathway Options

- **BS-PhD:** With a BS in nursing, you can earn an MS degree leading into PhD coursework and research in one program.
- **MS-PhD:** Earn your master's degree and continue working toward your research doctorate. Both degrees are awarded.
- **PhD:** Post-master's doctoral coursework followed by a dissertation leads you to the PhD degree.

All PhD pathway options admit for the fall term. Spring admission for the BS-PhD and MS-PhD varies based on specialty.

**Modality:** Courses are completed online with limited required on-campus attendance required for the PhD intensive experience.

## PhD students choose from one of the following foci:

**Biobehavioral Science** - Focuses on health and illness and the interrelationships among their psychosocial, behavioral, and biological processes. Research the prevention, progression or management of a disease, symptom, or other health state across the lifespan. Study with faculty experts in your specific clinical area of interest-children and families, women's health, maternal/newborn, or adult and senior health.

**Healthcare Systems** - Focuses on healthcare delivery systems in a variety of settings, organizations, populations, communities, and outcomes. Examine interrelationships among context, care delivery and information systems with the goal of improving population health, safety and quality systems. Study with faculty experts in health services research, population-based quality of life, informatics, and healthcare outcomes.

**Caring Science** - Focuses on the art and science of human caring knowledge, ethics, and clinical practice. Research the intellectual, reflective, philosophical and theoretical underpinnings of Caring Science, building on the work of Jean Watson, PhD, RN, FAAN. Study the relationships between nursing science caring theory, knowledge of the humanities and healthcare outcomes.



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## COLLEGE OF NURSING

# Post-Graduate Doctor of Nursing Practice

The post-graduate Doctor of Nursing practice program seeks talented advanced practice nurses seeking to improve healthcare delivery. The College of Nursing's Doctor of Nursing Practice (DNP) is a clinical practice-oriented leadership curriculum that focuses on evidence-based practice for the improvement of clinical care delivery, program evaluation, patient and population outcomes and health system leadership/management.

**Admit Terms:** Fall or Spring

**Modality:** The DNP program is a hybrid program with courses offered online combined with limited on-campus activities no more than two consecutive days per semester.

Applicants will choose from one of the following four tracks that match their professional and research goals:

- Advanced Practice Registered Nurse pathway prepares individuals with Master's Degrees in Nursing and a specialty certification for leadership roles in the clinical setting.
- Health Systems Leadership pathway prepares nurse leaders across the continuum of care (i.e. primary care, acute care, long-term care, school nursing, home care, etc.).
- Veteran and Military Healthcare Leadership pathway prepares nurse leaders to care for our veterans and their needs.
- The DNP-PHN is for individuals who hold a Master's Degree in Public/Community Health and desire leadership roles in the public health sector.

## Dual-Degree DNP

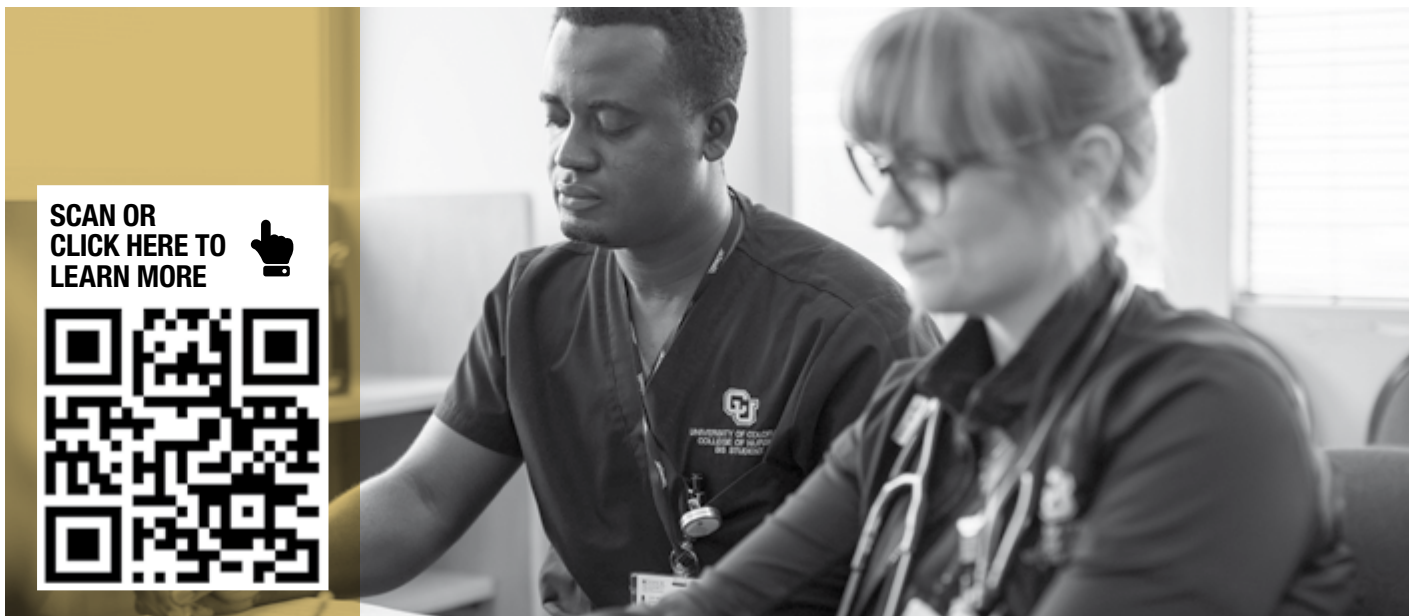
The College of Nursing is proud of its collaboration with the University of Colorado School of Public Health to offer two dual-degree options for students with a passion for public health and nursing. Individuals with a nursing masters in a specialty other than public health can earn both a master's degree in Public Health and DNP Degree with the DNP/MPH Dual Degree Program.

**Admit Term:** Fall only

**Modality:** Hybrid

## Curriculum

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# SKAGGS SCHOOL OF PHARMACY AND PHARMACEUTICAL SCIENCES



## about us

At the Skaggs School of Pharmacy and Pharmaceutical Sciences, students from around the globe learn from award-winning faculty in a world-class medical setting. Hands-on training is dynamic, interprofessional and career driven. From our entry-level PharmD program to flexible online degrees, our curriculum is innovative and agile, preparing students to be leaders in the emerging pharmacy careers of the future.

