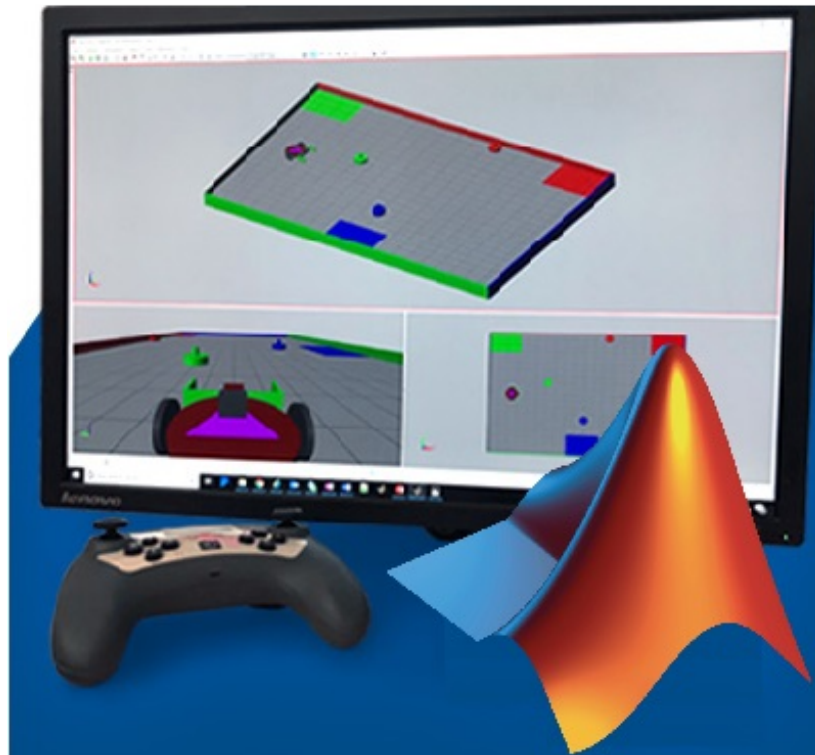




We are excited to be offering **Outbreak Online**, a new comprehensive program that will challenge students in many of the skills they learn during a normal hub competition. This is no normal season, as we all know. Outbreak Online is a program that we are confident can be delivered regardless of what may happen due to COVID19. As the situation with the virus changes often, we do not want to force teams to meet together or potentially stop working half-way through because of factors related to new COVID19 restrictions.



### **What is Outbreak Online?**

It is our fully online delivery method for the 2020 game. All activities are performed online. This delivery method allows us to be confident in delivering a quality program that will not be interrupted by any change in COVID situations. The activities are designed such that they can be performed by students collaborating in person or remotely, depending on your situation. It includes all the activities that you are familiar

with in the normal BEST competition and several new online skills challenges that will expand the students' knowledge and their skill levels. The 2020 game has changed from "Incision Decision" to "Outbreak", a new game that allows us to better scale across all competition delivery formats. It is a medical theme just as Incision Decision was.

## **What is changing from the normal BEST competition?**

### **Designing/Building the Robot**

There are no kits, no physical field and no robot construction. Your team WILL STILL design a robot to solve the game "problem". We have a NEW Critical Design Review where your team will present details of their robot design to the judges. You can still locally do prototyping, as permitted by your situation, and any modeling that you desire to help in explaining your robot design.

### **Robots on the Game Field**

Your team will still do programming (both driver-controlled and autonomous) of a virtual robot and run it in time-trials on a 3D virtual game field. This is similar to running matches on the physical field, but you shouldn't have many break-downs due to mechanical issues ! :) The same Outbreak game field is simulated in a virtual environment, with only a few changes. But don't think this is just playing a simple video game....it will be much more challenging for your students. We'll show you how to stream this activity so that parents, teachers, mentors, friends can watch your team's skills from anywhere! No need to travel! Grandpa can watch from North Dakota.

### **Programming Expanded**

The autonomous programming challenge is a new required activity for Outbreak Online and will be a new experience for some of your students. It will be scored as separate time trials on the virtual field and a separate Programming Skill award will be presented.

### **Familiar BEST Activities**

The same BEST Robotics activities you are familiar with will continue in our Outbreak Online competition.

*Engineering Notebook* - no change to this traditional deliverable documenting your engineering process, research and game strategy.

*Marketing Presentation* - same criteria but it will be hosted as an online meeting with judges.

*Virtual Team Exhibit* - your team exhibit has gone virtual! Learn how to turn your exhibit into an online showcase of your publicity and community relations activities. We even have a way for your team to video chat with the public at the times you choose.

*Student Interviews* - we will still do student interviews but they will be done through an online meeting with judges.

## **New Online Challenges**

There will be several NEW online challenges offered that will test your students' skills and knowledge. Each is an exciting new opportunity to expand your students' education.

*BESTMania Skills Quiz* - So you think your students are pretty smart, eh? Let them try the weekly BESTMania Skills Quiz, collect points for their team and learn a few new things along the way. Lots of twists and turns and ways to boost their score each week. They can also earn points all week long through the MathZing Prep challenges; SAT and Grade8 math prep for points! Join the games at <https://www.mathzing.com/bestmania.php>.

*Outbreak Minecraft Challenge* - Yep, you guessed it, a Minecraft game modeled after our 2020 game, Outbreak! Get online, compete as a team, beat the clock to score as many points as you can. Solve puzzles and learn more about the game theme and real-world implications as you try to achieve milestones and create new materials. Anyone can play, but your game time is limited so play wisely!

*Robot Modeling Challenge* - Take your team's robot design to the next level. Model it in a 3D environment where you can simulate its movements. Maybe your students are skilled enough to demonstrate it in action on the Outbreak virtual game field! Import from CAD tools or model it from scratch in Mathworks Simscape Multibody environment. Take your time, do as much as you can, earn points for each accomplishment.

*Engineering Drawings Challenge* - Many teams already use Computer Aided Design (CAD) in the development of their robot. Let them take it one step further and create masterful drawings that will win this award! Engineering drawings are important throughout industry. Learning how to produce proper drawings will be an incredible boost to their resume.

*Website Design Challenge* - Your students can learn how to design a website and earn points for the skills they demonstrate. They can use this platform to learn how to program in a variety of languages including HTML, CSS, Java, Python, and others. Help them tap into their artistic side to create a visually appealing and functional website. Website design is a great skill to have in their portfolio. It's all about the design!

*Video Design Challenge* - Video is a common tool we use every day it seems. All our mobile devices have video cameras. But there is an art (and great skill) in creating a good video. Students can learn about the basics of photography and videography as they develop a custom video on one of our select topic areas. They could be crowned Master of Video Design!

## **What do I do now?**

Register your team to participate at the [BEST National Registry](#).

BEST Robotics is working tirelessly to provide our students with the best opportunities and education possible during these difficult times. We encourage everyone to not let this difficult time change that. Adapt and overcome...be a part of the solution!



<http://www.bestrobotics.org>

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