SWIFT Synergy Teen Robotics Club Information Packet

Welcome to SWIFT!

Thank you for your interest in joining the SWIFT Synergy Teen Robotics Program. Our mission is to inspire young minds to engage in science, technology, engineering, and mathematics (STEM) through the exciting, hands-on experience of *FIRST* Tech Challenge robotics competitions. This information packet provides essential details about the program and includes the registration form for prospective team members.

FIRST Tech Challenge Program Overview

What is the FIRST Tech Challenge? The *FIRST* Tech Challenge is a global robotics competition for students in grades 7-12. Teams of up to 15 members design, build, program, and operate robots to compete in a head-to-head challenge in an alliance format. Each season, *FIRST* releases a new game that requires teams to develop innovative solutions and strategies to accomplish specific tasks. You can learn more about FTC at https://www.firstinspires.org/robotics/ftc

***FIRST* Tech Challenge Benefits:**

- **Learning and Development:**
  - Foster a passion for STEM through practical and collaborative experiences
  - Gain hands-on experience with engineering and robotics
  - Develop problem-solving, teamwork, and leadership skills
  - Develop programming skills using languages such as Java and Blockly
  - Enhance critical thinking, problem-solving abilities, innovation and creativity
  - Prepare for future STEM careers and/or academic paths
- **Networking and Mentorship:**
  - Connect with professionals in STEM fields
  - Receive mentorship from experienced engineers and educators
  - Establish connections with industry leaders and experts both for robot development and for personal career development opportunities
- **Competition and Recognition:**
  - Compete at local, regional, and national/world levels
  - Earn recognition through awards
  - Gain access to college scholarships and industry internships

SWIFT Robotics FTC Team Pursuits

Here at SWIFT, we are fully committed to excellence and continuous improvement in the FTC community and competitions. Over the years, we have proudly sponsored numerous successful FTC teams, whose achievements reflect not only the students' talents and technical capabilities but also a supportive and collaborative team environment.

To foster this positive environment again this year, we will seek to form multiple (likely three) FTC teams of 7 to 12 students. To do this, SWIFT coaches will observe and talk with each student individually during club meetings and activities. We will seek to learn about the student's academics, skills, interests, and talents, as well as other activities and time commitments, then, using this information, we will determine which team would be the best fit. We seek to fully establish team composition by mid-August.

While each team works together to set their own goals and map their own path to success, **ALL SWIFT teams** are intended to pursue excellence in the following seven areas:.

- **GRACIOUS PROFESSIONALISM:**

  Gracious professionalism is a core value in FIRST programs, combining high-quality work with respect and kindness toward others. It emphasizes competing intensely while treating teammates, competitors, and mentors with fairness and dignity. For an FTC (FIRST Tech Challenge) team, pursuing excellence in gracious professionalism means collaborating effectively, supporting each other's growth, helping other teams when possible, and celebrating all achievements — not just their own. They would strive to win by doing their best work, but also share ideas, encourage others, and maintain a positive, respectful attitude even in the face of setbacks or fierce competition. Practicing gracious professionalism builds a strong, respectful community and helps students develop leadership and character skills that last far beyond robotics.

- **SKILLS DEVELOPMENT**

  Skills development is a key focus for FTC students because it ensures that every team member grows both technically and personally throughout the season. FTC isn't just about building a robot — it's about learning new engineering, programming, communication, and leadership skills that prepare students for future success. A team that pursues excellence in skills development would create an environment where every member has the chance to try new roles, receive mentoring, and build confidence through hands-on experiences. They would set personal and team goals for learning, celebrate progress just as much as results, and encourage curiosity and persistence. By investing in skills development, teams strengthen their ability to solve problems, innovate, and work together effectively, all while preparing students for opportunities far beyond robotics.

- **ROBOT INNOVATION**

  Robot innovation is essential in FTC because it drives creative problem-solving and pushes teams to design solutions that are both effective and original. Innovation means not just building a working robot, but thinking beyond standard approaches to find smarter, more efficient, or more imaginative ways to accomplish game tasks. A team pursuing excellence in robot innovation would dedicate time to brainstorming new ideas, testing bold prototypes, learning from failures, and continuously refining their designs. They would stay curious, research new technologies, and stay open to inspiration from unexpected places.

