NEPR 208, Introduction to Computational Neuroscience
1st Year Neuroscience Core, 2023

April 3rd - April 21st, M W F 1:30 PM – 3:20 PM

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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 3 – 7

April 3. Introduction and the Perceptron model (Druckmann)
April 5. Neural oscillations, computational approaches and insights (Huguenard)
April 7. Work on Problem set 1 in class.

Week 2, April 10 – April 14

April 10. Analysis of single neuron encoding (Druckmann)
April 12. Analysis of population activity (Druckmann)
April 14. Work on Problem set 2 in class.

Week 3, April 17 – April 21

April 17. Adaptation and synaptic plasticity (Baccus)
April 19. The Hopfield model of context dependent memory (Druckmann)
April 21. Work on Problem set 3 in class.