

**Introduction to Diffusion Tensor Imaging
Cognitive Science 260 - Winter 2016**

Instructor: Lawrence Frank, Ph.D.
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Course Time/Location: TTh 12:30PM-1:50PM; Cognitive Science Building Rm. 272
Course Web site: csci.ucsd.edu/courses/cogs260w2016

Course Overview: Diffusion Tensor Imaging (DTI) is a new and emerging technique that is finding applicability in a broad range of disciplines. This course will be the first at UCSD to provide a comprehensive introduction to DTI. Participants will gain an understanding of the physical principles underlying DTI, as well as theoretical and practical considerations in research design. The course will provide practical tools for acquisition and analysis of DTI data so that participants will be better prepared to critique, design, and conduct DTI studies, appreciate the limitations of current technology, and know the options for implementing advanced measurement techniques.

Prerequisites: None.

Course Attendance: Students are encouraged to register for the course. Researchers, fellows, residents, and faculty are invited to attend as well.

Course Requirements: Students will be expected to attend and participate in bi-weekly lectures and complete assigned readings. They will also be expected to complete weekly homework assignments and a final exam. Grading is based on attendance (30%), completed homework assignments (40%), and the final exam (30%). Assignments will be distributed each Thursday and are to be completed by Tuesday of the following week.

Required Texts/Readings:

Frank, L.R. Introduction to Diffusion Tensor Imaging. Course Reader. Cognitive Science 260 – Fall 2008.