- **DOCUMENTATION**

  True innovation also means **documenting** the process thoughtfully, showing how creative thinking led to real improvements. By valuing originality and smart risk-taking, a team can set themselves apart and inspire others in the FTC community. Good documentation helps teams explain their decisions clearly, showing how they evaluated different options, learned from challenges, and applied feedback. It also helps *the team itself* improve over time: having clear notes, sketches, and reflections makes it easier to troubleshoot problems, build future versions, and hand off knowledge to new team members. Treat the engineering notebook like a living journal: update it regularly, not just right before competitions. A robust engineering notebook will allow a team to easily pull together a great competition portfolio - a 15 page document, presented to the judges at competitions, to showcase highlights of the team's journey of growth and development.

- **OUTREACH**

  Outreach is a vital part of the FTC program because it connects a team's work with the broader community and helps grow the impact of STEM education beyond just competitions. Outreach involves sharing the team's knowledge, promoting robotics and engineering, and building relationships with local organizations, businesses, and other teams. A team that pursues excellence in outreach would actively look for ways to inspire younger students, support other robotics teams, and engage professionals for mentorship or sponsorship. Strong outreach strengthens communication skills, builds teamwork, and helps the team gain valuable resources and insights. It also shows judges that the team is dedicated not just to their own success, but to making a lasting difference in their community — a key value in FIRST. Through creative and meaningful outreach, a team can leave a positive legacy that extends far beyond a single competition season.

- **TEAM IDENTITY**

  Team branding, marketing, and presentation skills are crucial in FTC because they help a team share their story, make connections, and stand out both to judges and the broader community. Strong branding — including a clear team identity, logo, theme, and messaging — makes a team memorable and shows professionalism. Marketing helps the team build support from sponsors, recruit new members, and promote STEM awareness beyond competitions. Meanwhile, practicing presentation skills ensures that students can confidently communicate their ideas, innovations, and teamwork during judging interviews and outreach events. A team pursuing excellence in these areas would work together to create a strong, consistent brand, seek out opportunities to promote their team, and rehearse clear, enthusiastic speaking skills. These efforts not only increase a team's success in awards but also prepare students with real-world skills they will use throughout their futures.

- **FINANCIAL ACCOUNTABILITY**

  Financial accountability is an important part of running a successful FTC team because it teaches students how to responsibly manage resources, plan budgets, and make smart spending decisions. Teams that pursue excellence in this area track their income and expenses carefully, create fundraising goals, and ensure transparency with sponsors, mentors, and families. Financial responsibility builds trust, helps the team stay sustainable year after year, and mirrors real-world project management. It also empowers students to take ownership of their team's operations and understand the value of every donation, part, and opportunity.

SWIFT Robotics FTC Program Timeline Calendar of Events

Broad FTC Season Timeline:

- **Season Preparation:** August
- **Season Kickoff:** September
- **Build Season:** September to December
- **Competitions:** January to February OR April (including regional, state, and potentially national/world events) Possible scrimmage competition in December
- **Off-Season:** March to July (includes whole club outreach activities, off-season competitions, and preparation for the next season)

Detailed FTC Season Timeline:

- **August:**

  Prepare for the New FTC Season: Clean up the workspace, organize materials, and start initial planning for the new season. Determine team structure and participate in team-building activities. Opportunities for general SWIFT Connect and Outreach events. Tentatively plan a potluck or pizza gathering to kick off the preparations and culminate with a team-building activity like an escape room, ropes course, pool party or Rec Room outing.

  Mentoring FLL and STRIPE Teams: Support and mentor students in the FIRST LEGO League and STRIPE programs, both of which begin in early August. Outreach opportunities are available to work with SWIFT teams (at the SITE), Moore Montessori School (Southern Pines), and any other locations where we start/assist competition FLL or STRIPE teams. Visit with Coach Heather to see how your team can help.

