

TIDEE

Transferable Integrated Design Engineering Education



UNIT 4: Multi-week Engineering Design Project

Session 7: Demonstration of Completed Project

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Announcements and Objectives for the Day (10 minutes)

- a. Teams complete construction of project and prepare materials log sheet.
- b. Oral presentation is refined and information gathered during construction is applicable and pertinent for presentation
- c. A recovery plan is developed if needed

Refine Presentation Outline (15 minutes)

Construct Project (50 minutes)

This time is to work on completing the construction of your project and to ask questions about issues and problems not yet resolved. If your team is way behind on implementing its construction schedule, then immediately develop a recovery plan before continuing constructing the project.

Prepare Materials Log Sheet: See rules (12 minutes)

This is a requirement that must be completed prior to running the race. Each team must decide when they will be finished with this deliverable.

Reflectors Report

Session Overview

This session has a primary focus of demonstrating that each team's prototype conforms to the design criteria outlined in the race rules. In addition, the functionality of the prototype needs to be checked. This provides an opportunity to redesign (if required) before the actual race day. Note, past experience has indicated that the fix of problems were to occur on race day, only about 40% of the prototypes will actually operate. And, of those, many have serious problems resulting in poor performance.

Engineering designs often need to be refined. This is typical of the development process. As such, it is important to create a work plan that provides opportunities for iteration. Thus, the completion of the prototype is scheduled at least one period before the race day to provide time to correct design flaws.

The second objective of this session is to prepare for the oral report of your learning. The activity *Refine the Presentation Outline* helps your team determine what content is needed in your presentation. It also provides an opportunity for each team to confirm that they have gathered and documented the appropriate information for their presentation. If this has not been done, the group needs to take appropriate action to gather the needed information. Emphasis on developing the oral presentation elevates your public speaking performance by being able to better identify the elements of the design process as they are being enacted. Your ability to connect with the audience will correlate, in part, with your understanding of the design process. The better you know the "ins and outs" of your team collaboration and the steps you used to produce the prototype, the better prepared you will be for the oral report.

Activity: Refine Presentation Outline

Objective: To review and update the presentation outline

Tasks

1. Review the Criteria for Final Oral Presentation
2. Review the previous presentation outline and check for omissions.
3. Combine or remove extraneous items.
4. Review methods, strategies and assigned responsibilities to collect appropriate information to be used in your presentation.
5. Develop a recovery plan if needed.
6. Reporters prepared to give short report on changes that were needed.
7. Reflector helps team identify how the changes will affect team activities and performance.

Deliverables

Reporter prepares a summary of team's changes and why.

Criteria for Success

- Team updates appropriate topics and supporting material for presentation.
- Team members understand the need to collect information and document the process.

Resources

- Previous presentation outline.
- Handout: Criteria for Final Oral Presentation.
- Ten minutes of team activity.