

## **Recycling Bin**

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Type: Design  
Student Time: Semester Project  
Location: Take home

### **Summary**

This project is intended to be used with first year engineering students as a semester project. Due to world considerations of the environment each project team is to design a recycling bin to accommodate the recycling materials collected within your community. The bin is to fit in your kitchen cupboard and be divided into a number of sub-bins. Each group is to produce an engineering drawing, a book of specifications, a supporting document of local recycling requirements, and give an oral presentation.

### **ABET Descriptors**

Engr Sci Content: First Year Engineering  
Type: Component  
Elements: Establish objectives  
Features: Design, open-ended, creativity  
Constraints: Economics, time, environmental regulations  
Effort: Team or Individual

## Recycling Bin

To: Products Design Department  
From: Marketing  
Subject: Recycling

As we all know our environment is a large concern. Since our state will soon be implementing new community recycling laws we in the marketing department believe that our company could benefit by producing a new product, the recycling bin. We have begun to investigate some possibilities. However, we need the assistance of the products design department.

We currently are unsure of what we need to design the bin to contain . Therefore, a trip to the environmental department may be advisable. (Environmental Department = Government Section of the Library). Remember to reference all documents and conversations.

Our other concern is the size of the bin itself. Shall it have a lid? How many compartments? The list of questions is endless and may be a place to start your design procedures.

Outcome:

The bottom line is this: We would like your department to supply some suggestions to marketing to review at their departmental meeting in two weeks. Please submit the requirements imposed by the federal government, state department of environmental quality, and any local community concerns. We would like your department to make us a presentation on your designs in two weeks. Engineering drawings, materials, costs, and specifications will help the marketing department make their decision and we will then forward the information to the production department.

If you have any further questions regarding this issue please submit them in writing to our secretary as she will phone them or fax them to us as we will be at a convention in Dallas, Texas for the next two weeks.

See you in two weeks.

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### **Engineering Notes:**

Environmental issues are now a concern in all communities and recycling laws are being developed. The situation is complicated by the fact that each community is imposing different restriction, and collection opportunities. This project is to expose the student to team work, library usage of government documents, local codes, design and reporting.

It may be helpful to contact the librarian in charge of government documents and arrange a visit and discussion session.

Remember codes vary from area to area and they are in a state of constant change. Another option would be to bring in a speaker from the local area to discuss their concerns on cost, implementation of collection systems, motivation factors to encourage usage, etc.

The students should prepare a written report, give an oral presentation, submit engineering drawings, specifications, and cost data.

### Follow-up:

Construction of bins.

Developing a recycling system on campus. (possibly for a new item not currently being collected).

Research recycling markets.