

## Typical *Concentration Area Elective* courses for **Biomedical Imaging**

**Important:** The courses listed below are *typical* of Concentration Area Elective (CAE) courses chosen by Biomedical Imaging students. This is NOT a complete list of appropriate courses. Specific course choices should be made in consultation with the advisor. Appropriate CAE courses will provide depth in the discipline of Biomedical Imaging *and* help to make the student competitive for the position or program that will be entered after the B.S. CAE courses must comply with the guidelines listed on the Concentration Area Elective form, available in the BioE office or under the Forms link on the BioE web site. Be sure to use the CAE form for the curriculum you are following.

Course	Relevance
BIOE 407. Pattern Recognition I. 3 or 4 hours.	Quantitative analysis of medical images
BIOE 420. Introduction to Field and Waves in Biological Tissues. 3 or 4 hours.	In-depth study of electromagnetic and mechanical wave motion in biological tissue, used for biomedical imaging
BIOE 422. Magnetic Resonance Imaging. 3 or 4 hours.	In-depth study of MRI.
BIOE 432. Bioinstrumentation and Measurements II. 3 or 4 hours.	Further training in diagnostic methods that complement imaging
BIOE 433. Bioinstrumentation and Measurements II Laboratory. 1 hour.	Hands-on complement to BioE 432
BIOE 470. Bio-Optics. 3 or 4 hours.	In-depth study of optical imaging methods.
BIOE 494. Special Topics in Bioengineering. 1-4 hours.	Special courses offered from time to time on specific biomedical imaging topics, such as magnetic resonance elastography
ECE 415. Image Analysis and Computer Vision I. 3 or 4 hours.	Quantitative processing of medical images

\* These courses are recommended for students seeking industry placement with the B.S. degree