- **September:**

  Season Officially Kicks Off: Start of the new FTC season with the game release on the first Saturday of September. NC FIRST hosts a kickoff event and team members can volunteer to teach an FTC related workshop for outreach.

  Pinehurst BBQ Fest: Participate in this local event to showcase our robots, engage with the community, and enjoy some delicious BBQ. Students and parents work together to engage with the public and inspire future robotics enthusiasts.

  SWIFT Jr. Robotics Program: Help mentor and assist SWIFT elementary school students in their robotics journey. This program typically runs on Saturdays throughout the school year. **Each** FTC student will be asked to assist for at least **one** class per session (fall, winter, and spring). Teams are encouraged to take a more active role in this program by reaching out to Coach Heather, who can ALWAYS provide extra Outreach hours.

- **October:**

  Festival D'Avion: Join this aviation-themed festival to demonstrate our robots, engage with aviation enthusiasts, and participate in community outreach activities. Students and parents work together to engage with the public and inspire future robotics enthusiasts. All FTC students are encouraged to participate.

- **November:**

  Focus on Building: Primary milestones will have deadlines in November. Robots should be ready by Thanksgiving to begin rigorous drive practice and focused autonomous coding.

- **December:**

Scrimmage Events: Participate in local scrimmage events to test and refine the robot in a competitive setting.

- **January-March:**

  Competitions: Participate in local and regional competitions. If the team qualifies, prepare for the state competition held in late February or early March.

  State Competition: Compete at the state level for a chance to qualify for the World Championship. Teams that qualify for the World Championship or perform highly enough to apply for MTI will continue to meet and prepare for those events. Additional fundraisers may also be initiated. Teams that do not qualify will have a season culmination celebration and begin offseason/summer projects.

  Apply for MTI (Maryland Tech Invitational): If a team participated in the State Championship and desires to participate in the Maryland Tech Invitational, they must submit an application by the deadline announced - it usually falls in March.

- **April:**

  Springfest: Our biggest outreach event of the year, where SWIFT runs two or three booths to run demonstrations showcasing our robots, pass out SWIFT literature, and garner interest in our programs. Students will help set up and break down booths and volunteer for shifts to man them. Students and parents work together to engage with the public and inspire future robotics enthusiasts. *(Usually the last weekend of April)*

  World Championship: Held in Houston, TX, April 29 - May 2, 2026. Wouldn't it be something to take every SWIFT FTC team to Worlds!?? Let's do it!!

- **May:**

  Robots on Fire: A special combination event. During the day, we clean, organize, and work on projects at the SITE in preparation for summer camps and the upcoming season. In the evening, we invite community members to a fun open house event with free hot dog roasting and s'mores. This allows us to not only share information and recruit new participants, but also to celebrate the end of the competition season with demonstrations, awards, and team recognition. Over all, this is a fun and exciting way to highlight our achievements and prepare for the next season.

- **June:**

  FTC Tenderfoot Training: Team members assist in mentoring and teaching younger and/or newer students interested in the FIRST Tech Challenge, helping them develop their skills and knowledge and prepare for application to the SWIFT FTC program when they are 13+. *(Runs first week of June to last week of July)*

  MTI (Maryland Tech Invitational): Participate in this exciting, exclusive off-season invitational event (if team chooses to apply and is accepted) The robot for the previous season is used, no new robot construction is necessary. *(Usually held the third weekend of June)*

  SWIFT Summer Camps: Host and mentor young students in LEGO robotics, providing a fun and educational experience that introduces them to the basics of robotics and engineering. FTC team members are invited to gain outreach hours by volunteering to assist the teachers of our many summer camps. (June - August)

- **July:**

  LOKI End of Season Event: Close out the season with a fun event using the robot from the past year. This is a great time for less experienced team members to try new roles. FTC teams are invited to apply to attend the event both to compete (if accepted) and/or to support the Tenderfoot Summer Club in their first FTC competition.