### **PharmD:**

Interprofessional and experiential, from hospitals and industry settings to clinics and pharmacies, our PharmD graduates are taking the lead by optimizing medication and improving patient care.

### **Master's Program:**

Prepares students for careers in the rapidly developing fields of Cannabis Science and Medicine, Pharmacokinetics and Pharmacodynamics, Drug Discovery, Toxicology, and Biotechnology and Drug Delivery.

### **PhD Programs:**

Ready to create the next antiviral drug or use the latest techniques in data science to make prescription drug costs more accessible? If so, one of our diverse PhD programs can help elevate your impact and career options.

### **Contact us**

[sop.communications@cuanschutz.edu](mailto:sop.communications@cuanschutz.edu)



## Rankings\*

**TOP  
15%**  
Pharmacy  
Schools

**TOP  
10%**  
in NIH funding

**91%**  
first-time NAPLEX  
pass rate

**1,300**  
rotation sites

**95%**  
grads employed  
within 6 months



## Programs

Doctor of Pharmacy (PharmD)  
Pharmaceutical Sciences (MS)  
Pharmaceutical Sciences (PhD)  
Toxicology (PhD)  
Pharmaceutical Outcomes Research (PhD)

Visit our website for  
more information



[pharmacy.cuanschutz.edu](https://pharmacy.cuanschutz.edu)

SKAGGS SCHOOL OF PHARMACY AND PHARMACEUTICAL SCIENCES

# Doctor of Pharmacy (PharmD)

The Doctor of Pharmacy (PharmD) program prepares individuals for a variety of careers within the pharmacy profession. The curriculum includes didactic, professional skills, and experiential learning opportunities starting in the first year of the program. Students are placed in community, hospital, and other innovative pharmacy practice settings and given increasing patient care responsibilities throughout the program.



## Curriculum

The University of Colorado Skaggs School of Pharmacy and Pharmaceutical Sciences has an ability-based outcome and assessment-driven curriculum. Our students' progress is continuously evaluated in mastering the 14 ability-based outcomes with the goal of developing competent pharmacists of the future.

We also offer academic opportunities above and beyond our PharmD curriculum to help students grow their careers. Dual Degree Programs, the Honors Program, and Independent Study opportunities all give students a competitive advantage as they enter the pharmacy workplace.

### How to Apply

All applications must be completed through PharmCAS. [pharmacy.cuanschutz.edu/academics/pharmd](https://pharmacy.cuanschutz.edu/academics/pharmd)

### Time for Completion

4-year program including didactic and experiential learning

### Application Deadline

June 1

### Additional Prerequisites

Students do not need a bachelor's degree to apply. Required prerequisites for fall 2023 admission: General Chemistry I & II w/lab, Organic Chemistry I & II w/lab, Biochemistry, General Biology I & II w/lab, Microbiology, Human Physiology w/lab, Calculus, English Composition, Humanities (8 credits). All prerequisites can be completed online and at community college.

### Contact Information

#### Outreach and Engagement Team

[pharmd@cuanschutz.edu](mailto:pharmd@cuanschutz.edu) | 303.724.8457

Virtual advising sessions: [bit.ly/CUPharmAdvising](https://bit.ly/CUPharmAdvising)

## SKAGGS SCHOOL OF PHARMACY AND PHARMACEUTICAL SCIENCES

# Master of Science in Pharmaceutical Sciences

Through our Master of Science in Pharmaceutical Sciences program, students will be introduced to cutting edge approaches in drug development and application and toxicology.

## Curriculum

The program prepares students for careers in the pharmaceutical industry or in the health sciences, allowing those already working in the field at the bachelor's level to update their skill set in this rapidly developing field.

Curriculum is dependent on program track:

- Cannabis Science and Medicine
- Clinical Pharmacokinetics and Pharmacodynamics
- Drug Discovery
- Molecular and Systems Toxicology
- Biotechnology and Drug Delivery

### How to Apply

Visit: [pharmacy.cuanschutz.edu/academics/masters-programs/pharmaceutical-sciences](http://pharmacy.cuanschutz.edu/academics/masters-programs/pharmaceutical-sciences)

### Time for Completion

10 credit hour core curriculum. Students can tailor training program with 20-26 credit hours of work in one of the five specialty tracks based on career interests. Specialty tracks consist of: Cannabis Science and Medicine, Pharmacokinetics and Pharmacodynamics, Drug Discovery, Molecular and Systems Toxicology, Biotechnology and Drug Delivery.

### Application Deadline

March 31

### Additional Prerequisites

- A completed Graduate School application.
- A baccalaureate degree (or equivalent) in biology, chemistry, or a related field from an accredited college or university with a minimum GPA of 3.0.
- A written statement expressing interest or demonstrated experience, if applicable, in the field of pharmaceutical sciences the applicants intended specialty track.
- Three references from persons familiar with the applicant's prior academic performance, potential, character and suitability for graduate study.

### Contact Information

Dr. David Kroll, PhD

[David.Kroll@cuanschutz.edu](mailto:David.Kroll@cuanschutz.edu) | 303.724.4626



SKAGGS SCHOOL OF PHARMACY AND PHARMACEUTICAL SCIENCES

# PhD in Pharmaceutical Sciences

At CU Pharmacy, we're training scientists who make an impact. Our doctoral program in pharmaceutical sciences is focused on solving problems.



## Curriculum

The program covers the formulation, synthesis, manufacturing, development, stability, biophysical analysis, characterization, delivery, and biodistribution of small molecules and biopharmaceutical agents.

The goal of the graduate program is to provide research training for students interested in pursuing careers in drug and bio pharmaceutical discovery, development and/or clinical optimization.

### How to Apply

Visit: [pharmacy.cuanschutz.edu/academics/phd-programs/pharmaceutical-sciences](https://pharmacy.cuanschutz.edu/academics/phd-programs/pharmaceutical-sciences)

### Time for Completion

On average, students in this program earn their PhDs in 5.5 years.

### Application Deadline

December 1

### Additional Prerequisites

An undergraduate degree in pharmacy, chemistry, biology, or chemical engineering is excellent preparation for graduate training in pharmaceutical sciences; however, no specific undergraduate major is required. All applicants for the program should have completed a year of student in the following subjects: general chemistry, organic chemistry, calculus, biology, and physics. In addition, courses in the following subjects will be highly recommended to supplement the student's background: biochemistry, statistics, cell biology, physical chemistry, computer science and immunology.

