

## 2021 *FIRST* Robotics Competition Season Details

As announced in the [FIRST inspires blog post](#), we will open the *FIRST* Robotics Competition registration assuming a season experience without in-person game play. This means that we will neither include events with team registration nor publish an event schedule. We will continue to monitor conditions and reevaluate the possibility of adding in-person game play events in January.

For the 2021 season, teams have the option to engage in several ways: a Game Design Challenge, INFINITE RECHARGE at Home, *FIRST* Innovation Challenge presented by Qualcomm, and traditional submitted awards. Teams will have the option to engage in as many of the challenges as they choose. Specific rules for each of these challenges will be released at Kickoff on January 9, 2021.

### Registration Fee

The registration fee for the 2021 *FIRST* Robotics Competition season is \$2,000 for returning teams and \$3,000 for new rookie teams. This fee includes the 2021 Kit of Parts, as well as access to all season challenges. Team registration will open on Tuesday, October 6, 2020, at Noon ET.

The payment due date for the 2021 season is Monday, November 16, 2020 at 5pm ET. *FIRST* will continue to work with teams on an individual basis after the due date to help them make their payment. Missing the payment due date does not mean teams have missed their chance to participate in the upcoming season but may lead to them getting their Kit of Parts late and having less opportunity to get the most popular *FIRST* Choice items.

If in-person events become possible, those will be made available to registered teams for an additional fee.

### Team Grants

Several grants are available to assist teams with the registration fee. [Teams can find more detail here.](#)

### Refund Policy

Team registration fees are not refundable once teams receive their Kickoff Kit. Payment terms for in-person events will be made available if/when those events are offered.

### [2021 Kit of Parts](#)

#### [Kickoff Kits](#)

All 2021 paid teams will receive a Kickoff Kit. Rookie teams will receive materials comparable to those distributed to rookie teams in the 2020 Kickoff Kits, though as previously noted, the material veteran teams receive will be more limited in scope than previous years. The drive base kit/voucher option will not be available, and much of the Kickoff Kit inventory is being pivoted to be distributed in *FIRST* Choice.

For most teams, Kickoff Kits will be delivered to the shipping address they specify in their *FIRST* account (must be a street address deliverable by FedEx, no PO boxes or APO boxes). We are currently working with non-US partners to coordinate bulk shipments followed by redistribution in country. Kickoff Kit shipping will begin in early December. Thanks to the generosity of FedEx, teams will not be responsible for Kickoff Kit shipping costs (though any duties/fees/taxes/tariffs may still apply).

#### [FIRST Choice](#)

*FIRST* Choice will be available to all paid 2021 teams. Much of the inventory typically distributed in Kickoff Kits is being transitioned to *FIRST* Choice to make more efficient use of the donated



material by enabling teams to select items that make sense for their current circumstances and challenges in which they've opted to engage.

The schedule for *FIRST* Choice is different from previous seasons. There will be one Priority List round (process described [here](#)) that opens on Kickoff Day, at which point teams will know how many credits will be issued, and closes at noon (Eastern) on January 21, 2021. Any team who has not secured 2021 payment by noon ET on January 21, 2021 will not be eligible for the Priority List round. *FIRST* Choice will open for "normal" ordering on February 1, 2021 and remain open until June 21, 2021. Thanks so much to AndyMark for continuing to make this service available.

### Virtual Kit

With the exception of a few new items, the Virtual Kit, remains the same and available to all paid 2021 teams (if a team is not secured by the release date, any codes needed to redeem the Virtual Kit item will appear in the team's *FIRST* account once they've paid; i.e. there's no "missing out" by a delayed payment). There will be a pre-Kickoff release of items on November 19, 2020, and remaining items will be released on Kickoff day.

### **Awards**

All *FIRST* Robotics Competition awards will be judged remotely.

Most awards for the 2021 season will be associated with either the Game Design Challenge, INFINITE RECHARGE at Home, or the *FIRST* Innovation Challenge presented by Qualcomm. Some of the current awards are being modified to align better with these challenges, and we have created new awards (details below). You may notice that some of the typical awards will not be presented for the 2021 Season, but many will return in the future.

Several sets of awards will be given out, one for each group of teams. Teams that win awards will get trophies shipped to them. Teams will be grouped in numbers roughly equal to the number of teams present at traditional *FIRST* Robotics Competition events. The process by which teams will be grouped for judging will be determined later in the season. Additional award guidelines & interview details will be released at Kickoff.

If we have in-person events, Winning and Finalist Alliances will still be recognized and presented trophies at those events.

