

Foundations of Engineering - Modified from [Unit 1- Engineering Design Process](#)

Targeted Goals from Stage 1: Desired Results

- Design Process: Describe and apply the design process to identify and solve a problem.
- Utilize the design process; including defining a problem, brainstorming, researching and generating ideas, identifying criteria and specifying constraints, exploring possibilities, selecting an approach, developing a design proposal, making a model or prototype, testing and evaluating the design using specifications, refining the design, creating or making it, and communicating processes and results.
- Students will develop an understanding of engineering design.
- Explore and hone techniques, skills, methods, and processes to create and innovate
- Demonstrate professionalism through exhibiting attentiveness, growing from feedback, and adhering to industry standards (safety).

Skills:

- Utilize the Engineering Design Process to develop a solution to a given challenge/problem.
- Express technical knowledge used in solving a problem in a clear, concise, and coherent manner within an engineering report.

Expectation: Students will have their sixth opportunity to apply the engineering design process in solving a problem/challenge.

Description of Task (s):	Resources and Materials:	Daily Checks (Return to Google Classroom or snapshots from a cell phone)
Monday: Complete building prototype and begin testing of vehicle (first and iterations).	-Challenge 6: Mousetrap Vehicle	-Small meeting conducted at beginning of class to review and to provide feedback for students that need assistance
Tuesday: Complete testing of vehicle (first and iterations) and steps 1 - 7 of the engineering design process activity (Includes data collection and iteration/s).	-Challenge 6 data collection	-Small meeting conducted at beginning of class to review and to provide feedback for students that need assistance -Complete and submit Challenge 6 data collection

Description of Task (s):	Resources and Materials:	Daily Checks (Return to Google Classroom or snapshots from a cell phone)
Wednesday: Complete engineering design process by communicating your solution results (#7).	-Challenge # 6 exit slip	-Small meeting conducted at beginning of class to review and to provide feedback for students that need assistance -Complete and turn in final EDP for challenge 6 -Complete Challenge # 6 exit slip
Thursday: Introduce Final PBA	-Unit 3 PBA: Engineering Proposal -Engineering Self Assessment -Final PBA Data Collection -Engineering Proposal Instructions -NAE Grand Challenges for Engineering	-Meeting conducted at beginning of class to introduce final PBA and to provide feedback for students that need assistance
Friday: Work on final PBA.		-Small meeting conducted at beginning of class to review and to provide feedback for students that need assistance

Week criteria for success (attach student checklists or rubrics):

- Engineering Self Assessment
- Final PBA Data Collection

Supportive resources and tutorials for the week (plans for re-teaching):

- Engineering Design Process presentation
- Class Engineering Design Process Note Card
- LinkEngineering - What is Engineering Design?