

## ME72 Engineering Design Laboratory

Fall & Winter Terms, 2006-07

### Student Participants: Things To Do on Contest Day Tues 13-Mar, 2007

1. Be Early (**1:00 pm**) on Contest day (**Tues 13-Mar**). If you cannot be in Beckman Auditorium by **1:00 pm** on Contest day, be sure to inform Prof. Antonsson.
2. RELAX! The work of the term is now over, relax and enjoy showing off your device during the contest. All of your work that counts for your grade is now done. **Your performance in the final contest will not count towards your grade.**
3. Remember, the final contest isn't fair. The contest is a *double elimination* tournament, which is just like a single elimination tournament, except you are able to continue competing until you have lost *twice*. It is not a round-robin tournament. Thus, there is the chance that you may meet the two finalists in the first two rounds, and be (numerically) eliminated (apparently, unfairly) "early". This is an unavoidable risk, and may create some understandable disappointment. However, if you feel that you are the victim of this random unfairness, please don't let your disappointment get out of hand. Remember: **Your performance in the final contest will not count towards your grade.**

A full round-robin tournament would take too long, and (since many devices experience failures during a long tournament) an element of unfairness would still persist based on the order of pairing of competitors.
4. Pairing, wins, ties, and losses will be recorded by a computer, which will determine who is eligible to compete in the next round.
5. Display Device Numbers Prominently, so they can be read by a video camera above the contest table. Two inches high is a good guideline.
6. Be careful about decorating your device the night before the contest. Sometimes "non-functional" decorations have an un-intended function (*e.g.*, paint changes dimensions slightly).
7. There will be a "pit" area where you can prepare and repair your device. Any repair is legal, time permitting. The M.E. Shop staff will bring some tools, materials, and supplies. **Do not bring tools from the shop yourself.** If there is something special that you will need, be sure to ask the M.E. Shop staff to bring it. It is perfectly legal to have spare parts ready and available (*e.g.*, spare belts, tires, *etc.*).

8. There will be a number of helpers for the contest:
  - (a) A randomizer/recorder. This person will operate the computer that randomly pairs contestants and records wins and losses.
  - (b) A “starter” to find and notify contestants who have been called to the start.
  - (c) A “Power Module Czar” to manage the exchange of power control modules from team to team.
  - (d) Two Judges, one for each side of the contest arena.
  - (e) Two helpers (one on each side of the arena) to manage the contest tables and time the 44 seconds Set-Up time.
  - (f) Two Pit Bosses/Advisors. The M.E. Shop staff will be in charge of the pit area.
9. Pairing, wins, ties, and losses will be recorded by a computer, which will determine who is eligible to compete in the final rounds.
10. As soon as you finish competing in a bout, and are not eliminated from the competition, **GET READY FOR THE NEXT ROUND!** Don’t wait for the start of the next round, you may be called to compete first.
11. Watch the computer display in the “pit” for your name.
  - When you are at the top of the displayed list, you should be on stage competing.
  - When you are on the second line down on the displayed list, you are “On Deck”, and you should be at the table at the edge of the stage, and be ready and waiting to load power modules into your devices, and be ready to compete.
  - When you are on the third line down on the displayed list, move from the “pit” to the side of the stage near the table and wait.
12. To cross the stage (to get to the far side of the contest table), walk **behind** the contest table.
13. The flow of events before the contest:
  - (a) Before **1:00 pm** on **Tues 13-Mar** all contestants must have their devices checked for legal size and weight in Beckman Auditorium.
14. The flow of events prior to the contest:
  - (a) Be sure to be in the Auditorium by **1:00 pm** on **Tues 13-Mar**. With luck the contest will be over by 3:30 pm, and you will be free to go by 4:00 pm.
15. The flow of events during the contest:
  - (a) Prepare device.
  - (b) A computer will be used to randomly determine the pairing of contestants. The pairing will be displayed on a video monitor, both on stage, and in the pit area.

- (c) Watch the screen and listen for your name.
  - (d) At that time you will learn who you will compete against, and which side of the table you will be on (East or West).
  - (e) When you will compete next, be at the edge of the stage, ready to set up your device, with the power control module and batteries installed in your device, but not yet plugged-in.
  - (f) When you are third on the displayed list, wait in On-Deck area at the side of the stage, for modules from the teams currently competing.
  - (g) When called to start, you have 44 seconds to set up. This will be carefully timed with a stopwatch.
  - (h) We hope to have 2 contest tables in use. One will be setting-up while competition is going-on on the other one.
  - (i) When done setting up, be sure to stand so that the audience can see the competition.
  - (j) Do not touch your device until the competition is completely over, even if you have clearly lost.
  - (k) The Judge(s) will decide who has won each contest. They will indicate the winner with a small flag.
  - (l) Don't argue if you feel wronged. Save it to discuss with Prof. Antonsson later.
  - (m) Quickly remove your device.
  - (n) Leave the chain in the start zone.
  - (o) Quickly remove the power module and return it to the table at the edge of the stage.
  - (p) If/when you are eliminated from the competition, please sit in the seats reserved for you in the front of Beckman Auditorium.
16. Bring friends.
17. Student Photographers must stay in their seats. To limit the number of people and cameras near the contest (and in the way of spectators). The Media Area is reserved for credentialed members of the media only.
18. Photographs and a Video will be available free to Class/Contest Participants sometime during the third term, from Prof. Antonsson's office. These same photos and video will be available for sale in the Caltech Bookstore to non-class participants.
19. No intoxicants. This is an Academic event. If anyone (contestant or spectator) is drinking alcohol or otherwise under the influence of a controlled substance, he or she will be thrown out, and the Dean's office will be notified.
20. Nervousness/Adrenaline will cause your hands to shake.
21. Once you are eliminated from the contest, you may sit in a section of seats at the front of Beckman Auditorium reserved for you.

22. Last time there were over 800 spectators, several TV news crews, 2 newspapers, as well as the Caltech video crew and photographer. The contest itself is noisy, confusing and hectic. Be prepared.
23. At the conclusion of the contest (after the winners have hoisted the trophy), **Please return to the stage to take a group bow.**
24. After the contest, please stay around for a group photograph, and interviews with the media.
25. After the contest turn in your device and your design notebook to your workspace in the M.E. Shop.
26. If the boundaries of your device are no longer clear, place your device in a box or inside a circle on a piece of paper.
27. We will collect and grade your devices. We'll return some, and we'll want to keep some for display. We will indicate the ones we want to keep with a note attached to the device requesting that we be able to keep it to put in the display case (for one year).
28. If we do not ask to keep your device, please pick up your device and notebook at the beginning of the third term. Any devices or notebooks unclaimed by Add Day of the third term will be discarded.
29. A Contest Self Evaluation including: new FRs & Cs, advice to next designers, *etc.*, is due by **5:00 pm** on **20-Mar**, the Tuesday after the contest.  
See: <<http://me72.caltech.edu/Handouts/>>
30. A Critique of the Contest with suggestions is due by **5:00 pm** on **20-Mar**, the Tuesday after the contest.  
See: <<http://me72.caltech.edu/Handouts/>>
31. First and Second place teams: please see Prof. Antonsson after the contest regarding your trophy.
32. After the contest, please clean up your workbench. This activity should include making two piles of kit contents on your workbench:
  - One pile of kit parts that are exactly in their original form.
  - One pile of kit parts that have been modified or cut.

All contest kit materials in original condition will be saved for use in future contests.