

# Florida International University

## Academic Learning Compact



### Name of the Undergraduate Degree Program

**Biomedical Engineering**

### Mission Statement

The mission is to integrate academia, clinical medicine, and the biomedical industry in: 1) the education and training of the next generation of biomedical engineers; 2) research and development activities leading to innovations in medical technology; 3) transfer of that medical technology to commercialization and clinical implementation; and 4) the continuing development of biomedical engineering as a profession, its impact on the delivery of health care, and its role in the sustainability and growth of the local and national economies.

### Student Learning Outcomes

**FIU Biomedical Engineering graduates should be able to achieve the following:**

#### Content/Discipline Knowledge

1. Ability to apply knowledge of mathematics (including differential equations and statistics), physical and life sciences, and engineering to carry out analysis and design to solve problems at the interface of engineering and biology.
2. Ability to design and conduct experiments, as well as to measure, analyze and interpret data from living systems.
3. Ability to design a system, component, or process to meet desired needs, including systems that involve the interaction between living and non-living materials.
4. Ability to identify, formulate, and adapt engineering solutions to unmet biological needs.
5. Ability to use the techniques, skills, and modern engineering tools necessary for engineering practice, including the ability to model and analyze biological systems as engineering systems.
6. Ability to function on multi-disciplinary teams.
7. Ability to communicate effectively.
8. Awareness of the characteristics of responsible professional engineering practice, including ethical conduct, consideration of the impact of engineering solutions on society in a global and contemporary context, and the value of life-long learning.

#### Critical Thinking

1. Ability to design and conduct experiments, as well as to measure, analyze and interpret data from living systems.
2. Ability to design a system, component, or process to meet desired needs, including systems that involve the interaction between living and non-living materials.
3. Ability to identify, formulate, and adapt engineering solutions to unmet biological needs.
4. Awareness of the characteristics of responsible professional engineering practice, including ethical conduct, consideration of the impact of engineering solutions on society in a global and contemporary context, and the value of life-long learning.

#### Oral and Written Communication

1. Ability to communicate effectively.