

EML2322L – MAE Design and Manufacturing Laboratory

Design Problem Comprehension Quiz (Spring 2021)

1. There are _____ source trees and _____ target buckets inside the arena, and each source tree contains _____ tennis balls.
2. Groups must successfully bucket _____ balls for a perfect run, and each ball is worth _____ percent towards the team's effectiveness score.
3. Groups receive a _____ time bonus for each bonus ball successfully bucketed.
4. Groups can make as many "trips" to the tree as desired during a timed run. T / F
5. Groups can only attempt the bonus ball on their side of the arena. T / F
6. Groups must successfully bucket _____ required balls to receive credit for any bonus ball(s).
7. Balls which touch the floor can count towards a team's successful score as long as they do not scratch the floor when picking them up. T / F
8. Groups can place balls in either of the two goal buckets. T / F
9. Groups must be capable of mounting and wiring the control box to the fully assembled robot within _____ min.; it must be attached using at least _____ fastener(s) in each of its _____ mounting flanges; and its mounting flanges are the only parts which can touch the robot.
10. The robot size restriction has been removed from this semester's project statement. T / F
11. The arena entry ramps measure _____ wide, the side ramps measure _____ wide, and the middle ramps measure _____ wide. All ramp angles measure _____ .
12. Each group is allowed _____ competition rounds and each run is limited to _____ minutes.
13. Each team must call "*time!*" to denote the end of a run that is less than 5 minutes. T / F
14. Groups cannot _____ the arena floor or touch it with any metallic objects.
15. A _____ budget is provided for each team, as well as _____ of 80/20 and connectors.
16. Groups are allocated up to _____ motors and _____ wheels from the lab and permission must be obtained prior to making modifications to these (or any) OTS parts.
17. Groups are permitted the use of _____ proportional and _____ relay channels.