



Updates



FLL WORLD CLASS Project Updates

1 – FLL WORLD CLASS QUESTION WORDING

You may write your FLL WORLD CLASS Question to target a specific group, if you wish. For example, all of these would be valid questions:

- How could we improve the way that someone on the autism spectrum learns to play soccer?
- How could we improve the way that a hearing-impaired person learns sign language?
- How could we improve the way that someone in 4th grade learns math concepts?

FLL WORLD CLASS Robot Game Updates

Updates 7-17 are NEW.

Please review Updates 2 and 5 as they have been edited.

17 – LOOP DECISION

In order to have more than six loops to put on the Project-Based Learning scale, yes, you have to sacrifice at least 45 Search Engine points. This is a simple consequence of Rule 51, 5th bullet up, and redundantly of the “end of the match” phrase at the top of the Search Engine mission itself. It is not a penalty, or a loss – it’s your strategic choice. (Rule 51 and Mission text reminder and insight)

16 – “SPIN” AMOUNT

Where the Search Engine mission requires the wheel to have been spun “at least once,” that does not mean spun “some amount.” It means spun “at least one full revolution.” My bad. (Mission clarification)

15 – PENALTY STORAGE

TEAMS: Rule 35 allows you put the penalty markers somewhere out of your way, where they don’t affect anything... For this game, that will be “in control of the referee.”

REFEREES: As a referee staff together at your event, please pick your favorite TWO locations where penalty objects don’t affect anything - on the mat, a border wall, or your person - with at least one of these places being in plain sight for everyone. As penalties are earned, move the objects them from one location to the other. Thanks. (Reminder of Rule 35 and a policy announcement)





Updates



14 – REVERSE ENGINEERING WORKSPACE AND TIME

The Rules allow only two team members at the table at a time, and they also require scoring objects to be in view of the referee during the whole match. So the replication work must be performed at the table by one of the two current drivers. Also: Yes, this mission takes time during setup, and during the match. Before the match: Do not expect tournaments to help teams with this mission by extending setup time. This is YOUR challenge. With practice, your construction can take just a few seconds. You can make a simple shape, helping yourself as well as the other team, or you can enjoy challenging them and yourselves by making a complicated design. During the match, you don't have to do this mission. (Reminder of Rules 34, 35, plus a rant)

13 – STORED OBJECTS CAN NEVER CAUSE PENALTIES

It doesn't matter where they are, or how big they are. (Clarification/Reminder of Rules 32, 33, 35, 45)

12 – IDEA IN BASE

Since it's not clear if the light bulb slab part of the "box" mission model, you may bring this part to Base. (Rule 2 related mission ruling)

11 – WHAT'S A "SHOT?"

When a word isn't given an FLL definition, please use the common understanding of the word. Only because it has been frequently requested... Our meaning of "take a shot" is to release or propel the ball in a way the referee thinks was designed to cause the ball to come to rest in scoring position. If you're not sure the action you're designing will look like a shot to any referee, design a different action. (Policy announcement, mission clarification, and strategy advice)

10 – EAST OF SHOT LINE

If the robot is taking a shot at the goal, the entire robot needs to be east of the shot line. (Reminder of Rules 2, 12)

9 – GET BALL OUT OF WAY

If the robot leaves the ball outside Base in an undesirable place, you or the referee may move it away at any time, but it may no longer be used for anything. (New exception to Rule 38)

8 – CLOUD KEYS WILL NOT BE JUNK

Leaving a cloud key outside Base will not cause a Junk penalty. (New exception to Rule 32)

7 – APPRENTICESHIP

You arrive at the table with your Apprenticeship model already built. You may add the people to it by hand, any time, including pre-match setup. Just by having the model in view of the referee (in Base or any other Rule 35 storage area) you get 20 points. To get 35 points instead, bind the people to it, and have the robot place it such that it's touching the northwest circle and not touching Base. This will not cause a Junk Penalty. (Mission clarification)





Updates



6 - SHARED MISSION

The screen and camera system works very well when set up perfectly. But an always-perfect setup is unrealistic to expect during tournaments. So this year's shared center model will represent sharing, simply because of what it is, and physically it won't work unless both teams activate it, but the POINTS you earn will not be dependent on the other team. (Reminder of Rule 2.)

5 - FIELD SETUP FACTS

- The picture at the bottom right of Page 11 should be labeled "EAST CENTER GUIDE." (Page 11 correction)
- The lone loop in the south center of the field is to be placed as shown at the top right of Page 10. (Page 13 picture correction).
- The correct color order for the search engine's slots: yellow, blue, red, running west to east. (Page 13 picture correction)
- The setup position of the search engine's wheel in random. (Mission clarification)
- The engagement pinwheel only has two arms (Page 29 picture correction)
- The engagement pinwheel setup is with its red arm up. (Reminder of Field Setup, Page 9 text, Page 10, 29 picture corrections, reminder of Rule 5)
- Except for the search engine's loops, other loop color placements don't matter. (Reminder of Field Setup Pages 9,10)
- The mat has no blue lines. Production mats have green. (Page 10, 11, 13, 26, 27, 28 picture corrections)

4 - MAT SIZE/FIT

This year's mats are running ever-so-slightly wide (north/south). If this is causing your mat not to lay flat between your table walls, the official solution is to trim the black border off your mat's north edge, since that border serves no function and this change will not be noticed by a robot. Try to do a good job, but your care is more important for safety than for accuracy. Thanks for your understanding as we adapt to our new mat material. (Mat correction and policy announcement.)

3 - ENGAGEMENT DIAL MATH

There is no error in the Engagement mission scoring examples when you realize this: When the dial is set all the way counterclockwise like it's supposed to be, it's one tic BELOW the first red position. (Reminder of model operation.)





Updates



2 – DOOR SWING

The door's tendency to stay still, open, closed, is random, based on tiny variations in how the volunteers attach it to the west wall. Their job is to make it like the picture – which “looks” level. When the robot pushes the handle down, the door is designed to be swingable, and yes, it's sensitive. Instead of hoping for a door that swings open, or expecting the volunteers to attach it the way you want it, the engineering solution to this mission is to figure out a way to ensure that any door will be open at the end of the match, no matter how it might like to swing. (Insight and strategy advice)

1 - REVERSE ENGINEERING

This relates to the setup of the “Reverse Engineering” models, described on Page 10 of the Challenge Document. During setup at a tournament, you build your FIRST 6-piece model and hand-place it in a basket on its mark on the opposing team's field (and their FIRST model will placed on your field). Once the match starts, your robot goes and gets the basket on YOUR field, and brings it to YOUR Base, so you can build your SECOND 6-piece model – a replica of the other team's FIRST model. Of course in practice, you can only pretend a trade has occurred. (Mission clarification)

