DEPARTMENT OF COMPUTER SCIENCE
UNIVERSITY *of* HOUSTON

Medical Imaging

Course Highlights

Recent advances in ***medical imaging technology*** have made it possible to obtain high-resolution images of body structure and function. These extraordinary accomplishments have allowed clinicians to make accurate and efficient diagnoses and have allowed patients to receive unprecedented medical care, often in a noninvasive fashion.

Topics

- X-Rays,
- Computed Tomography
- Magnetic Resonance Imaging
- MR Angiography
- Positron Emission Tomography
- Single Photon Emission Computed Tomography
- Ultrasounds
- Source Imaging

And student(s) say..

"I loved the site visits and the presentations by the hospital staff; they really helped me put everything in context…"

"I find Fundamentals of Medical Imaging fun and challenging..."

"...you have posted comprehensive notes and links that allow me to really learn..."

"The midterm exam was comprehensive and thorough, and I really had to think through almost all the questions asked in it. "
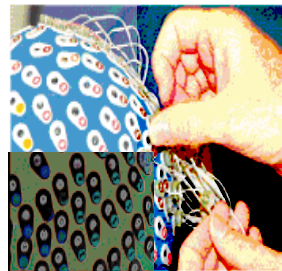
Learning technologies

- The course is taught in a multimedia classroom and lectures are supplemented with on-line demos and exercises.
- All lecture slides are available on WebCT.
- Quizzes and Exams will be taken on-line.
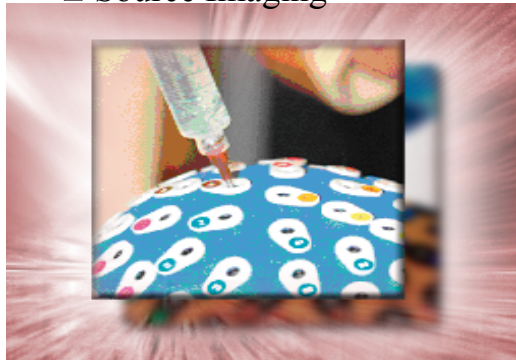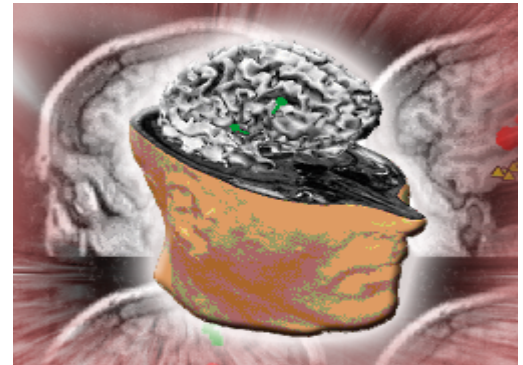
Is this course for you ?

Major Objectives:
- Learn the various imaging modalities used in neuroimaging.
- Understand the physical principles underlying each modality.
- Differentiate between modalities that display the structure of the brain from modalities that display its function.

Reference Material

- Introduction to Biomedical Imaging, by Andrew G. Webb Wiley-IEEE Computer Society, 2003
- Various journal articles
- Instructor's notes

About the Instructor

George Zouridakis is the *Director of the Biomedical Imaging Lab at UH* and has been involved with several clinical procedures, including Intraoperative Monitoring, Functional Imaging, and Deep Brain Stimulation. He has authored two books and he is an *Associate Editor of the IEEE Transactions on Biomedical Engineering.*

Related Courses

- Image Processing
- Computer Graphics
- Medical Image Analysis
- Computer Vision

For more information, visit: www.cs.uh.edu/courses/cosc6370