

11 Appendix D: Additional Components for *FIRST* Robotics Competition

The following section contains information that is applicable to only *FIRST* Robotics Competition teams.

11.1 Key Objectives of the Safety Program

The key objectives of the Safety Program are to:

- Help ensure that participants, volunteers, and spectators have injury-free competitions.
- Motivate participants to learn and follow safe individual and group practices using a positive coaching approach as a life skill.
- Empower all participants to be proactive participants in creating a safe environment for *FIRST* Robotics Competition participation.
- Publicly recognize teams and individuals for safe practices.
- Coordinate, deliver, and track safety training for the individual team members as well as team-wide safety procedures.
 - It is suggested that teams bring their training log and procedures to events and continue to make comments about infractions and/or areas of continuing improvement.

To be eligible for any *FIRST* Robotics Competition award, teams will now be required to show how they espouse [FIRST Core Values](#) and a culture of safety in addition to demonstrating *Gracious Professionalism*®.

11.2 Student Safety Captains

FIRST Robotics Competition encourages teams to designate a student safety captain for events. Teams are encouraged to identify safety captains as part of their team organization so they can help promote safety where you meet, build, and work.

- Work with a team mentor to learn about common safety risks which might occur when building or competing with *FIRST* Robotics Competition robots and how to mitigate those risks.
- Help identify and escalate safety concerns to ensure that participants, volunteers, and spectators have injury-free competitions.
- Work with their team to develop and document a team safety program that outlines your team's safety culture with consideration for the elements in this manual.
- Find ways to promote the importance of working safely every day as part of your team culture and processes.
- Provide support for any safety questions or concerns that may arise. Seek guidance from mentors as appropriate.
- Conduct safety inspections of the general work site, especially the robot construction area. This also applies to the pit station during competition events (see the [Safety Checklist](#) and [Corrective and Preventative Action Plan](#) Appendices for examples).
- Know where to find and become familiar with [Safety Data Sheets](#) (SDSs) and related emergency procedures.
- At *FIRST* events:
 - Lead the *FIRST* culture of safety as an event safety ambassador by maintaining [Safety at FIRST Events](#) for your team, volunteers, and spectators. Advise those around you of safe practices in line with these procedures and escalate to your mentor if you require support. The Safety Manager(s) will also be available for escalation as appropriate.
 - Ensure compliance with safety practices and event requirements during load-in and tear-down.

- Have a safety plan for each event so in the event of an emergency, all team members know the procedures to follow to ensure everyone's safety. This includes identifying a meeting spot to gather as well as a list of participants so you can confirm everyone is safe.

11.3 Safety All Star

Creating a culture of safety is exemplified by the work and dedication of Safety Captains. Throughout the competition, teams are encouraged to spend time talking to other teams' Safety Captains to learn what they are doing to create and build a culture of safety. To recognize those individuals who go above and beyond to drive a culture of safety, each team will be provided with *Safety All Star Cards*. The *Safety All Star Cards* are used to vote for the safety captain they believe exemplifies leadership, possesses extensive safety knowledge, and demonstrates excellence.

This information will be used to assess candidates for safety recognition and awards. Safety Managers, with input from *FIRST* Robotics Competition participants, will select the Safety All Star on the primary competition day(s) at each event. Each day's Safety All Star will be presented with a small token of appreciation.

Safety All Star Cards will be provided to teams on non-playoff round days of each event. The cards should be completed and submitted to pit administration prior to the end of the day they are received.

11.4 Event Safety Reminders

The following information will be reviewed at the first safety captain's meeting at each event, but all team members should be aware of these event safety reminders:

- Be Safe, Be Kind, Be Gracious. Instilling a culture of safety throughout the season, including at *FIRST* events, is a fundamental goal of *FIRST*.
- The Safety Managers are here to help promote safety with you during these events and in the heat of competition. We would love to hear about your team's approach to safety!
- Serve as a safety ambassador for *FIRST* at the event and be a proponent for the *FIRST* culture of safety. Escalation of safety matters should be made through your mentor or, as appropriate, with the Safety Manager(s).
- **Pits** includes your individual pit and all adjacent aisles. The pit area begins when you enter the designated area, usually near the pit administration desk or safety glasses station.
 - Safety glasses are required at all times in the pit area and on the competition field. *FIRST* needs your help to enforce this rule. Please ask your team members and spectators to wear their safety glasses. Wear ANSI-approved, UL Listed, CE EN166-rated, AS/NZS-certified, or CSA-rated safety glasses.
 - If you wear non-safety rated prescription glasses, you must wear approved safety goggles over them to achieve adequate protection. If you wear safety rated glasses, you may use ANSI-approved, UL Solutions-Listed, CE EN166 rated, AS/NZS certified, or CSA rated side shields.
 - Reflective safety glasses lenses are not allowed (your eyes must be clearly visible to others); however, tinted safety glasses are allowed for general use without need for permission or accommodation.
 - Wear shoes that completely cover the entire foot. Shoes must be substantial and have closed toes and heels to protect against foot injuries, regardless of work location. Flip-flops, sandals, mules, Crocs, lightweight slippers, etc. are not acceptable.
 - A 10-foot height limit for equipment and displays in the pits will be enforced.
 - Children 12 and under must always have a person 18 or older with them.
- Practice safe robot transportation principles.
- Open flames are not allowed in the arena venue, except by authorized personnel and in approved locations (such as the machine shop).

- Report all injuries and illnesses to the EMT stationed near the pit administration desk.
- Teams should remember to review the Event Rules, found in Section 13 of the *FIRST* Robotics Competition Game Manual, prior to the event.
- Safety All Star input cards are to be filled out by each team and turned in each day to pit administration. Safety Managers, with input from *FIRST* Robotics Competition participants, will select the Safety All Star on the primary competition day(s) at each event.

11.5 Safety Managers

FIRST Robotics Competition Safety Managers are volunteers who work with teams to ensure that they understand, comply with, and practice the fundamentals of safety to ensure the safety of all *FIRST* event participants. Throughout the event, teams' safety practices will be observed in the pit, practice field, queue line, and playing field. This includes observing the transport of robots between the pit and playing fields. The culture of safety demonstrated by individual teams at the event will be assessed.

- The program uses:
 - Coaching, positive reinforcement, and public recognition to meet its objectives.
 - Positive verbal feedback for safe behavior and conditions.
 - Identification of unsafe behavior and coaching to correct unsafe behavior.
- Teams should not hesitate to talk with the Safety Manager(s) and ask questions.