Membership to the team is open to all Robert E. Fitch High School students who are willing and able to contribute to the team. Current student members come from a variety of backgrounds and with a variety of skills. We encourage you to join no matter what your skills, capabilities, race, or gender. We believe each student has the potential to do great things if properly mentored and taught. Talk to one of our student members and ask them to share their FIRST experience with you. Here in Fitch Robotics we do place a particular emphasis on the recruitment of younger team members. This is done so that we may, as a team, carry on and continue to organize and compete in robotics competitions. As students graduate every year, the younger students carry on the program. In this way we create a long-term, sustainable team. However we welcome your attendance no matter freshman or senior.

Membership

The team must have 9 active student members in order to compete in the next season of FIRST Robotics. There are a total of 35 positions available; if there is competition for these finite number of positions, coaches and mentors may decide to replace members who are not enhancing meetings with pro-active participation.

Team Leadership

Crew Captains

Captains will lead their crews through the many tasks required of a successful FIRST Robotics Team. The Coach and Mentors will select Crew captains early in the fall “pre-season” from those members who indicate a desire to take on these responsibilities.

- Captains will be present at 90% of all weekly full-team meetings, and at least 50% of all build-season meetings (that’s 3+ meetings per week during build season).
- Captains, with their mentors, are responsible for scheduling meetings of their crew throughout the year. Schedules will be updated and reinforced at each weekly full-team meeting.
- Captains will work with mentors on the crew to make major decisions regarding progress of the task at hand.
- Captains may delegate some tasks to their crew members, but captains will remain responsible for the completion of those tasks.
- During the build-season, captains should arrange their attendance so that there will be at least three captains present at each meeting.

At the beginning of the build-season, just prior to kick off in early January, two of the captains will be selected as Team Captains in an election by the entire team. Captains will continue their duties as Crew captains while taking on further leadership roles that include:

- Speaking on behalf of the entire team.
- Leading the team through build season and competition with inspiring, upbeat attitudes and other qualities befitting of FIRST Robotics.

Crew Members

Student members may select a crew to work with, or they may be placed into a crew by a coach or mentor. Crews that are “full” may have their members reassigned if there are other crew captains without any assistance. All crew members pursue the responsibilities of those crews as their first priority with the team. Crew members will be able to have input regarding decisions made by their crew or sub-crew. Beyond that, they are free to assist other crews as the need and opportunity arise. Crew members are expected to attend the full-team meetings during pre-season, and at least two meetings per week during build season. Crew members are expected to be active and pro-active in their assistance during meetings. All team members will be responsible for providing their share of materials, time and effort toward fundraising for the team.
The Crews

Build crew:

Two captains plus up to 6 additional Crew Members. The Build crew is principally concerned with the design and building of the competition robot. Two sub-crew captains (Drive-train and Superstructure) will arrange the meetings of their sub-crews in order to concentrate on particular aspects of the build-project. Build crew members may be shuffled between the sub-crews, but sub-crew captains should remain focused on their own goals. The captains and their sub-crews will divide and share the responsibilities which include:

- Overseeing adherence to School and FIRST safety policies.
- Leading and overseeing the process of designing and building the competition robot, making the major decisions regarding robot design and capabilities.
- Maintaining a flow chart of tasks to be completed before various deadlines.
- Maintaining the Bill of Materials (BOM) for all parts that are used on the robot.
- Determining the strategy to be employed during competitions, and selecting the Drive Team.
- Creating and updating the CAD file of the robot as it is being designed and built.
- Working closely with the Programmer captain to determine action for autonomous code and control options for teleop mode.
- Troubleshooting when the robot fails to perform as expected, using captains Delphi and other teams for assistance when necessary.
- Learning the robot rules and game rules completely and assuring adherence to the rules; follow rule updates routinely as they are announced; discuss rules among members of other teams via captains Delphi forums.
- During regional competitions, Build Crew members will lead the robot through the process of robot inspection.
- Understanding the features of the robot, being able to describe the features and functions to judges and visitors during competitions.
- During competitions, members of the Build Crew will also “scout” the robots and strategy of other teams, determining strengths and weaknesses of possible opponents and arranging cooperation with upcoming allies.

