

# NEURAL ENGINEERING GRADUATE CERTIFICATE

engineering.ucdenver.edu/bioengineering/certificate-programs/neural-engineering).

## Introduction

The Certificate in Neural Engineering will provide students with focused knowledge in this growing sub-discipline of biomedical engineering, with a focus on use of engineering techniques to understand, repair, replace, or enhance neural systems. The certificate will provide students with an in depth introduction to cellular and systems neuroscience, neural interfaces, neuroimaging, and neurocomputation. Learning goals are designed to prepare students to work in industry or academia in this fast-paced and growing field. Instruction will be provided under experienced world-class faculty to gain expertise in current state-of-the-art technologies. The certificate has elective course options to allow the student to develop a deeper understanding of a particular focus area within neural engineering.

## Admissions

The certificate is twelve credit hours and is open to all graduate students in Engineering or Neuroscience at University of Colorado Denver and CU Anschutz.

## Certificate Requirements

Complete the following courses:

Code	Title	Hours
BIOE 5073	Neural Interfaces and Bionic Limbs (Spring Only)	3
NRSC 7610	Fundamentals of Neurobiology (Spring Only) <sup>1</sup>	3
<i>Technology elective (Choose 1):</i>		3
BIOE 5053	Optics & Microscopy in Biomedical Research	3
BIOE 5039	Mechatronics and Embedded Systems	3
BIOE 5068	Introduction to Medical Imaging	3
BIOE 5064	Advanced MatLab For Bioengineers And Life Scientists	3
BIOE 5100	Image Processing for BIOEs	3
ELEC 5375	Engineering Neuroscience	3
CSCI 5931	Deep Learning	3
<i>Neuroscience elective (3 credits needed)</i>		3
NRSC 7600	Cellular & Molecular Biology	3
NRSC 7615	Developmental Neurobiology	3
NRSC 7612	Nervous System Modeling with NEURON	1
NRSC 7657	Workshop in Advanced Programming for Neuroscientists	1
NRSC 7617	The Biophysics of Ion Channels	1
NRSC 7614	Biological Basis of Psychiatric & Neurological Disorders	2
NRSC 7618	Biology of the Eye	1
TXCL 7751	Neurotoxicology	2

<sup>1</sup> This course has different start/end dates from the CU Denver academic calendar.

For additional information about the certificate and to review the Certificate Program Application form, please visit our website (<https://>