### Contact Information

Jackie Milowski  
[Jackie.Milowski@cuanschutz.edu](mailto:Jackie.Milowski@cuanschutz.edu) | 303.724.7263

Dr. Peter Anderson, PharmD  
[Peter.Anderson@cuanschutz.edu](mailto:Peter.Anderson@cuanschutz.edu) | 303.724.6128



## SKAGGS SCHOOL OF PHARMACY AND PHARMACEUTICAL SCIENCES

# PhD in Toxicology

Research opportunities for trainees cover the breadth of toxicology with major strengths in cancer and chemoprevention, oxidative stress, neurotoxicology, pulmonary toxicology, hepatotoxicology, toxicogenetics and genomics, immunotoxicology, nanotoxicology and clinical toxicology.

## Curriculum

The Toxicology graduate program focuses on the cellular and molecular mechanisms underlying the toxic effects of therapeutic agents, industrial chemicals and environmental toxicants. An integral component of this program is investigation and characterization of cellular adaptation, oxidative stress and the genetic components that underlie resistance or susceptibility to toxic agents. In addition, the Toxicology graduate program has a strong focus on systems toxicology that integrates a number of 'omics' approaches including transcriptomics and metabolomics.

### How to Apply

Visit: [pharmacy.cuanschutz.edu/academics/phd-programs/toxicology](http://pharmacy.cuanschutz.edu/academics/phd-programs/toxicology)

### Time for Completion

On average, students in the program earn their PhDs in 5.5 years.

### Application Deadline

December 1

### Additional Prerequisites

Admission requirements to the graduate program in toxicology include a Bachelor of Arts or Science degree from an accredited institution, as well as an academic record that satisfies the minimum admission requirements established by the CU Graduate School. All applicants for the program should complete a year of student in the following subjects: general chemistry, organic chemistry, calculus, biology, English, and physics. In addition, courses in the following subjects are highly recommended to supplement the student's background: physiology, biochemistry, statistics, cell biology, physical chemistry and computer science. The GRE is optional.

### Contact Information

Jackie Milowski  
[Jackie.Milowski@cuanschutz.edu](mailto:Jackie.Milowski@cuanschutz.edu) | 303.724.7263

Dr. Jared Brown, PhD  
[Jared.Brown@cuanschutz.edu](mailto:Jared.Brown@cuanschutz.edu) | 303.724.8213



SKAGGS SCHOOL OF PHARMACY AND PHARMACEUTICAL SCIENCES

# PhD in Pharmaceutical Outcomes Research

Pharmaceutical Outcomes Research is a PhD program in the graduate program in Clinical Pharmacy. This program is housed in the Center for Pharmaceutical Outcomes Research (CePOR, SEE-por), a school-wide center in the Skaggs School of Pharmacy.



## Curriculum

Core faculty are methodological experts and provide collaborative linkage to clinical experts in all pharmacy, medicine, nursing and public health. Programs of student are tailored to student interests in disease or drug areas, such as cardiology, psychiatry, neurology and cancer.

Our doctoral curriculum is designed to provide competent and highly skilled researchers in the study of patient, provider, or population-level healthcare and health system interventions. We most often focus one economic, clinical, and humanistic outcomes such as clinical or cost effectiveness or safety. Areas of focus available to students undertaking this course of study include pharmacoconomics, pharmacoepidemiology, health services research and drug policy.

### How to Apply

Visit: [pharmacy.cuanschutz.edu/academics/phd-programs/pharmaceutical-outcomes-research](http://pharmacy.cuanschutz.edu/academics/phd-programs/pharmaceutical-outcomes-research)

### Application Deadline

December 1

### Additional Prerequisites

The traditional requirements for admission to the graduate program in pharmaceutical outcomes research include:

- BA or BS from an accredited institution
- Academic Record
  - Satisfying the minimum admission requirements established by the CU Graduate School
  - Normally admission dependent on GPA of 3.0 or better
  - GPA < 3.0 may be considered individually on a provisional basis

### Contact Information

Jackie Milowski  
[Jackie.Milowski@cuanschutz.edu](mailto:Jackie.Milowski@cuanschutz.edu) | 303.724.7263

Dr. Heather Anderson, PhD  
[Heather.Anderson@cuanschutz.edu](mailto:Heather.Anderson@cuanschutz.edu) | 303.724.0683

# Preparing leaders in the emerging pharmacy careers of the future.

Visit [pharmacy.cuanschutz.edu](https://pharmacy.cuanschutz.edu) to learn more.





# SCHOOL OF DENTAL MEDICINE



## about us

The University of Colorado School of Dental Medicine is nationally recognized for the quality of its educational programs, its interdisciplinary research and its excellent clinical care programs that contribute to the health and well-being of many of Colorado's most underserved residents.

Situated in the heart of the Rocky Mountain West, the School of Dental Medicine is located at the growing University of Colorado Anschutz Medical Campus in Aurora, CO.

As a vibrant member of the campus and the local community, the School of Dental Medicine educates more than 400 students, receives about \$5 million in external research funding

and provides over 80,000 clinical visits each year both on the CU Anschutz Medical Campus and across the state of Colorado.

Initiatives to expand the reach of the school's educational and clinical programs are helping to bring healthier, brighter smiles to communities across Colorado and around the world. With our expansion comes new opportunities to connect with the school as a potential student, volunteer, or other valued member of our community.

### Contact us

[ddsadmissioninquiries@ucdenver.edu](mailto:ddsadmissioninquiries@ucdenver.edu)



## Quick Facts:

**80K+**

patients seen  
each year

**8**

dental clinics

**TOP  
10**

Dental school in  
NIDCR funding

**6:1**

student to  
faculty ratio

**38**

languages spoken  
by students &  
faculty



## Programs

Doctor of Dental Surgery (DDS)  
Advanced Standing International Student Program (ISP)  
General Practice Residency (GPR)  
Orthodontics Graduate Program  
Periodontics Graduate Program

Visit our website for  
more information



[dental.cuanschutz.edu](https://dental.cuanschutz.edu)

SCHOOL OF DENTAL MEDICINE

# Doctor of Dental Surgery (DDS)

For more than 40 years, CU Dental has been educating competent and compassionate dentists through quality educational experiences personalized for each of our successful graduates. Through combining classroom and clinical training, students master the skills required to deliver comprehensive dental care and become leaders in their field.

