Appendix B: *FIRST*® Tech Challenge Team Roles

Below is a list of potential roles that individuals can serve on a *FIRST* Tech Challenge team. These serve as suggestions and a starting point when developing your team. An individual can take on multiple roles; however, be sure that a single individual does not take on too many. Sharing responsibilities is great teambuilding and creates a stronger sense of team identity.

FIRST Tech Challenge Team Roles	
Responsibilities	**Traits**
Mentor (2+ adults)	
• Read about the Mentor's Role.	• 18 years or older • Patient • Dedicated • Willing to learn
Future Mentor (1+)	
• Assist the mentor and other team members. • Gradually take on responsibilities as the season progresses, to assist the mentor.	• Receptive to feedback and coaching • Actively seeks challenge and greater responsibility • Goal-oriented • Willing to assume responsibility for his or her own growth and development
Team Captain (1+ students)	
• Focuses the team. • Ensures that everyone's ideas are heard and works to find compromises. • Regularly checks team goals and deadlines. • Gathers information from sub-groups on the team and tracks team progress. • Keeps everyone on schedule with project timelines. • Manages the team schedule at events.	• Clear-headed • Organized • Confident • Punctual • Able to mediate discussion and conflict
Strategy (2+ students)	

• Discusses ways to help the team be successful in competition. • Understands the game rules and challenges thoroughly. • Gathers input from other team members to influence strategy. • Keeps an active eye for rule updates to ensure team compliance. • Searches the Internet for discussion by other teams regarding what works. • Studies the team's robot to see other ways it can do different tasks with little modification. • Communicates problems and possible solutions clearly and respectfully with team members.	• Resourceful • Creative • Innovative • Willing to take well-thought-out risks • Knows the related subject matter • Familiar with rules and regulations
Build Team (2+ students)	
• Understands and uses safety precautions while building. • Investigates different solutions to solve mechanical design challenges. • Makes decisions about mechanical design. • Works to achieve consensus among team members. • Uses guidelines from team brainstorming to build a robot. • Communicates and tests to ensure that all mechanisms on the robot work effectively together. • Works with the Quality/Compliance Control team to test and refine robot design. • Communicates problems and possible solutions clearly and respectfully with team members. • Regularly monitors forums and *FIRST* resources for rule updates, to ensure team compliance.	• Knows the related subject matter • Confident, but willing to ask for clarification • Documents carefully • Confident with use of all tools • Familiar with rules and regulations
Programming Team (2+ students)	

• Writes well-commented programs for the autonomous part of the competition. • Schedules time with the build team to test the chassis when others do not need it. • Alters the programs, as necessary. • Regularly monitors forums and *FIRST* resources for rule updates, to ensure team compliance. • Communicates problems and possible solutions clearly and respectfully with team members. • Ensures there is a hard copy of the program at events. • At events, makes any changes the drive team needs to be more efficient during the controlled portion of the match. • If the team is experienced, aids team members that are new to programming.	• Organized and has good tracking skills. • Creative • Innovative • Willing to take risks based on thorough research • Knows the related subject matter • Familiar with rules and regulations

Hardware/Tools Management (2+ students)	
• Understands the function of hardware elements and tools in the kit. • Organizes and monitors the use and location of all hardware and tools needed for building and maintaining the robot. • Keeps track of all wiring necessary to program the Robot. • Keeps track of all power strips and batteries needed for the robot. • Manages the battery charging process. • Understands and uses safety precautions when using and storing materials, and when charging batteries.	• Organized • Responsible • Uses appropriate terminology
Pit Crew (2+ students)	

• Creates safety and robot functionality checklists throughout the build season, to be used at scrimmages and competition events. • Conducts thorough safety and robot functionality checks regularly at all events. • After each match, ensures that all nuts and bolts are tight, that metal is not bent or impairing motion, and that all wires are still firmly attached. • Ensures that all materials and tools used for repair are accounted for and returned to the appropriate location after game play. • Understands and uses safety precautions always in the pit.	• Organized • Confident with use of all tools • Works well under pressure • Communicates calmly and effectively with team members

Driver (2+ students and 1 backup driver)

• Operates the robot in competition using a hand-held remote control to "drive" or move a part of the Robot. **Note:** Backup robot operators should be trained and prepared to take part in the competition, in case of illness or nerves. Practice time should include both groups, so everyone is prepared to play in front of a loud, enthusiastic audience.	• Positive attitude • Able to focus in loud, distracting environment • Attentive listener • Receptive to receiving input from Driver Coach • Dedication to practice time

Driver Coach (1+ students)

• Encourages the student members of the teams to collaborate on match strategy • In game play, watches for information from Referees and communicates with the drive team • Assists the drive team in following the predetermined strategy or changing it, if necessary **Note:** Coaches cannot touch the controllers or robot before or during a competition match. Doing so will lead to a disqualification of the entire team.	• Calm • Clear verbal communicator • Understands team strategy and game rules

Speaking Representative (2+ students)

• Lead the group when talking to judges, scouts, or guests in the Pit during competition. • Promote *FIRST* Tech Challenge and their team by speaking at community outreach events or team demonstrations. • Understand each team member's role to direct more specific questions to those individuals when necessary. **Note:** The spokesperson may be the most prominent speaker, but all team members should be prepared to speak about their robot and experience in general, and about their own roles on the team in detail.	• Confident • Polite • Good listener • Professional manner • Able to speak loudly and clearly over noise and distraction • Understands and uses appropriate terminology • Speaks clearly and concisely
Team Coopertition (whole team with 3+ student specialists)	
• Helps to establish and promote team identity and unification. • Helps to promote a positive attitude and *Gracious Professionalism®* throughout the season and at Events. • Thinks of ways for the team and its supporters to show their spirit and personality at events. • Assists in the design of T-shirts or pins • Writes cheers and invents unique ways to showcase team spirit. • Encourages the drive team to do its best during game play and cheers whether the team wins or loses.	• Enthusiastic • Creative • Positive attitude • Receptive to input from the team regarding spirit ideas

Documentation (whole team with 2+ student specialists)	
• Records and documents the team's activities, actions, failures, and successes in the team notes or engineering portfolio. • Takes photos or video footage of build process and events for use in marketing and outreach efforts. **Note:** All team members should contribute to documentation in some way, especially in the engineering portfolio.	• Creative • Written communication skills • Visual presentation skills • Detail-oriented • Interested in layout and presentation
Marketing (1+ student)	

• Designs and creates the team logo. • Assembles promotional materials to showcase team capabilities. • Visits sponsors and potential sponsors. • Regularly updates parents and sponsors about the team's progress. • Publicizes the team in the school and community (e.g., displays, pictures of the team in action, press releases, social media, or a team web site). • Contacts the local media, surrounding schools, or civic organizations to increase public awareness of the team and how students benefit from the *FIRST* Tech Challenge experience. • Creates and shares promotional materials with other teams.	• Creative • Outgoing • Organized • Resourceful • Strong communication skills • Professional manner

Fundraising (2+ students)

• Searches for unique and effective fundraising ideas. • Recruits parents and other students to assist in the fundraising process. • Monitors money and ensures that it is submitted on time.	• Responsible • Innovative • Detail-oriented • Experience handling money

Recruitment (2+ students)

• Promote *FIRST* in school and local community • Works to bring new and varied members to the team.	• Outgoing • Personable • Enthusiastic • Professional manner • Speaks clearly and concisely