



SPARC #5665

Team
HANDBOOK
2023-2024



About this document:

This document is a handbook that defines the duties and responsibilities of all persons associated with the SPARC FRC team. It is intended for mentors, members and parents associated with the team to understand and approve the functioning of the team. This document is prepared by the team management and is subject to change during the season. The 2023-2024 season covers the period starting from June 2023 until June 2024.

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1. About FIRST

FIRST is a foundation founded in Manchester in 1989 by Dean Kamen. It started and continues to work on a non-profit basis to foster young people's interest in science and technology and to motivate them to pursue education and career opportunities. FIRST's main goal is to help young people become leaders in science. Through the competitions it organizes, it not only develops students in the field of robotics but also raises them as conscious individuals by increasing their self-confidence. FIRST is about friendship, knowing how to have fun, doing research, and not giving up, because FIRST is more than just the robot.

1.1 About FIRST Robotics Competition

FIRST's mission is to inspire young people to become leaders in technology and science by engaging them in exciting, mentor-based programs that develop skills in science and technology, encourage them to be innovative, and help them develop life skills such as leadership and communication. For this purpose, FIRST Robotics Competition (FRC) competitions are held every year in the USA, Canada, Mexico, Australia, China, Israel and since 2018 in Turkey. Every year, FRC events are organized with 80000 participants from approximately 20 countries. These competitions start in January with the game announced all over the world via live broadcast. After the game is broadcast, each team has approximately 6 weeks to design their robots, finish the construction process, write their codes and find their sponsors. After 6 weeks the robots are ready to compete. Matches take place in the form of 3 vs 3 head-to-head alliances. First, practice matches are played, where teams try out their robots and teams that do not want to play may not play. Then about 11 ranking matches are played, where the top 8 teams qualify as finalist candidates by taking two teams with them. Quarterfinal, semi-final matches take place,

the winning alliance in the final match receives the Winner Award and completes the competition as the winner.

1.2 Gracious Professionalism

Gracious Professionalism is present in all the activities we do under the umbrella of FIRST. Humility is the pillar of gracious professionalism. There is always competition between professionals, but this competition teaches us to have fun, to be friends and to be a family. It is finding solutions to other teams' problems as if they were our own. Gracious professionalism teaches us to be open to collaboration with other teams and to be there for them through thick and thin, and it shows us that we can respect and build on the ideas of one person in a team rather than against them. If you came to FIRST with the ambition and goal of winning a competition, you are in the wrong place.

2. About the Team

SPARC is a robotics team consisting of students from Sainte Pulchérie French High School and members from all over Turkey. The members of the SPARC team consist of high school students in grades 9-12. The aim of our team is to prepare young minds, who are the future of our country, for the future by accepting members from everywhere without depending on the students of a single institution, to increase our skills in technological and robotic systems, to ensure the spread of our projects in our country and to achieve success by maintaining sensitivity in a competitive environment. These features explain the main purpose of our team's existence.

3. Team Structure

3.1 Mentors

Team mentors are adults over the age of 18 who have graduated from high school, are currently working or are currently students at university, and who volunteer their time to the team. Mentors are people who help the team in both technical and non-technical areas and guide the team members. Mentors are happy to help team members with questions and problems related to or independent of the team.

The head mentors of the SPARC team for the 2023-2024 season are **Abidin ZENGİNLER** and **İlgar TASTEPE**. The head mentors have the final say in all internal and external relations of the team and strive to solve all problems in the team. New members join the team with the approval of the head mentors. Lead mentors can decide to remove a person from the team or remove them from leadership for any reason. It is the duty of the lead mentors to stay in contact with the parents of the team members and to keep them informed about the situation.

3.2 Team Captain

The team captains are two people selected from among the team members and are the liaisons between the mentors and the rest of the team members. The team captains are selected by the lead mentors taking into account the previous experience and skills of the team members. The members in the role of team captains have the following responsibilities:

- ❖ Creating an environment where team members feel comfortable to talk and their opinions are valued.
- ❖ Keeping the team together and organizing and

leading meetings.

- ❖ Taking decisions in coordination with the lead mentors and make sure they are implemented.
- ❖ Approving written documents issued on behalf of the team.

The co-captains of SPARC for the 2023-2024 season are **Azra Derin SANSAL** and **Ege YILMAZ**.

3.3 Team Coordinator

The team coordinator is a person selected from among the team members and serves as a bridge between the team captains and the sub-divisions. He or she coordinates all communication channels of the team.

