

Course Announcement: Fall 2011

ENEE 789G: Advanced Topics in Magnetism*

Instructor: R.D. Gomez (rdgomez@umd.edu)

Location: EGR 0108

Time: TuTh 12:20-1:45 pm

Text/Resources:

1. Cullity & Graham, "Intro. To Magnetic Materials" (Wiley, 2009)
2. O'Handley "Modern Magnetic Materials" (Wiley, 2000)
3. Collected readings

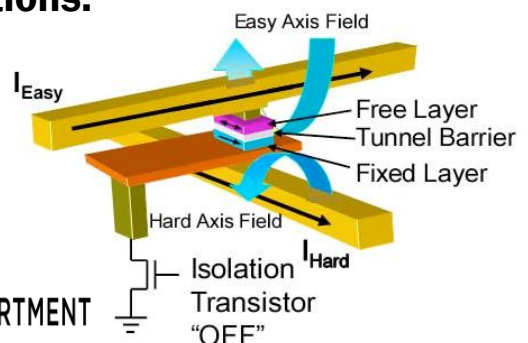
Description:

This course is an in-depth study of magnetism and magnetic technology, covering fundamental concepts from classical and quantum theories of magnetism, to modern micromagnetics and spintronics. It will also cover advanced magnetic storage, random access memory and various applications of magnetism.

No prior knowledge of magnetism needed, except introductory physics at the undergraduate level.

Topics include:

Introductory magnetostatics, magnetic measurements, classical and quantum theory of magnetism, energetics and domain structures, magnetization dynamics, spin transport, spin-based magnetoresistance, spin-torque interactions.



A. JAMES CLARK SCHOOL of ENGINEERING
ELECTRICAL and COMPUTER ENGINEERING DEPARTMENT

* Offered every 4 years