Due: Thursday, 2/2/06

Winter is B-Ball time in Knoxville (and at last the Men’s team joined the party)! As your fearless instructors were enjoying a recent game, a troublesome fan was heard to question the environmental consciousness of UT students, stated that they generate enough garbage at a game “to fill this place”. Clearly an exaggeration, but your instructors, having highly developed “engineer filters”, are interested in statements like that. How long would it take to fill up the arena with garbage generated by the fans? Your team assignment is to come up with an engineering estimate of the volume of Thompson-Boling Arena that would be available to store garbage. Then estimate the number of school years necessary to fill the arena with the garbage generated at the various events that take place there. Include concessions, programs and inserts, promotions, and…? Finally, decide whether this comparison dramatizes the Arena garbage situation appropriately. If not, come up with your own comparison using your garbage generation estimate and an alternative “garbage can” that you feel is more appropriate or dramatic.

Last semester in EF 151, your team experiences were mostly confined to class time. Our first objective for your teams this semester is to establish the appropriate communication channels so you are a functioning team at other than class meeting times. This will be necessary to have a successful term project. Therefore, one of the objectives of this exercise is for you to arrange and meet outside of class and take data appropriate to the solution of this problem.

Tasks for today:
1) In class today: perform a “10-minute estimate” of a) the volume of the arena, (in cubic feet) and b) the garbage generation “rate “(per fan, per event?) and finally the number of years to fill the arena. You are to use no outside resources, just the knowledge in your team and your engineering estimation skills. Report these numbers to your GTA.
2) Exchange contact information with your team members if you have not already done so. Decide what information you need to collect to improve the estimate you have performed in task 1). It is presumed that some information will be available on-line* and some information it will be best to measure yourselves. It is required that you meet outside of class and take data as a team to help you solve this problem. Schedule your outside of class meeting. Rumor has it both the men and women B-Ball teams play this weekend.
3) Brainstorm an appropriate team name and logo that will appear on your cover sheets for project assignments this semester. This task should be complete in time to put on your cover sheet for this assignment.

Reporting:
1) On Thursday 2/2, a three page report is due on this exercise. Please note this is the day after Exam #1, plan your time accordingly. The report consists of a title page, that should include team name and logo, team members names, title, date, class name, class team designation (B1 – 3,A2 – 4, …)) The remaining two pages should include your initial and final estimates of arena volume, garbage generation rate, and time in years to fill the arena. Discuss your assumptions, a description and presentation of the data generated by your team, the differences between your initial and final
estimates, and a concluding paragraph of what you would do to improve your estimates if you repeated the exercise.

2) On Thursday, 2/2, each team will be asked to give a 5 minute oral report on your estimates. While this is not a formal oral report, it is a component of your grade on the project so you should be prepared to discuss the items that are documented in your written report and answer questions from the instructor and your classmates.

*You are free to use any on-line and library information available. You are not to contact (by phone or email) the athletic department or physical plant to gather information for this project. Your instructors are careful not to awaken 800 pound gorillas.