

## Bachelor of Science in Biomedical Engineering†

### Department of Biomedical Engineering

#### Mapping of Student Outcomes to Program Educational Objectives

Student Outcomes	Program Educational Objectives			
	Career Goals	Professional Skills	Socio Ethical Skills	Continuing Education
a	H	H		
b	H	H		
c	H	H		
d	H	H	M	
e	H	H		
f	H		H	
g	H	H		
h	H		H	
i	H			H
j	H			H
k	H	H		
1	H	H		
2	H	H		
3	H	H		
4	H	H		

H=High, M=Medium, L=Low

#### Student Outcomes

- a) an ability to apply knowledge of mathematics, science and engineering
- b) an ability to design and conduct experiments, as well as to analyze and interpret data
- c) an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
- d) an ability to function multi-disciplinary teams
- e) an ability to identify, formulate and solve engineering problems
- f) an understanding of professional and ethical responsibility

- g) an ability to communicate effectively
  - h) the broad education necessary to understand the impact of engineering solutions in a global, economic environment, and societal context
  - i) a recognition of the need for and an ability to engage in life-long learning
  - j) a knowledge of contemporary issues
  - k) an ability to use technique, skills, and modern engineering tools necessary for engineering practice
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1. applying principles of engineering, biology, human physiology, chemistry, calculus based physics, mathematics (through Differential Equations) and statistics
  2. solving bio/biomedical engineering problems, including those associated with the interaction between living and non-living systems
  3. analyzing, modeling, designing and realizing bio/biomedical engineering devices, systems, components or processes
  4. making measurement on and interpreting data from living system

#### **Program Educational Objectives**

- Who are effective engineers within biomedical related professions in industry, government, academia or medicine. (**Career Goals**)
- Who can develop and apply a broad and cross-disciplinary approach to problem solving. (**Professional Skills**)
- Who can communicate effectively, function in teams, and have developed a sense of social and ethical responsibility. (**Socio-Ethical Skills**)
- Who continue to develop technical knowledge, awareness, and leadership skills that will allow them to address biomedical needs. (**Continuing Education**)