The team coordinator of SPARC for the 2023-2024 season is **Ela NAHMIAS**.

3.4 Sub-divisions and sub-division captains

Our team is divided into various sub-divisions to facilitate work management and to give members the opportunity to specialize in their desired field. Each sub-division has its own captain and these leaders are determined by the head mentors, taking into account the previous experience and skills of the team members. The sub-division captains have to manage their teams, organize meetings, coordinate with a proper division of labor and make decisions on behalf of their sub-division. Sub-division captains form the team management with the lead mentors and the team captain. In addition to their own responsibilities, people in team management are obliged to attend team management meetings to be held at regular intervals. The main sub-divisions in our team are as follows:

The Software Development sub-division is responsible for all the software that includes all movements of the robot in driver-controlled and autonomous modes. This sub-division deals with areas such as image processing, autonomous navigation, and control. At the same time, the proper wiring of all electronic components of the robot and drawing the necessary circuits are also among the duties of the electronics and software sub-division. Although we haven't appointed a captain for this sub-division for the 2023-2024 season, its mentor is **Omer Tuna CAVDAR**.

The mechanics sub-division is responsible for the three-dimensional design of the robot, the production of the robot and the robust integration of all mechanisms. This sub-division's responsibilities may require frequent travel to locations such as production workshops where the necessary machinery is located. The captain of the Mechanics sub-division for the 2023-2024 season is **Nazli ONDEMIR**, and her assistant is **Defne ULU**.

The Public Relations and Sponsorship sub-division should promote the team both on social media and through face-to-face meetings and events. They should be able to design photos for social media, edit videos and produce animations. They should do the necessary work to find sponsors to meet the financial needs of the team in a professional way through sponsors. The captain of the PR team for the 2023-2024 season is **Akin Ali TAMER**.

4. Expectations from members

The members of the team volunteer a great deal of time and gain a great deal of experience in return. As in any organization, there are rules that must be followed for the sustainability of this team and for people from many different family backgrounds and with different structures to work together in a peaceful and respectful team environment.

Team members need to be aware of, respect and implement these rules.

Although having fun is part of it, teams, like any organization, are communities that have a hierarchy within themselves and need to be serious during the work. At the top of the team hierarchy are the head mentors and mentors. Team members should treat their mentors with respect. The chief responsible person on the member side of the hierarchy is the team leader. Below the team leader are the sub-team leaders and below them are the members. Everyone associated with the team should behave in accordance with the hierarchy and be aware of their responsibilities to the people above them and to the rest of the team, and should respond when asked a question.

One of the most important parts of staying as a team is communication. The team uses "WhatsApp" groups and "Trello" cards as the main communication channels. The team management is aware that a lot of conversations take place in the groups and the workload per person is heavy. This is quite normal for a new and dynamic team. Team members should first of all follow the cards that concern them in the "Trello" application and respond regularly and quickly, read the messages in their sub-team "WhatsApp" group, pay attention to the division of labor, participate in the discussions in these groups and follow the "WhatsApp" announcement groups, which are extremely important. Important updates on behalf of the team are shared in these groups. In addition, team members should follow the FRC homepage regularly and use these channels actively.

Team members may be asked to fill in some forms to be used in various activities or to get their opinions. These forms are shared with the members through the communication tools used by the team. Due to the dynamic nature of the team, members may be asked to complete and submit these forms in a short time. It is the responsibility of each team member to complete and submit these forms to the relevant person before

the specified time.

Team management is aware that members volunteer their time and that they have school and family commitments outside the team. Each member of the team should plan how much time they will devote to the team and be able to balance team, school, and family commitments. At any time, team members may be unable to actively use communication channels or fulfill their responsibilities. In these cases, team members are required to inform the team management immediately. Except for these special cases, all members of the team are expected to show sensitivity to the aforementioned communication issue. If these expectations cannot be met, the measures in section 4.4 of this document will be taken. The expectations from all members of the team can be summarized as follows:

- ★ Arrive on time for work and all activities.
- ★ Not be afraid to express their opinions.
- ★ Listen to and interpret other people's ideas with respect.
- ★ Be eager to learn about everything and strive to learn.
- ★ Learn from their mistakes and not give up in the face of adversity.
- ★ They should be fast, know that the given tasks are important and do them on time without interruption.
- ★ Being aware that robotics is a difficult and serious job, they should enjoy all the time they spend in the team.
- ★ Must be organized while working and care about the cleanliness of the workshop and other working environments.
- ★ They should trust the team, be aware that we are a team working selflessly for a common goal, and should not cause themselves and their friends to despair.
- ★ Be mature, recognize and respect that the team management is trying to make decisions in the best interest of everyone.
- ★ Be safe, do not engage in any behavior that could

jeopardize their safety, and do not use dangerous machinery and tools without adult supervision.

