

# Neural Engineering

**Class Hours:** 13:30-14:45; Monday & Wednesday

**Class Units:** 3

**Lecture Room:** #509

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## **Textbook**

Neural Engineering, Edited by Bin He, Kluwer Academic, 2005  
Handbook of Neural Engineering, Metin Akay, IEEE Press, 2007  
Matlab for Neuroscientists, Academic Press

**Lecture Methods:** Lecture, discussion, homework, and handout

## **Class Schedule**

Week 1: Introduction to Neural Engineering  
Week 2: Neural Signal Processing I  
Week 3: Neural Signal Processing II  
Week 4: Sensory Neural Prosthesis  
Week 5: Interface Neural Tissue with MEMS System  
Week 6: Brain Machine Interface  
Week 7: Brain Computer Interface I  
Week 8: Midterm Exam  
Week 9: Brain Computer Interface II  
Week 10: Neuroimaging I  
Week 11: Neuroimaging II  
Week 12: Neural System Identification  
Week 13: Retinal Bioengineering  
Week 14: Neuro Robotics  
Week 15: Neural Stimulation  
Week 16: Final Exam

**Homework:** chapter homework assignments

**Grading system:** attendance (10%), homework (30%), midterm (30%), and final (30%)