**College of Engineering, Design, and Computing: MS Bioengineering Program Sheet**

**Neural Engineering Certificate**

The Certificate in Neural Engineering requires 12 credit hours of coursework.

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| **Core (6 credits)** | | | |
| Course ID and Title | Semester Taken | Grade | Credits Earned |
| BIOE 5073 – Neural Interfaces and Bionic Limbs (Spring Only) |  |  |  |
| NRSC 7610 – Fundamentals of Neurobiology (Spring Only – note that this course has different start/end dates from the CU Denver academic calendar) |  |  |  |
| Technology Core Earned Credit Subtotal: | | |  |

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| **Technology Elective (3 credits) – Engineering course related to the MS thesis or project** | | | |
| Course ID and Title | Semester Taken | Grade | Credits Earned |
|  |  |  |  |
| Electives Earned Credit Subtotal: | | |  |

Technology Electives:

BIOE 5053 - Optics and Microscopy in Biomedical Research (3 credits/Spring Only)

BIOE 5420 - Special Topics in Bioengineering: Mechatronics (3 credits)

BIOE 5068 - Introduction to Medical Imaging (3 credits/Fall Only)

BIOE 5064 - Advanced MatLab for Bioengineers and Life Scientists (3 credits/Fall Only)

ELEC5375 – Engineering Neuroscience (3 credits/Fall Only)

CSCI 5931 – Deep Learning (3 credits/Spring Only)

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| **Neuroscience Elective (3 credits) – Neuroscience or Biology course related to the MS thesis or project** | | | |
| Course ID and Title | Semester Taken | Grade | Credits Earned |
|  |  |  |  |
| Research Earned Credit Subtotal: | | |  |

Neuroscience Electives:

NRSC7615 – Developmental Neurobiology (3 credits/Spring Only)

NRSC7614 – Biological Basis of Psychiatric and Neurological Disorders (3 credits/Spring Only)

TXCL7751 – Neuro-Toxicology (2 credits/ Spring only)

NRSC 7612 - Nervous System Modeling with NEURON (1 credit/ Spring only)

NRSC 7657 - Workshop in Advanced Programming for Neuroscientists (1 credit/summer)