

University of Southern California
VITERBI SCHOOL OF ENGINEERING

Master of Science in Biomedical Engineering
Program Learning Objectives

The purpose of the USC Viterbi School of Engineering Master of Science in Biomedical Engineering is to prepare students for high level professional employment in any sector of the biomedical and related industries that incorporates advanced technical knowledge and skills. Graduates may pursue specialized industrial employment as engineers or advanced graduate studies related to bio-systems and signals analysis, bioinstrumentation, neuroengineering, cellular and molecular bioengineering, or related areas.

Upon completion of the USC Viterbi School of Engineering Master of Science in Biomedical Engineering, students will:

- demonstrate advanced understanding of subject matters linking human physiology with engineering science, including systems analysis and control theory.
- be able to apply critical principles and practices pertinent to the biomedical engineering field in their employment practice.
- be able to work in diverse global contexts and apply universally respectful and globally centric practices pertinent to biomedical engineering.
- demonstrate advanced understanding of contemporary engineering design principles and associated innovative practices relevant to biomedical engineering including bio instrumentation and biomedical imaging, artificial intelligence and robotics, signal theory and processing, neuroengineering, cellular and molecular bioengineering, and medical device regulation. Students will be able to implement these practices under guidance of biomedical engineering faculty members in preparation for employment in biomedical and related industries.