Spring 2012
Tuesday/Thursday @ 4-6pm
Room: TBA

Sylvain Gioux - giouxs@bu.edu
Office hours: Tuesday 3-4pm, Thursday 6-7pm

Recommended textbook: "Biomedical Optics: Principles and Imaging", by Lihong V. Wang

Lecture notes will be available on the course website.

Grading will be based on:
- Homeworks (25%)
- Project (25%)
- Exams (25% + 25%)

The following topics will be covered in the course:
- Introduction to the course
- Basics of light-tissue interactions
- Basics of light
- Fluorescence theory
- Spectroscopy
- Scattering theory
- Ballistic imaging
- Modeling of light propagation (Monte Carlo, RTE, Diffusion)
- Diffuse imaging
- Diffuse optical tomography
- Optical Coherence tomography
- Photo-acoustic
- Flow imaging
- Microscopy
- Instrumentation (sources, fibers and detectors)
- Photodynamic Therapy
- Optical diagnosis and treatment monitoring
- Image-guided surgery
- Fundamentals of clinical translation