Operational Excellence and Assessment Support

Academic Learning Compacts

# College of Engineering and Computer Science
# Academic Learning Compacts

## Environmental Engineering - B.S.Env.E.

### Discipline Specific Knowledge, Skills, Behavior and Values

1. An ability to apply knowledge of mathematics, science, and engineering.
2. An ability to design and conduct experiments, as well as to analyze and interpret data.
3. 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.
4. An ability to function on multidisciplinary teams.
5. An ability to identify, formulate, and solve engineering problems.
6. An understanding of professional and ethical responsibility.
7. The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.
8. A knowledge of contemporary issues.
9. An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

### Critical Thinking

1. An ability to apply knowledge of mathematics, science, and engineering.
2. An ability to design and conduct experiments, as well as to analyze and interpret data.
3. 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.
4. An ability to identify, formulate, and solve engineering problems.
5. The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.
6. A recognition of the need for, and an ability to engage in life-long learning.

### Communication

1. An ability to function on multidisciplinary teams.

2. **An understanding of professional and ethical responsibility.**
3. **An ability to communicate effectively.**
4. **The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.**
5. **A knowledge of contemporary issues.**

## Assessment of Environmental Engineering - B.S.Env.E. Outcomes

**These outcomes will be assessed using a variety of assessment methods, including:**

- **Data for the assessment will be collected through surveys (graduating students, employers, alumni), interviews and focus groups (students, industry advisory committee, corporate affiliate board), concept tests in selected courses, peer review of lab course reports, peer review of senior design course reports and presentations, Fundamentals of Engineering exam, and course improvement process forms.**