Parent Volunteer Opportunities

The success of the SWIFT Robotics teams depends on the invaluable support from our parent volunteers. Below are areas where we need your help. Parents may team up, of course. Please let Coach Heather know where you are the most comfortable getting involved:

- **Facility Manager/Scheduler**: Will maintain the class/team meeting schedule and help teams deconflict and schedule additional time at the SITE when requested.
- **Season Kickoff Organizer** (September): Help organize and facilitate the season kickoff event.
- **Meeting Facilitator**: Often, students just want to put in extra time! Adults who can supervise additional meeting times are needed!
- **Website Editor**: Keep website updated with current contact info, team awards info, sponsor info, & calendar (Does not include program registration or purchasing pages)
- **Social Media Manager**: Manage and update the team's facebook and instagram accounts with the latest news, photos, and events.
- **Grant Researcher**: Assist in identifying and applying for grants to support the team's activities and expenses.
- **Communications Assistant**: Post SLACK updates and changes to the schedule as needed. Ensure clear and timely communication among team members, coaches, and parents.
- **SITE Cleaning and Maintenance**: Assist in maintaining the club's workspace, classrooms, and kitchen area, ensuring it is safe and functional for all activities.
- **Event Photographer/Historian**: Take photos/videos and record awards received, at various team events and competitions, to help document the season.
- **Season Culmination Organizer** (February and/or April): Help organize and facilitate the season culmination/celebration event.

Please contact Program Director, Heather Wright, to volunteer!

SWIFT Contact Information

For any questions or additional information about the events or the program, please contact us:

Heather Wright Program Director heather@swiftrobotics.net 210-591-9480	Scot Padgett SWIFT Executive Director scot@swiftrobotics.net 910-723-1391

We look forward to your participation and hope to make this a fun and educational year for all team members!

SWIFT Robotics FIRST Tech Challenge Program - FAQ

Q: How much does the program cost?

A: The cost for participation in the SWIFT Synergy Teen Robotics Program 2025-26 Season is $100/month for a club membership fee for seven consecutive months ($700) OR you can choose to pay for the season upfront for $600 (one month free!). This includes participation from August to February. If your student would like to take advantage of our spring and summer activities, you can continue your club membership for $100/month OR you can purchase an annual membership for $1000, giving you year-round participation for a 15% discount (2 months free). Needs-based financial assistance is available upon request and is determined per situation. Please contact SWIFT Executive Director, Scot Padgett, for more information.

Additional costs may be incurred for participation in and travel to major competitions, such as the State Championship or the World Championship.

Q: When do students meet?

A: Team composition is determined sometime around mid-August, at which point each team will then work together to determine their schedule. Each team will schedule AT LEAST one 2-hr session on a weekday and one 2 hr session on Saturday. Additional meeting times are subject to availability of the SITE and Coaches/Supervising Adults. All extra meetings need to be scheduled with the facility manager.

Q: How often do students need to be at practice? Is it required?

A: Regular attendance at practices is required to ensure team cohesion and progress. Specific requirements per each team will be determined by the team members and families themselves. Each team has at least one assigned team meeting day per week, with opportunities to schedule additional time with the facility manager. While perfect attendance is not mandatory, consistent participation is important for team success and students are expected to do their best to attend every mandatory meeting for their team.

Q: When do we get the new game challenge?

A: The new game for the FIRST Tech Challenge is released the first Saturday in September at the official season kickoff event which takes place, usually, at NC A&T in Greensboro. Team members will travel together to and home again from this event, then optionally remain at the SITE to start brainstorming. This is an exciting time when teams learn the new rules, objectives, and challenges for the upcoming season.

Q: How far do we need to travel to competition events?

A: The distance to events varies. Local competitions and scrimmages are usually within a 1-2 hour drive, while regional and state competitions may require travel of up to 3-4 hours. The World Championship, if the team qualifies, is held in Houston, Texas.

Q: How long do competition events last?