## Curriculum

**Year 1 |** First-year courses focus on the basic sciences and the integration of this knowledge with the practice of dentistry. Students are introduced to dental care and begin to develop their hand skills by taking simulation lab courses in both direct and indirect restorative procedures.

**Year 2 |** The primary focus of second year courses is to guide students in the transition from pre-clinical courses to clinical care and begin to see their first patients for periodontal appointments. Students will refine their hand skills, learn the particulars of clinical care, and take courses on treatment planning and managing a student practice.

**Year 3 |** In year three, students are developing and practicing clinical dentistry, with an emphasis on comprehensive patient care. Additionally, all students participate in a rotation in pediatric dentistry at the Healthy Smiles Clinic at Children's Hospital Colorado.

**Year 4 |** Students continue to focus their curricular time on Comprehensive Care of Patients. All students will participate in the Advanced Clinical Training and Service (ACTS) program and provide quality dental care to underserved communities in 30 clinics across the state. At the end of their fourth year, students are fully prepared to take regional or state examinations to obtain dental licensure.

### Program Duration

4 years

### Application Deadline

October 15

### Prerequisites

- Completion of 90 semester hours of academic coursework; a bachelor's degree is strongly encouraged.
- Completion of the Dental Admissions Test (DAT).
- 50 hours of direct shadowing of a dentist in a patient-care setting.



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## SCHOOL OF DENTAL MEDICINE

# Advanced Standing International Student Program (ISP)

The Advanced Standing International Student Program (ISP) offers dentists who earned a bachelor's degree in dentistry outside of the United States the opportunity to earn a Doctor of Dental Surgery (DDS) degree. Graduates of this two-year, accelerated DDS program may take any state or regional board, and thus are eligible for licensure to practice in the US.



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## Curriculum

**Year 1** | Students take some courses with their ISP cohort and other courses with the traditional dental students. The first semester and part of the second semester are spent in fast-paced and intensive pre-clinical courses, both didactic and simulated labs. ISP students begin their first patient experience during the 3rd month of school in the Periodontics Clinic and Transition Clinic. All students take a course in communication and behavior change to enhance their understanding and practice of patient interactions and expectations in North American dental settings.

**Year 2** | During the second year, students continue to practice comprehensive patient care. They also begin preparing for state or regional board examinations. Depending on where the student will practice after graduation will dictate when and where the tests take place. Special activities are held for preparation for state licensure.

### Program Duration

2 years

### Application Deadline

February

### Prerequisites

- Dental degree from an international dental program accredited by the respective country.
- Pass Parts I and 2 of the National Dental Board Exam OR the Integrated National Board Dental Exam (INBDE).
- TOEFL Score of 94 or better.



SCHOOL OF DENTAL MEDICINE

# General Practice Residency (GPR)

The General Practice Residency (GPR) program at the CU School of Dental Medicine is an intensive 12-month postgraduate program dedicated to enhancing a resident's experience and confidence with providing care to the general public and to medically complex and special needs patients in both an outpatient and hospital setting. The program accepts six first-year residents each year, with an optional second year position.



## Curriculum

GPR rotations are spent at various locations at the CU Anschutz Medical Campus and in the community. Rotations cover a broad spectrum of dental specialties, and residents perform complex dental procedures in endodontics, periodontics, oral surgery, and fixed, removable, implant prosthodontics and train in iv sedation.

### Program Duration

1 year

### Application Deadline

October 1

### Prerequisites

- Must be a DDS or DMD graduate of a CODA-accredited dental school in the United States or Canada.
- Must pass the National Board Dental Examinations (NBDE) Part I to apply. Part II must be completed before enrollment into the program.

### Compensation

GPR Residents earn an annual salary as well as medical, dental, vision, life, and disability insurance; professional liability coverage; a campus parking permit, paid leave and other benefits.



## SCHOOL OF DENTAL MEDICINE

# Orthodontics Graduate Program

Established in 2004, the Graduate Orthodontics Program is a full-time program requiring 30 months of active residency beginning in August each year. The Orthodontics program provides a balanced education with a strong emphasis on clinical experience where students are exposed to the most current techniques and practices in the field. The program accepts 12 residents each year from a variety of backgrounds and life experiences.



## Curriculum

Residents will spend approximately 50% of the first year in didactics and 50% in clinical care with an anticipated minimum of 40 patients. The remainder of the program shifts to 25% of residents' time in didactics and 75% with clinical activities, teaching and research. Clinical emphasis is placed on the use of contemporary edgewise appliances in conjunction with functional and other orthopedic appliances to treat children, adolescents and adults using both routine orthodontics and orthognathic surgery. Participation with craniofacial anomaly patients and boards is required.

### Program Duration

30 months

### Application Deadline

August 1

### Prerequisites

- Graduate from an ADA accredited dental school in the United States or Canada with a DDS or DMD degree.
- Pass the National Board Dental Examinations (NBDE) Part I. Applicant must pass the NBDE Part II before enrollment into the program.

SCHOOL OF DENTAL MEDICINE

# Periodontics Graduate Program

The Graduate Periodontics Program is a 36-month residency designed to provide postdoctoral students with advanced training in periodontics and implants. Upon successful completion of the program, the resident is awarded a Certificate in Periodontics and is eligible to take the American Board of Periodontology examination. A Master of Science in Dentistry degree is a requirement of the program, and residents are prepared to defend a Master's Thesis.



## Curriculum

The primary objective of the Periodontics Residency Program is to produce outstanding clinical periodontists who engage in a broad scope of periodontal procedures and who can engage in research, teaching and leadership activities. We hope to produce the most well-trained clinical periodontists coming out of residency programs in the U.S., so that they can offer the highest quality of care to their patients, provide for their families, and give back to the community and the profession. Over the course of 36 months, residents' time is allocated in the following manner:

- Clinical – 62%
- Didactic – 34%
- Research – 3%
- Teaching – 1%

## Program Duration

36 months

## Application Deadline

July 15

## Prerequisites

- Graduate Record Examination (GRE) scores: Required for all applicants who graduated from a dental school not accredited by the Commission on Dental Accreditation or schools that do not rank or provide grades.
- Test of English as a Foreign Language (TOEFL) scores: Required for international applicants.
- Permanent Resident Green Card: If an applicant is now a permanent resident of the United States, the applicant must provide their full, legal name as it appears on immigration documents and a certified copy of the front and back of their federal Green Card.

