



Operational Excellence and Assessment Support

Academic Learning Compacts

## College of Engineering and Computer Science Academic Learning Compacts

### Photonic Science and Engineering - B.S.P.S.E.

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

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

#### Critical Thinking

1. Graduates will have the ability to apply knowledge of mathematics, science, and engineering.
2. Graduates will have the ability to design and conduct experiments, as well as to analyze and interpret data.
3. Graduates will have the 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. Graduates will have the ability to use the techniques, skills, and modern

**engineering tools necessary for engineering practice**

**Communication**

- 1. Graduates will have the ability to function on multidisciplinary teams.**
- 2. Graduates will have the ability to communicate effectively.**

**Assessment of Photonic Science and Engineering - B.S.P.S.E. Outcomes**

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

- Undergraduate student forums, senior design course evaluations, course assessment reports, oral and written examinations, lab reports, tests and exams, and research reports.**