

# TRANSLATIONAL RESEARCH ON ALZHEIMER'S DISEASE (CERTIFICATE)

## Overview

The graduate certificate program in Translational Research on Alzheimer's Disease and Alzheimer's Disease Related Dementias can be completed in one year or over a maximum of three years. The extended time will be especially valuable for doctoral student and postdoctoral trainees who are actively involved in the research enterprise and might not have the flexibility to engage in more than one course in a semester.

The Program is designed to provide students with focused training related to central issues and techniques in Translational Research on Alzheimer's Disease and Alzheimer's Disease Related Dementias. To this end, the Program requires the successful completion of six courses for a total of 12 credits. The Graduate Certificate will facilitate a solid understanding of a wide variety of translational research on Alzheimer's Disease and Alzheimer's Disease Related Dementias (AD/ADRD), including neuropsychological and neuropathological disease features, genetic risk factors, biomarkers and brain imaging tools, biocomputational analyses as well as therapeutic approaches and clinical trial designs.

## Admissions

To apply for admission applicants must submit the following:

- Online Graduate School application
  - Personal Statement: A one-page personal statement describing the applicant's career goals and purpose for studying Translational Research on Alzheimer's Disease.
  - Resume: The applicant's current resume or curriculum vitae, including professional work/practice since graduating with a bachelor's degree (or equivalent).
  - Application Fee: A nonrefundable application fee of \$50.00 (U.S. dollars). Checks or money orders should be made out to the University of Colorado.
- Transcripts: Unofficial transcripts from all post-secondary colleges and/or universities should be sent directly to:
  - Electronic Transcripts should be sent to: [graduate.school@cuanschutz.edu](mailto:graduate.school@cuanschutz.edu) (preferred)
  - If sending a physical transcript, please mail to:

University of Colorado Anschutz Medical Campus  
Graduate School  
Mail Stop C296  
Fitzsimons Building, W5107  
13001 E. 17th Place  
Aurora, CO 80045

International students must meet ALL of the requirements above and those required by International Admissions.

## Certificate Requirements

Code	Title	Hours
TRAD 6210	Translational Research - Alzheimer's Disease/ Dementias	4

TRAD 6211	Research/Development in Alzheimer's Disease/ Dementias	1
TRAD 6212	Mini-Rotations AD/ADRD Translational Research	1
BSBT 6112	Introduction to Biocomputing	2
BSBT 6113	Data Science with R	1
PMED 6210	Multi-Omic Approaches in Personalized Medicine	3
<b>Total Hours</b>		<b>12</b>

## Learning Objectives

Upon completion of the Graduate Certificate Program, students will be able to

1. Apply principles of experimental design and problem solving related to Translational Research on Alzheimer's Disease and Alzheimer's Disease Related Dementias
2. Employ basic tools of biocomputing and multi omics analysis with respect to problems in Translational Research on Alzheimer's Disease and Alzheimer's Disease Related Dementias
3. Compare and contrast the specific differences and opportunities in academic versus industrial research related to Translational Research on Alzheimer's Disease and Alzheimer's Disease Related Dementias.

TRAD 6210 - Translational Research - Alzheimer's Disease/Dementias (4 Credits)

The course will facilitate a solid understanding of translational research in Alzheimer's Disease and Alzheimer's Disease Related Dementias, including neuropsychological and neuropathological disease features, genetic risk factors, biomarkers and brain imaging tools, statistical analyses, therapeutical approaches and clinical trial design.

Grading Basis: Letter Grade

Typically Offered: Fall, Spring.

TRAD 6211 - Research/Development in Alzheimer's Disease/  
Dementias (1 Credit)

The course will discuss with industrial experts a wide variety of issues in connection with research and developments on Alzheimer's Disease and Alzheimer's Disease Related Dementias in an industrial setting.

Grading Basis: Letter Grade

Typically Offered: Fall, Spring.

TRAD 6212 - Mini-Rotations AD/ADRD Translational Research (1 Credit)

The course will facilitate short three week mini-rotations in facilities that conduct translational research connected with Alzheimer's Disease or Alzheimer's Disease Related Dementias in academic or industrial settings.

Grading Basis: Letter Grade

Typically Offered: Fall, Spring.

BSBT 6112 - Introduction to Biocomputing (2 Credits)

This course provides students with hands on experience in basic computation, database, and programming skills set as a pre-requisite for a higher level data analysis course. The students will use example in the context of biomedical and genomic dataset. Requisite: Must be simultaneously enrolled in BSBT 6113.

Grading Basis: Letter Grade

Typically Offered: Fall.

**BSBT 6113 - Data Science with R (1 Credit)**

In this 4 weeks semi-independent study course, you will learn how to use the “tidyverse” programming paradigm to perform data science operation using the programming language R. At the end of the course, you will learn the basic understanding of the fundamental elements of data science, including; wrangling, exploration, visualization and modeling.

Grading Basis: Letter Grade

Typically Offered: Fall.

**PMED 6210 - Multi-Omic Approaches in Personalized Medicine (3 Credits)**

PMED6210 introduces students to cutting-edge concepts, technologies, analytic methods, and databases for a wide-range of ‘omics approaches that form the foundation of personalized medicine. Critical evaluation of literature utilizing ‘omics methods for personalized medicine will also be emphasized. Requisite: PMED 6010.

Grading Basis: Letter Grade

A-GRAD Restricted to graduate students only.

Typically Offered: Spring.

## Policies

Please refer to the Graduate School Policies page (<http://catalog.ucdenver.edu/cu-anschutz/schools-colleges-programs/graduate-school/#policiestext>).

## Contact Us

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