4.1 Participation

Each member of the team is expected to attend all workshops and meetings. If it is not possible for a member to attend a work or meeting, he/she should notify his/her sub-team leader, team leader or one of the lead mentors at least 24 hours in advance. In such a case, the absent member should review the meeting reports and get information about the division of labor from his/her sub-team leader. There is always work in the team that can be improved and worked on. Members should do their own work

If the member does the work correctly and on time, it is expected and desirable for him/her to help other members of the team or to discuss with the sub-team leader about starting a new job. If the member does not participate in the work frequently or is inefficient in the work he/she participates in, the sub-team leader in which the member is located informs the team management about the situation. In this case, the member in question is given a warning about the reasons and how to correct himself/herself and the measures in section 4.4 are taken.

All members are expected to participate in social events. Social events include all activities to promote the team, meetings with different teams and sponsorship meetings. All members are expected to take an active role in these events and represent the team.

In all work, members must follow the code of conduct in section 4.2 and always act within the framework of a work ethic. In all work and meetings, members are expected to actively express their opinions and contribute to the team's discussion and working environment. Playing on the phone and interfering with the work of other members during meetings and work are

undesirable behaviors as they will harm the productivity and working environment of the team.

In team meetings and workshops, members are expected to be involved and active with their own ideas. Meetings and workshops are not environments where members sit and listen to the meeting or work manager as if listening to a lecture, but productive environments where everyone is expected to participate. These meetings and workshops are held with the participation of all members because we need and value everyone's opinion. Team management is responsible for creating a working environment where everyone's ideas can be discussed and valued.

While members should not hesitate to express their ideas, they should always be aware that not every idea can be accepted and implemented. In the event that their ideas cannot be implemented, team members are expected to take this maturely and continue to come up with new ideas.

4.2 Code of Conduct

Each individual who is a member of the team represents the team everywhere during the time he/she remains a team member. Each member is expected to be aware of this and behave appropriately. The following are the rules that each member must follow on all online platforms and competitions:

- Respect other teams and team members, assist with gracious professionalism, and report important situations to team management.



- Must be where he/she is supposed to be and fulfill his/her responsibilities.
 - ◆ For example, if a member needs to be in the team pit, he/she should not leave without informing someone from the team management.
- He/she should not raise his/her voice in any discussion environment, should be able to remain calm, and should know how to take it from the bottom when necessary.
- He/she should come to the events wearing the clothes determined by the team management.

In addition, the team management respects the fact that members of the team have a boyfriend or girlfriend. In these cases, both parties must behave professionally during work and at all events where they represent the team.

Neither of the two people should show any physical behavior towards each other during the activities or events. If this happens, the actions in section 4.4 will be taken by the lead mentors.

4.3 Workshop rules

Our team continues its work in the workshop at Sainte Pulcherie French High School and a second workshop in Ikitelli (These workshops may vary). The workshop in Ikitelli does not belong to us, but was opened for use for a certain period of time as a result of a sponsorship agreement. During the workshops, all members must abide by the following rules:

- They cannot participate in the workshops without the knowledge and permission of the team captain or head mentor.
- The lead mentors should be consulted if they want to

borrow any hand tools or equipment.

- If he/she wants to use any hand tools or equipment, he/she must get permission from the lead mentors.
- With permission, they must take all safety precautions and work under adult supervision.
- In case permission is not obtained or safety precautions are not taken, the person himself/herself is responsible for possible accidents and injuries.
- Return all hand tools and equipment back to their original place.
- They must keep the workshop clean at all times and must not work outside the area assigned to them.

4.4 Violation of Rules and Failure to Meet Expectations

In case of violation of the specified rules or failure to meet the expectations, the person concerned will be informed in detail about the situation and warned by the team management. In case the warnings are ignored and the negativities are repeated, the person concerned may be removed from the team, his/her position may be changed and his/her participation in the activities may be restricted. The decision to remove a person from the team can only be taken by the lead mentors.