Pit Crew:

Pit captain plus up to 3 additional Crew Members. The Pit Crew is primarily responsible for construction projects other than the robot. The Pit captain will schedule meeting times and project deadlines with crew members. During Competitions, the Pit captain will be responsible for maintaining the robot in competition condition. Pit Crew members will assist the Build Crew when not involved in their own projects. Responsibilities include:

- Overseeing adherence to School and FIRST safety policies.
- Creation, modification, and upkeep of field elements, pit, control station, and crate.
- Overseeing tool and parts inventory during the season and especially during competitions.
- Keeping track of certification of members for tools use.
- Ensuring daily cleanup of work areas, and putting away of tools, supplies and equipment.
- At competitions, Pit Crew will handle the uncrating/unbagging of robot and construction of the pit area; throughout the competition Pit Crew will maintain integrity of the pit area; after competition, Pit Crew is responsible for the dismantling of the Pit area.
- Pit Crew will be responsible for charging and maintenance of batteries during competition.
- The Pit Crew will also designate a “Safety Captain” who will make arrangements for the team to be eligible for the Safety Award at the regional competitions

Code Crew:
Captain Programmer plus up to 5 additional Crew Members. Code Crew is principally concerned with the Control system of the robot. The Code Group works closely with the Build Crew to understand the intended motion and deployment of the chassis and manipulator. The code crew will develop the software to enable the robot to compete as designed and is responsible for the testing of all of the functions of the robot.

Responsibilities include:

- Writing, rewriting, and rewriting the program for autonomous and teleop mode.
- Working alongside the Build Crew to ensure unified approach to robot design and function.
- Integrating the control station with the robot and the program.

**Business and Finance Crew:**

Two captains plus up to 6 additional Crew Members. The Business Crew principally cover the duties of team “secretary” and “treasurer.” All members are expected to be present at each full-team meeting during build season. Captains must also ensure that a business crew member is present during every build season meeting to cover necessary daily tasks. Beyond that, meetings may be scheduled according to available hours of the crew members (after school, between 2:15 and 5:30) as long as all responsibilities are upheld. Business crew members are invited to assist build crews during build season as long as business crew responsibilities are upheld. The captains will share and delegate the following responsibilities and tasks:

- Collecting and keeping updated info (contact/contracts/permissions) on student members.
- Maintaining current membership list & attendance log.
- Maintaining log of team progress and achievements (daily during build season; otherwise weekly).
- Forwarding email communications to members and mentors.
- Establishing and maintain contact/cooperation with other FRC teams.
- Seeking out information through captains Delphi forum, or through other means, as needs arise.
- Coordinating press-releases to media and school.
- Overseeing adherence to scheduled “Food duties”; Call up/email members with reminders.
- Overseeing budget, bookkeeping, fee payment from members.
- Arranging and overseeing student fundraising efforts.
- Arranging the order and purchase of T-shirts, banners and other products.
- Maintaining contact with major sponsors (“gold” and up) through season.
- Overseeing adherence to calendar timelines/deadlines.

**Concept Crew:**

Captain plus up to 6 additional Crew Members. The concept crew is principally concerned with the team’s image in the school and community. All members are expected to be present at each full-team meeting during build season. The concept crew captain should also be present at least once a week during build season. The concept crew captain may schedule other meetings with crew members according to their schedules, and it is expected that some work for the team will be completed from team members homes. Concept crew members are invited to attend build season meetings and assist with the build crews as well. Throughout the season the concept crew will be responsible for:

- Developing the thematic “look” for the team and progressing toward the presentation of the “team as concept” during regional competitions.
- Designing graphics for T-shirts, website, buttons, banners, posters, etc.
- Maintaining the team website and other online locations with updated information (weekly during build season, monthly otherwise).
- Reviewing the submission requirements for the various awards presented at the regional competitions.
- Spirit boosting during meetings, including decoration, “ambiance,” game and contest planning.
• Maintaining and updating visibility within the school, including posters and display case.
• Production of videos including sponsor appreciation, PSAs for media channels, and 1 minute video team update monthly (off-season) or weekly (build/competition season) to be aired during school announcements.
• Producing an end-of-year video documentation of the team’s year, including clinics, brainstorming and design, construction, and competitions.

In addition to membership in any of the above crews, any member can also apply to attend Drive Team Practice which will take place (usually) on Thursdays at 5:30 PM. One member will be the Drive Team captain, who along with the Drive Team Coach will coordinate and log practice sessions, and determine which members will represent the team on the competition floor.