FY-53 August 6, 1996
[Filename: FOOSBALL.DOC]

Design and Construction of Foosball Machine

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Type:	Design problem
Time:	6 weeks
Location:	Class / Laboratory

Summary

This project is intended for students in the first year class. The students are requested to design and construct a foosball machine of six players for each team. The shape of the surface of the machine is rectangle of 50 cm in width and 100 cm in length. The students are distributed into groups of five.

ABET Descriptors

Engr Sci Content:	First year class
Type:	Component, system
Elements:	Analysis, construction, testing, evaluation
Features:	Problem formulation, open-ended, consideration of alternatives, design methodology
Constraints:	Cost, time, safety
Effort:	Team

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Statement of the problem:

You are familiar with foosball game. You may be good in playing this game. Let us look for possibility of building our machine. First you need to look to different designs available in the market. You will build a machine for six players. These players include goalkeeper, two players on defense, and three players on offense. The surface of the machine is rectangular. The dimensions are 50 cm by 100 cm. The sides of the field are to be designed in a way to keep the ball in motion all the time. The two teams of the machine will be different colors. The goals in the machine are 10 cm wide by 5 cm high. You are limited to a budget of $100. You need to cover the handles on the machine with rubber. The whole surface of the machine needs to be covered by suitable material for easy operation.

At the end of this project, you are expected to submit a report containing project specifications, a diagram of the machine, material used in construction, results of testing, and evaluation of the final product. An oral presentation is conducted by each member of the group explaining his role in the project.

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Engineering Notes:

The intended learning experience for students from this project are:

To get enough information about the machine under consideration
To let students to go through brainstorming about the optimum design
To make engineering drawings of the proposed machine
To consider different schemes to do the job
To choose suitable material
To make design plan according to the budget allocated
To test and evaluate the final product
To make oral presentation and submit the final report

A further application of this project could be in a machine design class in the junior or senior year where major improvement on proposed machine can be accomplished.