EGEN541: THEORY OF MAGNETIC RESONANCE IMAGING I

TEXTBOOK:
   P.T.Callaghan  Principles of Nuclear Magnetic Resonance Microscopy

INSTRUCTOR:
   Dr. Sarah Codd
   Roberts 314
   994-1944
   scodd@coe.montana.edu
   Office Hours: Tues, Thurs right after class.

ENTRANCE EXPECTATIONS:
   Approval of Instructor, NMR/MRI lab research experience expected

CLASS SCHEDULE:
   TBD

LEARNING OUTCOMES:
For students to be able to
   • Understand the quantum mechanical basis of the NMR measurement
   • Understand how to measure and interpret the impact on the NMR signal of relaxation, diffusion, chemical shift, and magnetic susceptibility
   • Understand how to design or interpret an NMR imaging sequence
   • Understand the use of gradient coils, RF pulses and other NMR/MRI hardware

STUDENT CONDUCT
   Students are expected to conduct themselves in accordance with the MSU Student Conduct Guidelines (http://www2.montana.edu/policy/student_conduct/), including the areas of academic honesty, behavior, and responsibilities.

ASSESSMENT AND EVALUATION:
   Weekly Homework = 10%
   Monthly Presentations = 25%
   Classroom discussion and participation = 15%
   Final Project Report = 50%