

## COURSE SCHEDULE – SPRING 2002

### Bioengineering 245 Introduction to Electromagnetic Neuroimaging

Instructor: Dr. Thomas Ferree, Department of Radiology, UC San Francisco  
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Time: Spring Quarter 2002, Tuesday and Thursday 1:30-3:00 PM

Place: UCSF Parnassus Campus, Medical Sciences Building, Room S-18

Office Hours: UCSF Room C-324B, Tuesday and Thursday 3:00-4:00 PM

#### Lecture Schedule

Tues 4/2	Chapters 1 & 2 – <b>Introduction</b> & Cortical Basis of EEG/MEG
Thur 4/4	Chapter 2 (cont'd) – Membrane Biophysics and Neuron Cable Theory
Tues 4/9	Appendix A – <b>Review</b> of Vector Calculus
Thur 4/11	Chapter 3 – Maxwell Equations in Matter
Tues 4/16	Chapter 4 – Quasistatic Reductions for EEG/MEG
Thur 4/18	Chapter 4 (cont'd) – Extracellular Fields of Simple Current Sources
Tues 4/23	Chapter 5 – Spherical Head Models
Thur 4/25	Chapter 5 (cont'd) – Realistic Head Models
Tues 4/30	Chapter 6 – Lead Field Theory
Thur 5/2	<b>MidTerm Review</b>
Tues 5/7	<b>MidTerm Exam</b>
Thur 5/9	Chapter 7 – Acquisition Methods and Technology
Tues 5/14	<b>Laboratory Demonstrations</b> of EEG/MEG Acquisition
Thur 5/16	Chapter 8 – Time Series Analysis Methods for Linear Data
Tues 5/21	Chapter 8 (cont'd) – Dynamics of Pendulum vs Lorenz Attractor
Thur 5/23	Chapter 8 (cont'd) – Time Series Analysis Methods for Chaotic Data
Tues 5/28	Chapter 9 – Topographic Analysis and Dura Imaging
Thur 5/30	<b>UCSF Mini-Symposium: New Directions in Neuroimaging</b>
Tues 6/4	Chapter 10 – Discrete and Distributed Source Estimation
Thur 6/6	Chapter 10 (cont'd) – Advanced Topics in Source Estimation
Tues 6/11	<b>Final Review</b>
Thurs 6/13	<b>Final Exam</b>