BIOLOGICAL SYSTEMS ENGINEERING, B.S.

LEARNING OUTCOMES

1. The ability to analyze systems, components and processes. This includes: the ability to apply knowledge of mathematics, science, and engineering fundamentals; the ability to use the techniques and tools of modern engineering practice; the ability to identify, formulate, and solve engineering problems.

2. The ability to create 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.

3. The ability to formulate and conduct basic investigations such as laboratory experiments, prototype tests, field trials, computer simulations and market analyses.

4. The ability to identify important resources, and to retrieve, interpret, analyze and critique information for use in solving engineering problems and conducting basic investigations.

5. The ability to communicate effectively. This includes: the ability to effectively orally communicate; the ability to write in a clear, concise, grammatically correct and organized manner; the ability to document work activities and properly archive information; the ability to develop appropriate illustrations including hand sketches, computer generated drawings/graphs and pictures.

6. An understanding of professional and ethical responsibility.

7. The ability to function on multidisciplinary teams.

8. The broad education necessary to understand and assess the impact of engineering solutions in a global, economic, environmental, and societal context.

9. Recognition of the need, and the ability to engage in lifelong learning.

10. Knowledge of contemporary issues.