Ropes Course
Service Learning Final Presentation
May 13th, 2008
Client: Bear Creek Academy Youth Probation Center

What: A Merced County Probation Department that specializes in the rehabilitation of youth offenders (ages 13-18).

Where: 2840 Sandy Mush Rd.
Merced CA, 95340
OBJECTIVE

Design and construct ropes course modules that test individual strength while focusing on teamwork

Goals:
• Build website
• Design a minimum of 5 modules
• Construct 2 modules
• Create a scaled-down model
It's a Small World Afterall: Nano/Micro Technologies for Global Health and Biomedical Advancements
TEAM MODULE: Whale Watch

Introduction
Module Layout
Team Modules
- Whale Watch
- Team Skis
- V-Walk
Individual Modules
Static Analysis
Progress
Demo
Credits
Final…

8x8 feet platform on a beam frame
1 foot diameter cylindrical cement base
Metal plate welded with the hitch
Trailer hitch ball and mount
TEAM MODULE: Team Skis

- Inter-twined nylon rope for durability
- 2x6 beams measured 10 feet long
- Rope tied to an eye screw
TEAM MODULE: V-Walk

Introduction
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Individual Modules
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Final…
Cemented 4 feet into the ground

8 feet

12 feet
It's a Small World Afterall: Nano/Micro Technologies for Global Health and Biomedical Advancements

STATIC ANALYSIS

Load: 2200 N distributed uniformly

Constraints: fixed during analysis

12 feet
8 feet
Max Stress: 2.2 MPa
Max Displacement: 0.16mm

Wood Properties:
Yield Stress: 30 MPa
# It's a Small World Afterall:

## Nano/Micro Technologies for Global Health and Biomedical Advancements

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**Module Layout**

**Team Modules**

**Individual Modules**

**Static Analysis**

**Progress**

**Demo**

**Credits**

**Final…**
TEAM MODULES: Demonstration

**Team Skis**

**Objective:**
Travel from one place to another without having your feet touch the ground

**Key:**
- Communication
- Teamwork with synchronized movement

**Whale Watch**

**Objective:**
Balance on the platform

**Key:**
- Communication
- Patience
Leaders
Brandon Leplla
Eric Shorr
The main objective of our team was to design a ropes course targeted to address teamwork and trust. We aimed to accomplish this task by creating individual modules where the task is impossible to do by oneself. To ensure the most effective design of the overall course we decided to create individual modules to allow the ability if adding on to the preexisting designs from the previous semesters.

**The Wall**

Concept: This semester we decided to improve the existing wall and make it more unique and team based. Instead of a vertical wall it will be at a 75 degree incline with ropes hanging down to assist the climbers.

Objective: There will be two people participating at once. One person job is to stand on the ground and pull a rope through a pulley assisting one of his team members over the wall on the other side.

Design: The way that we designed the wall it will be freestanding with four support posts anchored in the ground with concrete and braced at both ends. The four supports will be pressure treated 4x4 posts. The frame between the posts will be small walls built ten inches on center and nailed into the posts. The wall will then be sided with plywood.