A: Events can vary in length:

- **Local Competitions/Scrimmages:** Typically a full day, from early morning (leaving as early as 5:45am) until late afternoon/evening (Returning as late as 9pm).
- **Regional/State Competitions:** May span 2 days, if team chooses to travel to the venue on the evening before the event. Otherwise, these events are the same as Local events.
- **World Championship:** A week-long event including travel, competition days, and return travel.
- **Maryland Tech Invitational:** 3-4 days, Thursday-Sunday, with optional events on Thursday and Friday, then competition on Saturday and Sunday.

Q: How will students get to events?

A: Transportation to local events is usually coordinated among parents, with carpooling being a common solution. For regional, state, and national events, the team may arrange group transportation. Parents are encouraged to assist with driving and coordinating travel plans.

Q: Why is outreach important?

A: Outreach is a key component of the SWIFT Robotics program. It helps promote STEM education, raises awareness about robotics, and inspires future generations of engineers and innovators. Outreach activities also provide opportunities for students to develop communication and leadership skills, while fostering a sense of community and teamwork.

Q: How often is assistance needed to help at SWIFT Jr. Robotics?

A: Assistance is needed regularly to support the Jr. Robotics program, especially during the fall and winter seasons. Jr. Robotics sessions are held on Saturday mornings from September-November, then again from Feb-May. FTC team member involvement is crucial to provide guidance and support to the younger students. FTC Students are also invited to assist with after-school classes and activities as well as homeschool classes (if available) happening during the week.

Q: What are the different team positions?

A: A SWIFT team has various roles to suit different requirements for team operation as well as different student interests and skills. Possible roles include, but are not limited to:

- **Team Captain:** Leads the team, coordinates activities, and represents the team at events.
- **Build Team:** Designs, constructs, and maintains the robot.
- **Programming Team:** Develops and tests the software that controls the robot.
- **Drive Team:** Operates the robot during competitions.
- **Scouting Team:** Gathers and analyzes data on other teams to inform strategy.
- **Marketing/Branding Team:** Manages team presence, look, branding, and merchandise.
- **Outreach Team**: Manages public relations, social media, and outreach events

- **Fundraising/Sponsorship Team:** Secures financial support and manages fundraising activities.

Q: How can families help?

A: We are very grateful if families can volunteer in various ways, including:

- **Event Transportation:** Helping with driving to and from events.
- **Practice Support:** Assisting coaches during practice sessions.
- **Outreach Events:** Helping organize and participate in community outreach activities.
- **Fundraising:** Coordinating and supporting fundraising efforts.
- **Mentoring:** Providing technical expertise or mentoring FLL teams.
- **Administrative Tasks:** Assisting with communications, scheduling, and event planning.

Q: How will team and parent communications be managed?

A: ALL communication will happen via the Slack app. We ask that each parent download the app to their phone, their computer, or both. You will then be added to the workspace and to the applicable channels for your student's team. We also ask that parents enable push notifications for the team's "Parents" channel. We will use this channel ONLY for important communications, especially student schedules and event logistics. Students will also use the Slack app to communicate and document. If your child has a mobile device and you are comfortable with it, please see that they, too, download the app. If not, we will assign a mobile device to your student for use while at the SITE, and they can either access communications on the parent's phone or on a pc when they are away from the SITE.

Q12: What are the chances of going to the World Championship and/or MTI every year, and what are the potential costs?

A12: The chance of qualifying for the World Championship varies each year based on teams' performance and on the number of teams advancing from North Carolina. If any team qualifies and the sponsors/donors cannot cover the costs, each participant may need to contribute up to $1500. This includes expenses for flights, hotel, Uber, food, merchandise, and additional travel costs. Similarly, costs for transportation, hotel, and food expenses, when competing at MTI average about $500-$700 per student/family.

Ready to get started? Join us TODAY!!

Complete the registration form HERE! (https://form.jotform.com/251227176495159)

After payment is made and registration is complete, students are free to join us at any and all subsequent meetings or events!

- General SWIFT Synergy Meetings: Every Thursday 6-8pm, June-August
- Open Project Time: Every Saturday 1-3pm, June-August
- Additional Outreach and Connect Events : TBA - plan on at least one each month…