NEPR 208, Introduction to Computational Neuroscience
1st Year Neuroscience Core, 2024

April 22 - May 10, M W F 1:30– 3:30 PM

LKSC 120 Mondays, LKSC 102 Wed. and Fri.

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TA. Lydia Hamburg, lydiaham@stanford.edu

This module will introduce students to computational and theoretical approaches in neuroscience. Emphasis will be on specific questions and how those questions can be answered with computational methods.

Monday and Wednesday classes will be lectures on Friday students will work on and discuss problems sets.

Website: https://druckmann-lab.github.io/nepr208

Week 1, April 22 – 26

April 22. Introduction and the Perceptron model (Druckmann)
April 24. Neural oscillations, computational approaches and insights (Huguenard)
April 26. Work on Problem set 1 in class.

Week 2, April 29 – May 3

April 29. Analysis of single neuron encoding (Druckmann)
May 1. Analysis of population activity (Druckmann).
May 3. Work on Problem set 2 in class.

Week 3, May 6 - 10

May 6. Adaptation and synaptic plasticity (Baccus)
May 8. The Hopfield model of context dependent memory (Druckmann)
May 10. Work on Problem set 3 in class.