BIM 242: Introduction to Biomedical Imaging

Description
This course will cover the basic physics and engineering principles underlying image science. At the end of the course, students will have a firm foundation in key concepts associated with the major imaging modalities of radiography, X-ray computed tomography, magnetic resonance imaging, ultrasound, positron emission tomography and optical imaging.

Lectures and Important Dates
Class meets twice per week (Monday and Wednesday), from 8:00 AM to 9:50 AM. Please note that the location will be GBSF 2202.
First day of instruction: September 21st, 2016
Last day of instruction: November 30th, 2016
Final Exam posted on Canvas: November 29th, 2016, 8:00 am
Final Exam Due Date via Canvas: December 6th, 2016, 11:59 pm

Teaching Assistant
The TA for the class is Brent Foster (bhfoster@ucdavis.edu). To schedule an appointment to meet him, please email him directly.

Final Exam and Grading
The letter grade will be based on performance on the final exam (40%), homework (30%) and in-class pop quizzes (30%). The pop quizzes will be administered during randomly chosen lectures. The final exam will be take-home.

Recommended reading
There is no textbook for the course. Here is a list of recommended books:
1) Bushberg et al., “The Essential Physics of Medical Imaging, Third Edition”,
2) Wang et al., “Biomedical Optics: Principles and Imaging,”
3) Cherry et al., “Physics in Nuclear Medicine, Fourth Edition,”
4) Cherry et al., “Essentials of In Vivo Biomedical Imaging”
https://www.crcpress.com/Essentials-of-In-Vivo-Biomedical-Imaging/Cherry-Badawi-Qi/9781439898741