### **Game Design Challenge**

The Game Design Challenge is an opportunity for teams to design a game that could potentially be played by *FIRST* Robotics Competition teams. Each team will create one game design concept. Teams must submit either a written document or a slide deck to be eligible. Teams are expected to develop as complete a game as possible, while at the same time creating a succinct presentation for judges to evaluate. Full details, including requirements and restrictions, will be released at Kickoff.

Teams will have the option of doing this challenge entirely remote or, if they are allowed to meet in person, teams can be more hands on in the development of their game. Teams are encouraged to apply engineering design principles to their game design concepts.

The winning concept(s), or elements of those concepts, will be considered for official *FIRST* Robotics Competition games in some future season. *FIRST* will likely make modifications to any submitted concept to facilitate implementation and will credit the associated team when the game/element is released.



Because this is a completely new challenge, we recognize that some teams may not know where to start when designing a game. *FIRST* will develop and release guided activities to help teams through this process. These activities will be released at Kickoff along with full challenge details.

Teams will be required to submit their Game Design Concept and participate in an interview with *FIRST* Robotics Competition judges to be eligible for awards. The awards for this challenge are:

- **Designer's Award** – Celebrates a team's outstanding success with the Game Design Challenge. The winner of this award should be a strong candidate for other awards in this challenge.
- **Concept Award** – Celebrates a team that creates an interesting, realistic game concept.
- **Imagery Award in honor of Jack Kamen** – In honor of Jack Kamen, Dean's father, for his dedication to art and illustration and his devotion to *FIRST*. This award celebrates attractiveness in visual aesthetic integration.
- **Creativity Award sponsored by Rockwell Automation** – Celebrates creativity that enhances the overall game design concept.
- **Engineering Design Award** – Celebrates the team that demonstrates sound engineering in the design process.
- **Rookie Design Award** - Celebrates the rookie team's outstanding success in the Game Design Challenge.

The teams that win the Designer's Award or the Concept Award will move on to be judged by *FIRST* Robotics Competition game design staff. Submissions from these winning teams will be reviewed and narrowed to up to 20 Finalists. These Finalists will be invited to interview with *FIRST* game design staff to present their games and answer questions, and up to 3 teams will be chosen as winners.

## INFINITE RECHARGE at Home

INFINITE RECHARGE at Home brings components of events to you in two ways:

- Teams show off what their robots and drivers can do in skills challenges based on the INFINITE RECHARGE game. Scores are posted, and teams virtually compete against other teams.
- Teams illustrate their robot's technical qualities by sharing information with judges remotely in competition for traditional machine awards. Access to your team's INFINITE RECHARGE robot is not required.

The skills components have been developed for an INFINITE RECHARGE robot and don't require a full competition field. Each challenge will have an objective score that teams will submit, and teams will participate in an interview about their robot and design process for judged awards.

To participate in the skills components of these challenges, teams will need the following:

- an INFINITE RECHARGE capable robot
- an open space to operate the robot
  - ~15 ft. x ~30 ft. (~458 cm x ~915 cm) of playing space (not including where drivers or observers may be located) is recommended
  - Adequate height for your robot to shoot Power Cells into the Power Port, if attempting shooting challenges. Total Power Port height is ~10ft. (~305 cm)
  - Carpet is not needed, any surface your robot can safely drive on is permitted
- Power Cells – Challenges will require no more than 3 Power Cells, which will be in the 2021 Kickoff Kit.
- Wooden Field elements are not required.



Teams will be required to submit specific information to be eligible for the skills component competition. Teams will be recognized as described below:

- **Skills Challenge Winner** – Celebrates a team’s outstanding success with the Skills Challenge. The winner will have the most points in their group.
- **Skills Challenge Finalist** - Celebrates a team’s outstanding success with the Skills Challenge. The winner will have the second most points in their group.

Teams will be required to submit for and participate in an interview with *FIRST* Robotics Competition Judges to be eligible for the judged awards. Teams do not have to participate in the skills challenge component of INFINITE RECHARGE at Home to be eligible for the judged awards. The judged awards are:

- **Autonomous Award sponsored by Ford** - Celebrates the team that has demonstrated consistent, reliable, high-performance robot operation during autonomously managed actions. Evaluation is based on the robot’s ability to sense its surroundings, position itself or onboard mechanisms appropriately, and execute tasks.
- **Excellence in Engineering Award** - Celebrates the team that demonstrates a professional approach to the design process.
- **Rookie Game Changer** – Celebrates a rookie team’s outstanding success this season.
- **Industrial Design Award sponsored by General Motors** - Celebrates the team that demonstrates industrial design principles, striking a balance between form, function, and aesthetics.
- **Quality Award** - Celebrates machine robustness in concept and fabrication.

