Engineering Project Detailed Research Plan

Please complete the information/questions begun/seen below in red ink. Save this document to your computer, and add a printed hardcopy to your application.

Date:
Student Name:
Project Title:

Parts of the generic engineering project are listed below with descriptions to the students in the boxes. Students may provide a detailed research plan by describing their specific project in response to each box below.

Engineering Goal: PROBLEM BEING ADDRESSED: All engineering projects solve a problem or fill a need. Briefly describe the issue your project will address.

My Project Goal is:

Design Criteria and Constraints: Criteria define the product's physical and functional characteristics (shape, size, weight, speed, ruggedness, and ease of manufacture). Constraints are factors that limit the engineer's flexibility (cost & time).

My Project Design Criteria and Constraints are the following:

Evaluate alternative designs: Your research into possible solutions to a defined problem will reveal what has already been done by others to satisfy similar needs. You should consider at least two or three alternative designs and consider using available technology, modifying current designs, or inventing new solutions.

Possible other designs for My Project are:

Build a prototype of best design. Use your alternative analyses to choose the design that best meets criteria considering the constraints, then build a prototype. A prototype is the first full scale and usually functional form of a new type or design.

My Project Design is shown below: insert photos, diagrams, or illustrations below.

Test and evaluate the prototype against important design criteria to show how well the product meets the need/goal. Develop a test plan describing what you will test, how you will

test, and how you'll perform analysis. You must test your prototype under actual or simulated operating conditions.

I will test my prototype for the following:

Analyze test results, make design changes and retest. Testing may disclose some deficiencies in your design. Make corrections and retest OR prepare an analysis of what went wrong and how you intend to fix it.

My Project Analysis will involve the following:

Communicate the design. Your product description will be conveyed in product/prototype drawings, photos, materials lists, assembly instructions, test plans and results. Prepare clear instructions on how to produce your design, along with production cost estimates.

I will use the following methods to communicate to others about the success of My Project: