Neural Engineering – CSNE Online Open Course

This class is designed to serve an introduction to neural engineering. Because neural engineering is an interdisciplinary field with both biological science and engineering, we will cover both areas in our lectures. Each week will include both lectures and activities exploring different areas of neuroscience, engineering, or neural engineering.

By the end of the class we hope to have accomplished three core goals and that students can answer five core questions about neural engineering.

Class goals:

- Learn about some of the goals of neural engineering and who is involved (in research and uses)
- Learn about many of the features of the nervous system and body that neural engineering must consider
- Be able to describe what neural engineering is and what a neural engineering system might include or not include, and why, to someone not in the class

Core questions:

- What is neural engineering?
- Why do we want to do neural engineering?
- Who cares about this work?
- What do we need to know about the brain and body in order to do neural engineering right?
- What can we accomplish with neural engineering? How do we do this work?

Because neural engineering is an inherently interdisciplinary field, and we will have instructors with different types of expertise, you should feel welcome to ask instructors questions about their specialty. You may also want to ask the same question to more than one instructor in order to hear multiple perspectives. All questions asked with the intent to learn are good questions!

Homework: There are two types of homework – weekly worksheets and lab activity worksheets. You may discuss the questions with classmates, but you are expected to turn in unique, independent work. Duplicate assignments will not be accepted. Homework assignments are due as marked on the schedule. Fill out the appropriate form in complete sentences, with sources if necessary.

Grades: Final grades will be calculated from:
25% - weekly homework (5)
20% - lab reports (3)
5% - brain vocabulary quiz
10% - class participation and attendance
20% - final exam
20% - final project