ELEC 5970/6970 *Modeling and System Identification: Biomedical Applications*  
Fall 2013

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**Class Hours:** Tues-Thurs 3:30 - 4:45 p.m. at the MRI Center class room (560 Devall Dr)  
**Office Hours:** By Appointment  
**Web Site:** Online material will be accessible via Canvas.

**SYLLABUS**

**Brain Modeling**

1. Univariate models of brain function: Linear regression models  
2. Multivariate models of brain function: Stochastic and deterministic models  
3. Graphical models of brain function: Clustering, efficiency, small world properties of graphical models  
4. Data driven versus parametric system identification  
5. Supervised and unsupervised methods for learning models: Neural networks and Support vector machines

**Cardiac Modeling (guest lectures by Dr.Denney)**

1. Cardiac function and motivation for modeling the heart  
2. Models of flow and geometry of the heart with applications

**Grading Policy:**

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