

Specifications Sheet

v1

Details to assist with Mission Planning

(things you need to know before designing your robot)

The CHS SeaPerch competition will be a timed underway run, comprised of three defined tasks. Competition will take place on Tuesday, June 4th (or Wednesday, June 5th for 5th/6th Periods), and will be conducted in the BBMAC pool (right here beside the school).

The three tasks will all be supported by the "Mission Tree" - - a 4-5 ft tall structure placed at the bottom of the pool - - centered about 8-10 feet from one corner of the pool. [Pool is 7 ft deep.]

The North side of the Mission Tree will have an inverted basket attached. This basket will have a rectangular opening that is at least 2 ft by 2.5 ft. This opening will be 2-4 ft below the water's surface.

The West side of the Mission Tree will have a hoop attached. This hoop will have a diameter of at least 24 inches. It will be aligned vertically, and will be centered 2.5-4 ft above the bottom of the pool. The South side of the Mission Tree will have another hoop attached. This hoop will also have a diameter of at least 24 inches. It will also be aligned vertically (obviously angled perpendicularly to the West side hoop), and will be centered 3.5-5 ft above the bottom of the pool.

The East side of the Mission Tree will have two separate stations with a two-pronged 6-inch peg protruding directly outwards. A "pool ring" of about 5-8 inches in diameter will be hung on each of the two-pronged pegs. One peg station will be 2-3 feet below the water's surface, and the other will be 4-5 feet below the water's surface. The rings will be slightly negatively buoyant.

Task 1: Robot must carry a tennis ball from the robot's launch location to a position underneath the inverted basket on the Mission Tree's North side. The tennis ball must be released, and should float up into the inverted basket. [Success yields 40 points.]

Task 2: Robot must pass thru the hoop on the Mission Tree's West side. Then it must pass thru the hoop on the Mission Tree's South side. Then it must rise to the water's surface, with some part of the robot breaking the surface. Finally the robot must pass back thru the South side hoop (in the opposite direction), and must pass back thru the West side hoop (again in the opposite direction). [Success yields 180 points.]

Task 3: Robot must pick up a ring from one of the peg stations on the Mission Tree's East side. The ring must be carried back to the surface (at the robot retrieval location) - - where a team member must reach down from the side to pick up the ring. [Success yields 80 points.]

Timing: Less than 4 minutes yields 100 points. More than 8 minutes yields 0 points. Specific point values for intermediate times are defined by: $POINTS = [480 - (time\ in\ seconds)] \times 5/12$