



## ACADEMIC LEARNING COMPACTS

### COLLEGE OF ENGINEERING AND COMPUTER SCIENCE MECHANICAL ENGINEERING - B.S.M.E.

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

1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
4. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
5. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies

#### Critical Thinking

1. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
2. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
3. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions

#### Communication

1. An ability to communicate effectively with a range of audiences
2. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
3. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

4. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies

#### **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.