Major: Bioengineering

Degree Designation: B.S.

Program Mission Statement

The mission of the U.A. Whitaker School of Engineering is to graduate engineers and community leaders in selected engineering disciplines with superior technical competence and business skills to meet the engineering challenges of Southwest Florida and beyond. This is accomplished in an entrepreneurial and innovative educational environment that values diversity, service, integrity, leadership, and collaborations.

Academic Learning Compact

Consistent with its mission and guiding principles, Florida Gulf Coast University is committed to academic excellence and continuous quality improvement, as supported by a sound teaching-learning process. Within this process, students and instructors share responsibility for learning that is a movement from the simple to the complex, the concrete to the abstract, and the dependent to the independent. The Academic Learning Compact (ALC) initiative supports the teaching-learning process by clearly identifying expectations, aligning curricula with expectations, and using assessment to guide continuous improvement.

This ALC lists expected core student learning outcomes for program graduates in three areas: content/discipline knowledge and skills, communication skills, and critical thinking skills. It also provides examples of strategies and mechanisms that may be used to assess individual student attainment of expected outcomes.

Core Learning Outcomes

Content/Discipline Knowledge and Skills

Graduates will be able to:

1. Design a system, component, or processes to meet desired bioengineering needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, regulatory, manufacturability, and sustainability.
2. Understand the professional and ethical responsibilities of a bioengineer.
3. Use the techniques, skills, and modern engineering tools necessary for bioengineering practice.

Communication Skills

Graduates will be able to:

1. Employ the conventions of standard written English.
2. Select a topic and develop it for a specific audience and purpose with respect to diverse perspectives.
3. Select, organize, and relate ideas and information with coherence, clarity, and unity.

Critical Thinking Skills
Graduates will be able to:
1. Select and organize information.
2. Identify assumptions and underlying relationships.
3. Synthesize information, and draw reasoned inferences.
4. Formulate an appropriate problem solving strategy.
5. Evaluate the feasibility of the strategy.

Assessment Strategies

Assessment of Content/Discipline Knowledge and Skills
Content/discipline knowledge and skills are assessed at the college and departmental levels through exams, laboratory assessment, design projects, teamwork assessment, and assignments in the following courses: EGN 4XXXC Bioengineering Product Design; EGN 4XXXC Transport Phenomena; EGN 4XXXC Biomedical Instrumentation; EGN 4XXXC Biomechanics; EGN 4XXXC Bioelectricity; and EGN 4XXX Senior Design II.

Assessment of Communication Skills
Communication skills are assessed as part of the General Education Program through papers, exams, and projects completed in ENC 1101 Composition I, ENC 1102 Composition II, and HUM 2510 Understanding the Visual and Performing Arts. Communication skills are also assessed in the capstone course EGN 4XXX Senior Design II.

Assessment of Critical Thinking Skills
Critical thinking skills are assessed as part of the General Education Program through papers, exams, and projects completed ENC 1101 Composition I, ENC 1102 Composition II, and HUM 2510 Understanding the Visual and Performing Arts. Critical thinking skills are also assessed in the capstone course EGN 4XXX Senior Design II.

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