5. Competitions and Events

Throughout the year, there may be competitions and events in the province, outside the province and abroad. A competition or event team is selected from the team members to participate in these competitions and events and this team represents the whole team. This team is informed a certain amount of time in advance that they have been selected to participate in the event and all logistical planning is done. As the team budget and the number of people increases, logistical planning becomes very difficult and not all

members may be invited to the competition or event. All team members are expected to be aware of this and respect the decisions taken.

When selecting the competition team, people are placed according to the tasks in section 5.1. The lead mentors decide if a person is suitable for a task and the following criteria are taken into account:

- ★ Meet the expectations in section 4.
- ★ To be in harmony with the team and to be aware of responsibility.
- ★ Keeping good relations with other teams and being respectful to the people he/she communicates with and representing our team appropriately.
- ★ Ability and experience for the specified task.
- ★ The selection process will be as objective as possible and take into account the rights of everyone in the team. Therefore, the team lead mentors will closely monitor and observe the work of the members.

5.1 Duties of the Competition Team

The task allocations needed by the team in the competition are as follows. The members to be positioned in these tasks are selected according to the criteria in section 5. A team member can be assigned to more than one task depending on the situation and the number of people in the tasks can be increased or decreased by the lead mentors according to the logistic capability and budget of the team.

Team Captain: Working with the mentors, he/she meets the logistical needs of the team, organizes and approves the necessary written documents on behalf of the team and coordinates the entire team.

Drive Team Coach: He/she communicates with his/her own driving team and the alliance's driving teams, plans match strategies and manages the driving team by making split-second decisions during matches.

Drive Team: Driver/Operator/Human Player: It consists of three people, the driving team coach, technician and media representative. These people are familiar with the robot and have a competitive spirit, dedicated to making the robot perform better. In general, the driver handles the robot's undercarriage, while the operator takes care of all the remaining functions (robot arm, climbing mechanism, etc.). The human player is responsible for delivering the game objects to the robot, which changes every year, and can use the robot as a substitute driver instead of the drivers in case of an emergency. For the driver team, auditions will be held after the robot is revealed and this team will be determined according to the performance of the willing people in those auditions.

Technician: This is the person who helps to move the robot around the field and put it in its starting position. A technician should have a very good command of the robot and should perform and document the necessary checks to make sure that the robot is working before and after the match. He/she should be able to quickly solve any problems the robot may experience.

Pit Area Team: It has members from each sub-division and consists of more than one person standing in the pit alternately. These people should be able to repair the robot after it comes back from the match. They should also be able to help visitors from other teams or from outside at any time. They should be prepared to talk to the judges at any time.

Safety Captain: The person responsible for the safety of the team and the pit. He/she should be able to help the team in case of possible minor injuries and ensure that the team always takes necessary precautions against accidents. It is the safety captain's job to organize the pit, exchange equipment with other teams, and remind the team members to use the necessary safety equipment. A safety captain is generally expected to stand in the pit and help everyone.

For the 2023-2024 season, our Safety captain is **Turgay ERDOGDU**.

Strategy Captain: Together with the driver coach, he/she learns the capabilities of the other teams in the alliance and plans the match strategy. He/she is not present on the field, but he knows the capabilities of both the team's robot and all the robots currently in the match. He watches the matches and thinks of new strategies for the team.

For the 2023-2024 season, the captain of the Strategy & Scouting team is **Ela NAHMIAS**.

Scouts and Scout Leader: A scout watches the robots of the other teams in the competition and collects the data needed for alliance selection, both by examining the robots in their pits and by observing the matches. The leader of the scout team keeps all the collected data organized and makes sure that the whole scout team is working correctly. The scout leader interprets this data and shares it with the driver coach and strategy captain. The scout team leader makes the alliance choices as he has control over all the teams. Scouts have the most important role in the team to ensure a technically successful competition.

Media Representatives: Media representatives are two people who take photos and videos of every moment of the team. They carry the necessary media equipment for their work, such as cameras, tripods, microphones, etc. One of these representatives is present on the field with the driving team and carries additional social equipment such as flags, etc. and documents the team during the match. The other representative watches the matches from the stands, walks around other teams' pits and documents these moments. They also ensure that the team's social media is active during the competition.

The Media Representatives for the 2023-2024 season are **Ela NAHMIAS, Azra Derin SANSAL, Beril KARADENIZ, Defne Yagmur SEHIDOGLU** and **Nehir DURSUN**.

Impact Presenters: The most important and prestigious award in FRC is the "Impact" Award. The Impact award covers all social activities and every conceivable kind of cooperation that the team does outside the robot. For this award, a social video is shot, an article of a certain length is prepared and a presentation is made in front of the juries during the competition. This team is the team that works for more than a robot throughout the work and they represent our team in the presentation in front of the jury.

