University of Southern California
VITERBI SCHOOL OF ENGINEERING

<u>Master of Science in Biomedical Data Analytics</u>
Program Learning Objectives

The purpose of the USC Viterbi School of Engineering Master of Science in Biomedical Data Analytics is to prepare students for high level professional employment in any sector of the biomedical and related industries that require the design and application of algorithms for extracting meaningful information from large volumes of complex and dynamic physiological data. Graduates may pursue specialized industrial employment as engineers or advanced graduate studies related to the development of medical diagnostic and therapeutic devices, medical image processing, and health informatics.

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

- demonstrate advanced understanding of subject matter linking human physiology and biology with engineering and science, including signals analysis, control theory, data-based biomedical modeling, physiological systems and artificial intelligence;

- 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; and

- demonstrate advanced understanding of contemporary software engineering design principles and associated innovative practices relevant to biomedical engineering, including quantitative physiology and medical diagnosis, physiological signal and system analysis, biomedical imaging, artificial intelligence and pattern recognition. Students will be able to implement these practices under guidance of biomedical engineering faculty members in preparation for employment in biomedical and related industries.