## ***FIRST* Innovation Challenge presented by Qualcomm**

In the *FIRST* Innovation Challenge presented by Qualcomm, registered teams will identify a real-world problem related to this season’s *FIRST* GAME CHANGERS, powered by *Star Wars: Force for Change*, design a solution, build a business model, and deliver a pitch to compete with other *FIRST* Robotics Competition teams for judged awards. This new challenge will have an advancement track, culminating in the Global Innovation Awards, a multi-day experience where students showcase their innovations, participate in workshops and receive mentorship from experts. More information to come.

## **Submitted Awards**

In addition to the challenges above, teams will be able to compete for the traditional Submitted Awards which include the following:

- [Chairman’s Award](#)
- [FIRST Dean’s List Award](#)
- [Woodie Flowers Finalists Award](#)

Teams will be able to submit for these awards using the same process as a typical season using the [FIRST Dashboard](#). The Chairman’s Award and Woodie Flower’s Finalist Award submissions must be entered by a designated [Award Submitter](#). The *FIRST* Dean’s List Award must be submitted by Lead Mentor 1 or 2 or a designated Dean’s List Award Submitter. The process for selecting the submitted awards for 2021 will be similar to the 2020 process, with the addition of an interview for all Chairman’s Award submissions.

## **Advancement to *FIRST* Championship and Pre-qualified Teams**

Advancement to *FIRST* Championship has not yet been determined. Information about advancement to *FIRST* Championship will be shared with the community when that information becomes available. Please see this [blog post](#) for more information about the 2021 *FIRST* Championship dates.

2020 Championship Pre-qualified Teams (2019 Championship Winners, 2019 Championship Engineering Inspiration Winners, and 2019 Championship Chairman's Finalists) will not be pre-qualified for the 2021 *FIRST* Championship.

## Frequently Asked Questions

1. Does my team have to participate in all challenges?
  - a. No. Teams can engage in as many or as few challenges as they choose.
2. If *FIRST* decides to add in-person game play events in 2021, will that change the challenges presented in this document or the awards that are associated with them?
  - a. No. The challenges will stay the same, and teams that are able to play in-person will still be eligible for the challenges as well.
3. Can my team win awards for each challenge or will my team only be eligible to win one award total?
  - a. Teams will be eligible for awards in all challenges they enter. Judges will 'spread the wealth' within each challenge so no team will be able to win more than one award within a challenge.
4. What if my team chooses to use the Wheels on Carpet voucher for 2021, but then we get another grant later and we want to change the voucher to 2022?
  - a. Teams have until they receive their 2021 Kickoff Kit to change their use of the 2020 Wheels on Carpet Voucher.
5. If my team wins the Chairman's Award this season, will we be eligible for Championship?
  - a. All Chairman's Winners at the local level will be eligible for the next level of selection . All judging will be done remotely. Team advancement to *FIRST* Championship will be determined later in the season, but we will be identifying a Hall of Fame team for each of the *FIRST* Championship locations.
6. We noticed that the Engineering Inspiration Award and Rookie All Star Awards are not on the list of Awards above, will they be given out in another way?
  - a. These awards will not be presented for the 2021 Season.
7. My team was a 2020 Rookie, are we still eligible for these new Rookie only awards?
  - a. Yes!
8. How do District teams earn points?
  - a. Details around District points have not yet been determined. More details to come.
9. How will volunteers be chosen to help with these virtual competitions?
  - a. Judges and Judge Advisors will be needed for the 2021 season, but we have not determined how these volunteer roles will be chosen. More details will be available soon.
10. My team will not get access to our INFINITE RECHARGE robot. Are we still eligible for the INFINITE RECHARGE at Home judged awards?
  - a. Yes. The judged awards in INFINITE RECHARGE at Home don't required physical access to your INFINITE RECHARGE robot. Award guidelines will be available at Kickoff.
11. My team has continued working on our INFINITE RECHARGE robot. Will we be able to use it in the INFINITE RECHARGE at Home challenge and at in-person events if they take place?
  - a. Yes!
12. Since we are being shipped our kits, does this mean there will be no in-person kickoffs this season?
  - a. That's correct. There will be no official in-person kickoffs this season and no option for teams to sign up for one through the system.
13. Can my team start designing our game for the Game Design Challenge now?
  - a. We recommend teams wait until Kickoff as requirements and design parameters will be released then.

Additional questions can be found [here](#).