**Visit [pharmacy.cuanschutz.edu](https://pharmacy.cuanschutz.edu) to learn more.**





# COLORADO SCHOOL OF PUBLIC HEALTH



## about us

### One school, three universities, endless possibilities.

The Colorado School of Public Health is one of the only tri-institutional public health schools in the country. We leverage the power of three leading institutions—the University of Colorado Anschutz Medical Campus, Colorado State University, and the University of Northern Colorado—to advance public health locally, nationally and globally. Each of our three universities offers different programs and cultures.

### Choose your adventure. Change the world, your way.

As an accredited school of public health in the Rocky Mountain region, we take a trailblazing approach to the science and art of public health. We believe in blending research and practice, using what we're learning and applying it in the real world, in real time to improve health. We know that to tackle big issues—like health disparities and climate change—we have to get creative and collaborative.

colorado school of  
public health

UNIVERSITY OF COLORADO  
COLORADO STATE UNIVERSITY  
UNIVERSITY OF NORTHERN COLORADO

### Contact us

[coloradosph.admissions@cuanschutz.edu](mailto:coloradosph.admissions@cuanschutz.edu)



## Rankings\*

**#19**

Public Health  
Schools

**#26**

Biostatistics  
(PhD)

## Quick Facts:

**98%**

of alums are  
employed one year  
after graduation

**5:1**

student to  
faculty ratio

**170+**

courses  
offered



## Programs

Master of Public Health (MPH)  
Master of Science (MS)  
Doctor of Public Health (DrPH)  
Doctor of Philosophy (PhD)  
Dual Degrees  
Residencies and Fellowships  
Certificates

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[coloradosph.cuanschutz.edu](https://coloradosph.cuanschutz.edu)

COLORADO SCHOOL OF PUBLIC HEALTH

# Master of Public Health (MPH)

You can earn your MPH degree at any of our three collaborating institutions—the CU Anschutz Medical Campus, Colorado State University (CSU), or the University of Northern Colorado (UNC). Each university offers different areas of study that leverage the unique strengths of that university. All three of our campuses are home to world-class experts and offer opportunities to gain hands-on experience in the field of public health.

The 42-45 credit hour MPH program is designed to be completed in two years and must be finished within five years. As part of your degree, you'll complete a practicum and capstone project, so you'll graduate with skills you learned by doing, not just sitting in a classroom.

In addition to becoming an expert in your concentration, you'll develop a deep understanding of public health as a field. Our curriculum provides all students with a foundational understanding of the five core disciplines of public health with extensive practice-based learning opportunities.



## Concentrations

Concentration	Location
Animals, People & the Environment	CSU
Applied Biostatistics*	CU Anschutz
Community & Behavioral Health*	CU Anschutz
Community Health Education**	UNC
Environmental & Occupational Health*	CU Anschutz
Epidemiology	CSU
Epidemiology*	CU Anschutz
Global Health & Health Disparities	CSU
Health Communication	CSU
Health Systems, Management & Policy*	CU Anschutz
Leadership & Public Health Practice	Online
Maternal & Child Health*	CU Anschutz
Physical Activity & Healthy Lifestyles	CSU
Population Mental Health & Wellbeing	Online or CU Anschutz
Public Health Nutrition	CSU

\*Option to add an emphasis in global health.

\*\*Evening program; option to add an emphasis in global health.

### Application Deadline

Preferred Deadline: January 15  
Final Deadline: May 1

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## COLORADO SCHOOL OF PUBLIC HEALTH

# Master of Science (MS)

We offer MS degrees at our CU Anschutz location, a leading health sciences campus. The MS program focuses on diving deeply into the science of your chosen area of public health.

This 36-43 credit hour program is designed to be completed in two to three years. As part of your degree, you'll complete a thesis and get practical experience with scientific thinking that can help propel your career.

## Application Deadline

December 1

## Concentrations

Concentration	Location
Biostatistics	CU Anschutz
Epidemiology	CU Anschutz
Health Services Research	CU Anschutz



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COLORADO SCHOOL OF PUBLIC HEALTH

# Doctor of Public Health (DrPH)

The DrPH program is a 55-credit hour professional doctoral-level program designed to develop public health leaders: researchers, policy-makers, and practitioners who are able to address complex public health issues. As a DrPH student, you'll combine sophisticated analytic and research skills with a broad understanding of the environmental, political, social, medical, ethical and economic factors that contribute to health and well-being.

Our students are trained in leadership, management, and advocacy. As part of the DrPH program, you'll develop strong research and practice skills in a main focus area of public health, as well as minor in a secondary area of expertise.

### Application Deadline

December 1

Concentrations

Concentration	Location
Community & Behavioral Health	CU Anschutz
Environmental & Occupational Health	CU Anschutz
Epidemiology	CU Anschutz



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## COLORADO SCHOOL OF PUBLIC HEALTH

# Doctor of Philosophy (PhD)

We offer advanced research and training opportunities to future public health scientists through our PhD program. While you're in the program, you'll work directly with a faculty research mentor to learning about research processes and methods that can help you answer your public health questions. When you graduate, you'll be ready for the next step in your career as an independent scientist.

The Doctor of Philosophy is a 68-79 credit hour degree program that typically takes five to seven years to complete. If accepted into our PhD program, you may receive tuition assistance and a stipend, depending on your concentration and availability of funds.

## Application Deadline

December 1

## Concentrations

Concentration	Location
Biostatistics	CU Anschutz
Epidemiology	CU Anschutz
Health Services Research	CU Anschutz



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COLORADO SCHOOL OF PUBLIC HEALTH

# Dual degrees

If you're looking to complete two degrees at once and gain the skills you need to work in an interdisciplinary way, a dual degree may be the right fit for you. Since public health interacts with many other professions, joining a dual degree program is a perfect opportunity to learn the breadth of public health in combination with another discipline that you're passionate about.

