

Build Strategy

During the off-season, all students begin by experimenting with new and available components and technologies that could potentially be used on the robot. As build season begins, the team reads the competition rules to understand the game and robot parameters, in order to define goals for the competition and brainstorm robotic functions that will maximize points in the competition.

At this point, members work in smaller teams to determine the optimal strategy for robot development, including technologies to be utilized for each function identified as crucial for success, and develop the final design for a single robot.

Employing an empirical approach, teams work on their respective assignments, developing physical models and component optimization that will ultimately result in a skeletal prototype.

Now, team members are cross-trained in the technologies and designs used in developing the prototype, and the entire group comes together to launch the physical building of the robot.

Students now engage in machining, welding, fabrication, and programming to build a solid frame for the robot in the first week, and a functional working robot within 3 to 4 weeks. In the two weeks that follow, robotic electronics, mechanics, movement, and functionality are fine-tuned and optimized to achieve overall goals for the competition.

This strategy allows for 1 to 2 weeks of final testing and practice before heading to the competition.