The Impact Presentation Team for the 2023-2024 season are **Azra Derin SANSAL, Nehir BILGE, Akin Ali TAMER, and Kayra Duru OZTURK**.

5.2 Responsibilities of the Competition Team

Each person selected for the competition team must be aware of and comply with the following responsibilities:

- During the competition, everyone must take care of their duties, be where they are supposed to be and be available by phone. If they have to leave their post for any reason, they must inform the team management.
- If team members want to go anywhere during competition breaks or on the days before and after traveling, they must inform the team management in advance and go in groups of at least three people with permission.

6. Parent Volunteering

We are aware that team members and parents make great sacrifices in this program. Parents can contact the lead mentors at any time about the status of the team or anything they are curious about. Parents have a very important role for our team in this journey and we always need their support. Parents who want to be more involved in our team can support us in the topics given in the following sections or in any other area they think they can help.

6.1 Food

Especially during competitions, when everyone in the team is focused on the competition, we may not have time to organize the food. Having a parent volunteer to take care of the team's food organization during events would be a great relief for the team management.

6.2 Transportation and Logistics

Throughout the year, our team would participate in many events and competitions. It can be costly and difficult for the team to transport students or robots and materials to these events. Volunteer parents who have a vehicle to transport the team members or the robot and its materials will make a great contribution to the team.

6.3 Sponsorships

In order to realize its goals, our team needs a significant amount of financial sponsorship throughout the year. The biggest source of sponsorships is the people, companies and professional network you have. In this context, it is of great importance for parents to reach out to the companies they know and help the team with sponsorship efforts.

6.4 Mentorship

Our team is always open to new mentors. You do not need to have prior experience to mentor and mentors have a very important role in the sustainability and success of the team. Mentors can help in technical areas such as electronics, software and mechanics, but they can also help with team promotion, sponsorship and finances. If you are interested in becoming a mentor, you can contact any of our lead mentors.

7. Meetings

Activities and meetings are held in such a way that they do not in any way disrupt the schools attended by the members and their intensity may vary from semester to semester.

7.1 Meeting Hours

In January 2024, FRC's 2024 tasks will be announced, and the competition season will begin. The first competition we will participate in is the Bosphorus Regional, which will take place at the Volkswagen Arena between the dates of March 8th and March 10th. We will then participate in the Marmara Regional, which will also take place at the Volkswagen Arena, between the dates of March 22nd and March 24th. Because our team was qualified as Impact Award Finalist last season, we will be participating in the FRC World Championship in Houston, Texas, USA, in mid-April, and our working season will continue until the championship. Although there is a possibility that not every member will be invited to these events, detailed information about this is given in section 5.

Competition seasons are times when we need to design, build and test the robot in a limited amount of time. Since the competition seasons coincide with school time, the work will be planned according to the time we can meet after school on weekdays from 5 pm to 9 pm. On weekends, work will start in the morning and end at 9 pm at the latest. In case of any changes in the hours or if there is any delay, the lead mentors will contact the parents and inform them. At any time it is normal for team members to ask for a leave of absence for studying, extracurricular activities or any other reason, but this must be communicated to the team management as early as possible. These leaves are granted in accordance with the rules in chapter 4. Lead mentors take precautions to ensure that these activities do not interfere with the students' studies and show understanding to the students.

7.2 School Permissions

Since our team is part of Sainte Pulchérie French High School, only Sainte Pulchérie students can be excused if they need to be absent for an event or any other reason. Team members from outside Sainte Pulchérie will need to contact their respective schools for permission.

8. Media Sharing

Throughout the activities, the team may take lots of photos and videos, audio recordings, and interviews. These recorded files may be shared on the team's social media accounts, FIRST-related accounts, and with sponsors. Each team member must authorize the use, editing, and sharing of these files on their behalf.

9. Contact Us

The following people should be contacted in case of any situation related to the team in the 2023-2024 season:

- ★ Abidin Zenginler (Lead Mentor I) +90 533 931 37 51
- ★ Ilgar Tastepe (Lead Mentor II) +90 533 404 83 04
- ★ Azra Derin Sansal (Co-captain) +90 530 553 28 05
- ★ Ege Yilmaz (Co-captain) +90 534 930 64 46
- ★ Ela Nahmias (Team Coordinator) +90 538 038 13 43