We offer Master of Public Health programs in collaboration with other University of Colorado (CU), Colorado State University (CSU), and University of Denver (DU) programs. Admissions requirements vary by degree, so please be sure to review the admissions information for both programs before applying.

### Application Deadline

Varies by program.



## Programs

Program	Location
Bachelor of Science & MPH	CSU
Doctor of Dental Surgery & MPH	CU Anschutz
Doctor of Medicine & MPH	CU Anschutz
Doctor of Nursing Practice & MPH	CU Anschutz
Doctor of Pharmacy & MPH	CU Anschutz
Doctor of Veterinary Medicine & MPH	CSU
Master of Public Administration & MPH	CU Denver & CU Anschutz
Master of Social Work & MPH	CSU
Master of Social Work & MPH	DU & CU Anschutz
Master of Urban Planning & MPH	CU Denver & CU Anschutz

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## COLORADO SCHOOL OF PUBLIC HEALTH

# Residencies & Fellowships

We offer two accredited residency programs at the CU Anschutz Medical Campus—the Preventive Medicine Residency and the Occupational & Environmental Medicine Residency. We also offer a one-year fellowship program in occupational and environmental medicine.

Residents can pursue an MPH degree as part of their medical training or select the practicum-only track if they already have an MPH or an equivalent degree. Residents from both specialties must complete practical rotations and coursework leading to the MPH degree to be eligible to take board certification exams.

## Application Deadline

Occupational & Environmental Medicine Residency:  
November 1

Occupational & Environmental Medicine Fellowship:  
November 1

Preventive Medicine Residency: December 15

Program	Location
Occupational & Environmental Medicine Fellowship	CU Anschutz
Occupational & Environmental Medicine Residency	CU Anschutz
Preventive Medicine Residency	CU Anschutz

## Programs





COLORADO SCHOOL OF PUBLIC HEALTH

# Certificates

Joining a certificate program is a great way to invest in your professional development. We offer several certificate programs, each of which provides different experiences and opportunities to develop specialized skills. Our certificates are designed for both working professionals and current Colorado School of Public Health students looking to gain expertise in a specific area of public health.



## Programs

Program	Location
American Indian & Alaska Native Health	Online
Applied Biostatistics	CU Anschutz
Global Public Health	CU Anschutz
Health Analytics & Data Science	CU Anschutz
Latino Health	CU Anschutz
Maternal & Child Health	Online
Population Mental Health & Wellbeing	CU Anschutz
Climate & Disaster Resilience	Online or CU Anschutz
Public Health Sciences	CU Anschutz, CSU, or UNC
Rural Public Health	UNC
Total Worker Health®	Online

### Application Deadline

February 15 (summer start)  
October 15 (spring start)

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# GRADUATE SCHOOL



## about us

The Graduate School at the University of Colorado Anschutz Medical Campus oversees, facilitates and enhances graduate education, while encouraging excellence in research, creative and scholarly work. We administer master's degrees, doctoral degrees, graduate certificates and non-degree options in a wide variety of disciplines, and offer resources and support for prospective graduate students, current graduate students, postdoctoral fellows, and faculty.

The pursuit of a graduate degree is a commitment to personal development and contributes to the foundation for future success. Our students graduate with skills they will use in

exciting and challenging professions that expand the frontiers of science, healthcare, technology, commerce and education for our society as a whole. Our faculty are teacher-scholars who consciously blur the boundaries between research and teaching. They incorporate their highest-quality work in the classroom and through direct hands-on training.

### Contact us

[graduate.school@ucdenver.edu](mailto:graduate.school@ucdenver.edu)



### Community Outreach

Students, postdocs, faculty and staff embrace opportunities to engage with our surrounding community in Denver and Aurora. Through public Mini-Schools, mentoring, tutoring, demonstrations, information sessions and public service, we strive to provide quality and enriching outreach opportunities.

### Scholarship and Awards

We sponsor academic awards, service awards, internships, travel and networking opportunities that enable students to thrive beyond the classroom.

### Career Development

The CU Anschutz Career Development Office offers a program to help you identify your unique career goals and gain skills that will contribute to your success in any career.

### National Recognition

CU Anschutz was selected as one of 17 universities nationwide for the NIH Broadening Experiences in Scientific Training award, which allows us to offer robust professional training opportunities.



## Programs

Biomedical Sciences and Biotechnology (MS)  
 Clinical Science (MSCS)  
 Clinical Science (PhD)  
 Genetic Counseling (MS)  
 Modern Human Anatomy (MS)  
 Palliative Care (MS)  
 Graduate Certificates

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[graduateschool.cuanschutz.edu](https://graduateschool.cuanschutz.edu)

GRADUATE SCHOOL

# Biomedical Sciences and Biotechnology MS Program

The Biomedical Sciences and Biotechnology (BSBT) Master's Program includes three tracks: the general track (BSBT-GEN) is recognized as a Professional Science Master's Program (PSM), and two traditional, research-focused tracks in Microbiology and Immunology and Structural Biology and Biochemistry.



## Curriculum

BSBT is an interdisciplinary dual-campus Graduate Program and multi-college partnership with the School of Medicine and School of Pharmacy at CU Anschutz, and the College of Liberal Arts and Sciences and the Business School at CU Denver. The BSBT-GEN provides broad training in the biomedical sciences and introduction to regulations, intellectual property, entrepreneurship, and other disciplines that benefit those entering the biotechnology workforce. As a capstone for graduation, BSBT-GEN requires an Internship in academia or industry where students can pursue research or engage in projects related to regulatory or business affairs in biotechnology.

Beyond the required courses, students may select electives from a variety of disciplines and may earn graduate certificates concurrently with their master's—thus tailoring their training based on their career aspirations. Popular certificates include Biomedical Data Science (BMDS) or Research Management and Compliance (ReMC).

Program Alumni have obtained employment in industry and academia or have entered DO/Medical School or moved on to PhD programs.

For BSBT program inquiries, call us at 303-724-5878 or email us at [biotech.masters@ucdenver.edu](mailto:biotech.masters@ucdenver.edu).

### Time for Completion

The required 38 credits may be completed in 2 years for full-time students. Part-time enrollment is offered.

