

Principles of Neuroengineering

MAS.881

Prof. Ed Boyden

TR 3-4.30 (E15-235)

First meeting, Tues. Sept. 11

<http://neuro.media.mit.edu/classes/prinneuro/>

Units: 3-0-9 (Grad H-level)

Prereq: 8.03, 6.003, & 9.01, equivalent, or permission

Covers principles underlying current and future technologies for brain analysis and engineering, for neurology, psychiatry, and neuroscience. Focuses on using biophysical, biochemical, and anatomical models to understand technology design constraints governing ability to observe and alter brain function. Topics include functional magnetic resonance imaging, electromagnetic recording/stimulation, neuropharmacology, optical cellular imaging, and gene/stem-cell therapy. Design projects by student teams. Enrollment limited to 28 students.

