College of Engineering and Computer Science
Academic Learning Compacts

Mechanical Engineering - B.S.M.E.

Discipline Specific Knowledge, Skills, Behavior and Values

1. **An ability to apply knowledge of mathematics, science, and engineering (ABET a)**
2. **An ability to design and conduct experiments, as well as to analyze and interpret data (ABET b)**
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 (ABET c)**
4. **An ability to identify, formulate, and solve engineering problems (ABET e)**
5. **The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context (ABET h)**
6. **A recognition of the need for, and an ability to engage in life-long learning (ABET i)**
7. **A knowledge of contemporary issues (ABET j)**
8. **An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice (ABET k)**

Critical Thinking

1. **An ability to design and conduct experiments, as well as to analyze and interpret data (ABET b)**
2. **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 (ABET c)**
3. **An understanding of professional and ethical responsibility (ABET f)**
4. **The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context (ABET h)**
5. **A knowledge of contemporary issues (ABET j)**

Communication

1. **An ability to function on multidisciplinary teams (ABET d)**
2. **An understanding of professional and ethical responsibility (ABET f)**
3. **An ability to communicate effectively (ABET g)**
4. **A recognition of the need for, and an ability to engage in life-long learning (ABET i)**

Assessment of Mechanical Engineering - B.S.M.E. Outcomes

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

- **Data for the assessment is collected from surveys (graduating students, alumni, industry), capstone (senior design) projects, embedded concept test questions, MMAE Undergraduate committee, curriculum/course improvement reviews, and peer and project mentor reviews.**