

Typical Concentration Area Elective courses for **C& T Engineering**

Important: The courses listed below are *typical* of Concentration Area Elective (CAE) courses chosen by C&T Engineering 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 C&T Engineering *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 405 – Atomic and Molecular Nanotechnology	Application of nanomaterials and nanotechnology to tissue engineering
BioE 410 – <i>FDA and ISO Requirements for the Development and Manufacturing of Medical Devices</i>	Regulatory requirements for tissue implant technology
BioE 415 – <i>Biomechanics</i>	Development of prostheses
BioE 421 – <i>Biomedical Imaging</i>	Functional imaging of tissue implants
BioE 470 – <i>Bio-Optics</i>	Imaging tissue construct and functions
BioE 472 – <i>Neural Engineering</i>	Tissue engineering neuroimplants
BioE 494 – <i>Microfluidics Lab</i>	Engineering microscale devices and implants
BioE 450 – <i>Molecular Biophysics of Cell</i>	Knowledge of molecular level systems
BioS 443 – <i>Animal Physiological Systems</i>	Knowledge of organ level systems
Chem 232 or Chem 234 – <i>Organic Chem</i>	Knowledge of carbon-based chemistry
BioS 452 or BioS 454 – <i>Biochemistry</i>	Understanding subcellular interactions