### Application Deadline

Spring (BSBT-GEN only): September 1 (international), October 1 (domestic)

Fall: March 15 (domestic and international)

### Additional Prerequisites

- Bachelor's degree from an accredited institution with a minimum 3.0 GPA.
- Prior training in Biochemistry, Molecular Biology, Cell Biology and Genetics.
- For the research-focused tracks, prior research experience is recommended.

### Cost

In-state: \$606/credit (22/23)

Out-of-state: \$1,434/credit (22/23)

BSBT is a WRGP. Residents of western states qualify for in-state tuition.



## GRADUATE SCHOOL

# Clinical Science MSCS

The Clinical Science Master's program provides learning in the clinical and translational research and science fields and acquisition of skills to design and conduct effective and efficient clinical and translational research.

## Curriculum

The goal of the Clinical Science graduate programs is to train nationally competitive clinician/clinical translational scientists by providing a formal and structured educational program in the clinical and translational sciences through didactic coursework, formal mentoring with interdisciplinary faculty, and completion of a research project that is publishable. Graduates are trained to conduct rigorous, credible and relevant patient-based research within stringent ethical and regulatory guidelines, and translate the evidence for community application.

Students complete didactic course work and a mentored research project aimed to provide a strong foundation in:

- Critical appraisal skills of clinical and translational research
- Clinical research study design
- Computational and statistical tools
- Clinical epidemiology
- Health services and outcomes research
- Biomedical ethics
- Scientific communication (oral and written)
- Team-oriented research

### Time for Completion

Completion of the Clinical Science MSCS requires a minimum of 30 credit hours (4-6 thesis/research hours, 16 core course credits, and 8-10 elective course credits) and defense/final exam of a thesis or publishable paper. The MSCS degree is designed to be completed in 5 terms but can be completed in as few as 3 terms (1 year).

### Application Deadline

February 1 (summer or fall), May 1st (fall), October 1 (spring)

### Additional Prerequisites

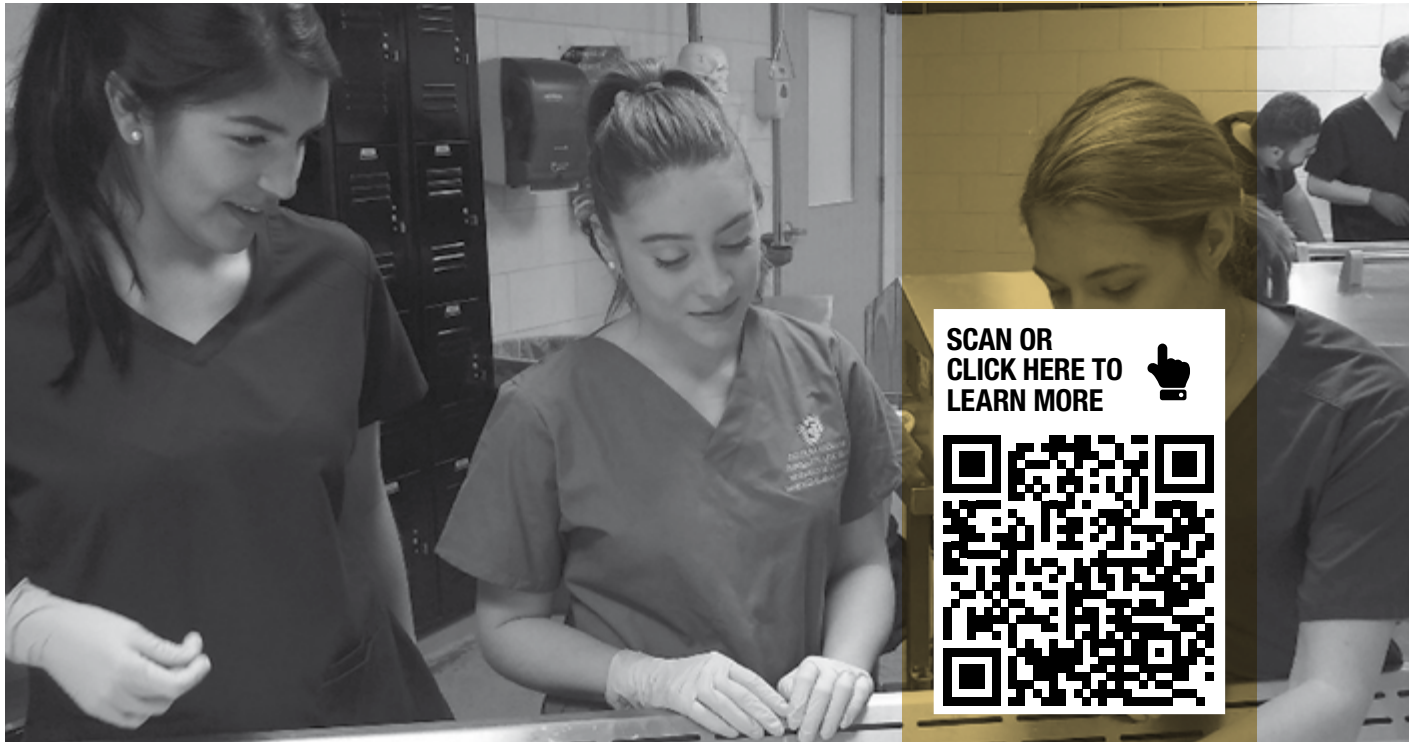
Qualified clinicians who have already earned either a professional doctoral degree (e.g., MD, DO, DDS, PharmD) or a clinically-related bachelor's or master's degree (e.g., nursing, pharmacy, physical therapy) are eligible to apply to this program. Non-clinicians that have clinical research experience may also be appropriate for the program. Contact the program to discuss the appropriateness of fit.



GRADUATE SCHOOL

# Clinical Science PhD

The overall goal of Clinical Science (CLSC) doctoral training program is to prepare nationally competitive clinician/clinical scientists who are able to translate across the discovery-community continuum.



## Curriculum

Students in our program are highly motivated and bright individuals who seek additional rigorous training to become leaders in their field and make significant contributions to improving the health of citizens.

For doctoral students, there is a selected emphasis of study in one of the following three areas: Clinical Investigation (CI), Health Information Technology (HIT), or Health Services Research (HSR). These three specialized areas of clinical science are important areas of study for translational research activities in the evolving healthcare environment.

The PhD program consists of successful completion of: didactic coursework, a Preliminary Examination, a Comprehensive Examination, and completion and defense of a thesis dissertation.

