

DESIGN TEAM REFLECTION ASSESSMENT

Component 3 of the TIDEE Design Team Readiness Assessment

ASSESSMENT INSTRUMENT

Purpose: Formative assessment of students' **understanding** of processes crucial to engineering design. Focused on analysis of design team performance typical for early stages of baccalaureate engineering degree programs.

Instrument Type: A reflective essay written to demonstrate students' abilities to explain and improve upon their design process, along with teamwork and communication used to support their performance in design.

Implementation: Administered as a take-home essay assignment. Each student writes a 2-page essay in response to instructions provided. Requires 3 to 5 minutes to score each essay. Scoring scale and decision rules are provided.

INSTRUMENT DEVELOPMENT

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DESIGN TEAM REFLECTION ASSESSMENT

OVERVIEW

Objective: Demonstrate your understanding of team design processes and your abilities to assess your performance and make improvements to these processes.

Context: Effective teaming and communication contribute to the success of teams in design exercises. You recently participated in a team-based design exercise in which you collectively created a testing procedure for evaluating a hand tool with respect to a selected customer need. That team experience provides a set of experiences and observations about which you will write a reflective essay.

ESSAY ASSIGNMENT

Assignment: Prepare a 2-page essay, double-spaced in 12-point font, demonstrating your understanding of team-based engineering design processes focused on meeting a customer's needs. Reflecting on your recent team design experience, explain what you did as a team, why it worked or didn't work, and how you could improve your team's performance. Specifically address these issues with respect to (1) the **engineering design process**, (2) **teamwork** and (3) **design communication**.

Criteria: Your understanding will be judged based on your essay's presentation of:

- Actions that reflect important elements of the engineering design process, teamwork, and communication
- Examples that explain the essence of quality in cited design process, teamwork, and communication actions, and
- Credible recommendations that will achieve desired improvements your team's design process, teamwork, or communication.

Resources: You may review your Team Design Log sheets to recall facts that aid in your writing this essay.
You may NOT use other references or obtain input from other people to aid in writing your essay.

SCORING CRITERIA

DESIGN TEAM REFLECTION ASSESSMENT

Student Name: _____

Date: _____

Scorer Instructions: Note in each cell any evidence that the respective criterion was satisfied. Student scores are the number of cells checked or satisfactorily completed.

SCORING FOR DESIGN PROCESS, TEAMWORK, AND COMMUNICATION

	a. Cite Actions or Occurrences	b. Explain Why Effective or Not	c. Propose How to Improve Process
DESIGN PROCESS			
1. Customer focus			
2. Manage design process			
TEAMWORK			
3. Roles/ responsibilities			
4. Task/time management			
COMMUNICATION			
5. Oral/team dynamics			
6. Written team log			

 Total DESIGN PROCESS REFLECTION Score (maximum = 6)

 Total TEAMWORK REFLECTION Score (maximum = 6)

 Total COMMUNICATION REFLECTION Score (maximum = 6)

 TOTAL REFLECTION Score (maximum = 18)

DECISION RULES FOR SCORING DESIGN TEAM REFLECTION ASSESSMENT

FOR DESIGN PROCESS REFLECTION

Criterion 1: Customer Focus

- 1.a. Credit given if a student mentions importance of customer or cites a need or a result as being important to the customer.
- 1.b. “Because” or similar word is needed to show a causal relationship for the explanation.

Criterion 2: Manage Design Process

- 2.a. Credit given if a student mentions iteration or repeating of steps in the process.
- 2.b. “Because” or similar word is needed to show a causal relationship for the explanation.

FOR TEAMWORK REFLECTION

Criterion 3: Roles/Responsibilities

- 3.a. Credit given if roles, responsibilities, or accountability is mentioned with respect to involvement of the person.
- 3.b. “Because” or similar word is needed to show a causal relationship for the explanation.

Criterion 4: Task /Time Management

- 4.a. Credit given if leadership, timekeeping, or productivity is mentioned with respect to achieving team goals on time.
- 4.b. “Because” or similar word is needed to show a causal relationship for the explanation.

FOR COMMUNICATION REFLECTION

Criterion 5: Oral/Team Dynamics

- 5.a. Credit given if communication is mentioned relative to its engaging, encouraging, and empowering team members to be successful and satisfied on the team.
- 5.b. “Because” or similar word is needed to show a causal relationship for the explanation.

Criterion 6: Written Team Log

- 6.a. Credit given if recording of information, accessing recorded information, or ensuring quality of recorded information in the team design log is mentioned.
- 6.b. “Because” or similar word is needed to show a causal relationship for the explanation.