### Time for Completion

Completion of the Clinical Science PhD requires a minimum of 30 credit hours of coursework and at least 30 credit hours of thesis research. The average time to degree is 5 years.

### Application Deadline

February 1 (summer or fall).

### Additional Prerequisites

- Clinicians that have earned their terminal degree (eg. MD, DPT, DO, PharmD, DPN, MN, MSN) or
- Previous clinical research experience
- Applicants are advised to contact the program before applying to discuss fit of program

## GRADUATE SCHOOL

# Genetic Counseling (MS) Program

Founded in 1971, the Genetic Counseling program trains competent, compassionate and innovative graduates who will effectively integrate professional practice and human genomics to deliver quality, client-centered genetic counseling services, promote informed health policy, and engage in scholarship, advocacy and leadership activities throughout their careers.

## Curriculum

Training addresses the complex individual, family and societal impact of advances in human genomics. Students learn to effectively assist patients, healthcare providers and the public to understand and appropriately utilize genetic information and testing to promote individualized and informed healthcare choices and wellbeing. The program is fully accredited by the Accreditation Council for Genetic Counseling (ACGC) for the training of master's level genetic counselors.

Coursework during years one and two includes: principles of human/clinical genetics and genomics, cytogenetics, molecular genetics, biochemical/metabolic genetics, cancer genetics, risk calculation; psychosocial, interviewing and counseling theories and techniques; and ethical, legal, social and professional issues in genetic counseling practice. Students must complete a Capstone scholarly project as well as pass a written and oral comprehensive examination in year two of the program. All students participate in clinical case conferences, genetics seminars, journal club and clinical research activities.

### Time for Completion

The program requires 47 credits for graduation which can be completed in 21 months (5 semesters) of graduate study leading to the Master of Science (M.S.) degree.

### Application Deadline

January 1 (fall). All applicants must submit a graduate application and supporting documents, and register for the Genetic Counseling Admissions Match via the NMS website: [natmatch.com/gcadmissions](http://natmatch.com/gcadmissions).

### Additional Prerequisites

- Completion of a bachelor's degree from an accredited institution with a minimum 3.0 GPA.
- Completion of courses in Biology, Inorganic Chemistry, Biochemistry, Genetics, Psychology
- Experience in counseling/advocacy and laboratory settings, and a strong understanding of the genetic counseling field, are highly recommended.

### Cost

Resident students: \$733 per credit, Non-resident students: \$1,390 per credit (2022-23). Qualifying non-resident students may apply for resident status for year 2 of the program.

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## GRADUATE SCHOOL

# Modern Human Anatomy Program

The Master of Science in Modern Human Anatomy (MHA) provides graduate level training and teaching experience in the physical and virtual anatomical sciences through human cadaver dissection, neuroanatomy, histology, and embryology; all addressed from a modern perspective stressing quantitative imaging, modeling, informatics and clinical applications.

The curriculum is translational in integrating computer and engineering technologies into the domains of anatomy and developmental biology through a project-oriented curriculum.

**Certificate in Anatomical Sciences Education** provides students with the pedagogical foundations, mentoring, and practice necessary to become effective educators in the anatomical sciences.

**Anatomical Imaging and Modeling (AIM) Track** weaves traditional teachings in anatomical sciences with cutting-edge, 3D technology, such as 3D printing, animation, virtual/augmented reality and gaming through AIM specific coursework, mentorship, project-based learning and teaching opportunities.

## Admissions requirements/prerequisites

Applications open September 1 for matriculation in the following fall. MHA features two admissions deadlines, March 1st and May 1st.

- Online application
- Application fee (\$50 domestic, \$75 international)
- One (1) Official Transcript
- Letters of Recommendation
- ELP test scores (international students, if applicable)

Apply at [graduateschool.cuanschutz.edu/admissions/apply](https://graduateschool.cuanschutz.edu/admissions/apply)

## Timeline

**Applications open:** September 1

**Early Admission Deadline:** November 1

**Application deadlines:** March 1st and May 1st

**Applicant Interviews:** April (following March 1st deadline) and May (following May 1st deadline)

**Fall start date:** August

The average time to complete the M.S. degree is 22 months

## Contact Information

General and Admissions Information:

[jennifer.thurston@cuanschutz.edu](mailto:jennifer.thurston@cuanschutz.edu)

## Curriculum





## GRADUATE SCHOOL

# Palliative Care (MS)

The University of Colorado's Interprofessional Graduate Palliative Care Certificate and Master of Science in Palliative Care (MSPC) prepares providers—physicians, nurses (including BSN and advanced practice nurses), physician assistants, pharmacists, social workers, spiritual care providers, psychologists, therapists, counselors and ethicists—to be Palliative Care (PC) Community Specialists.



## Curriculum

PC Community Specialists provide high quality palliative consultation and care to patients and families in their own communities, giving them the choice of treatment outside an academic tertiary medical center. Additionally, PC Community Specialists, representing secondary palliative care, are linked to tertiary care experts through this comprehensive educational program. PC Community Specialists bridge a network of services to better support the needs of patients and family caregivers across the continuum of illness and care settings.

Coursework includes core concepts of palliative care, spiritual, psychosocial, ethical challenges, symptom assessment and management, communication skills, and other topics. Those students pursuing the master's degree in palliative care, also complete a Capstone scholarly project.

### Time for Completion

To fulfill the requirements for the Palliative Care Interprofessional Graduate Certificate, students must complete the first four courses (12 credit hours). The Master of Science in Palliative Care requires the completion of 33 credit hours over a minimum of 2 years but not to exceed 7 years.

### Additional Prerequisites

Completion of a bachelor's degree from an accredited institution with a minimum 3.0 GPA.

### Cost

Resident students: \$725 per credit, Non-resident students: \$1,059 per credit. The Palliative Care program participates in WRGP. Residents of western states qualify for in-state tuition.

### Application Deadline

May 1 (domestic, MS), June 1 (domestic, certificate), April 2 (international, MS and certificate).



University of Colorado  
Anschutz Medical Campus

13001 E. 17th Place  
Aurora, Colorado 80045  
303-724-5000

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Campus

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Full course catalog can be found at **[catalog.cuanschutz.edu](http://catalog.cuanschutz.edu)**