# MJHS Robotics Club Team Member Roles

Team Roles - VRC          MJHS Team Site

## Table of Contents

## Team Member Roles

Teams should attempt to have a minimum of the following number of members focused in the following areas.  All members should hold **more than** 1 role.

| Primary Roles | | | Secondary Roles | | | |
|---|---|---|---|---|---|---|
| **Builder** | **Programmer** | **Notebook Manager** | Strategist | Scout | Driver | Drive Team Members |
| 2 | 2 | 1+ | 1+ | 1+ | 1-2 | 3 |

# Team Lead



Each team should have a designated leader who makes sure that everyone has a job to do and is on task. If there is a conflict, the team lead helps resolve the issue by listening to all team members' input and providing a solution that is in the best interest of the entire team. The team lead may also fill in for students who are absent and should pair experienced students with novice students in a mentoring situation when appropriate.

## Responsibilities

- Explain weekly team goals
- Work closely with the Notebook Manager for their team
- Listen and answer questions to the best of their ability
- Verify [Competition Checklist](#) requirementsNo are met prior to a competition

# Builders

Builders construct the robot. The entire team contributes to the research, brainstorming, and choosing the best design for the robot, but the builders are responsible for the actual assembly of the robot. There may be more than one group of builders, some may work on the chassis while others work on the lift. However, builders must have excellent communication skills and should be consistently reporting the progress and challenges to the entire team, help update the notebook with the notebook manager, and communicate motor locations and electrical connections to the programmers.
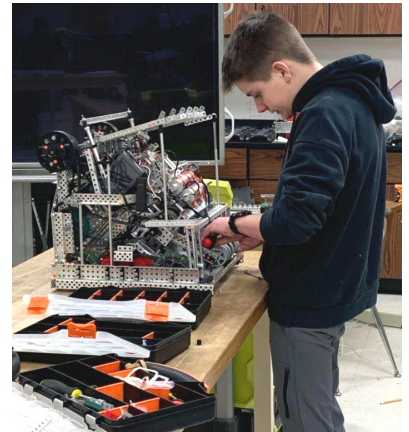


*Research and Development: Some builders may also be assigned the role of research and development. The job of R&D is to keep current with new videos of robot reveals released on YouTube and research alternative designs for the robot. They can begin building prototypes that may be later incorporated into the robot.*

## Responsibilities

- Researching and brainstorming ideas for robot design
- Robot assembly
  - Clearly describing the assembly/design for the notebook/CAD
- Build modifications
  - Problem-solving based on building needs

# Programmers

Programmers design and write the programs for the robot. They need to discuss their strategies with the rest of the team and then program the robot to perform those strategies. Programmers will need to write their code using the competition template in VexCode. The Driver Control code programs the buttons and the joystick functions. The Autonomous code programs the robot to run without a driver. Each match begins with 15 seconds of autonomous play, followed by 1:45 mins of driver control. Programmers are responsible for experimenting with and modifying the robot's coding as needed while recording their findings.
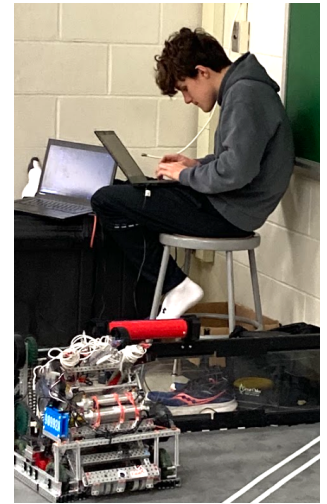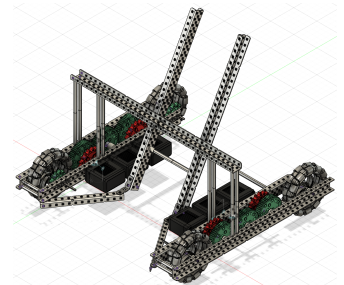


## Responsibilities

- Write and modify programs for the robot with all team programmers
    - *Competition*: Autonomous & Driver
    - *Skills*: Autonomous & Driver
- Work closely with the team's driver
- Keeping track of the team's laptop and charger and keeping it safe at all times
- Prior to competitions, programmers must save a backup copy of their team's program
- Clearly define experiments with programming for notebooking

# Notebook Managers



The notebook manager records and documents all parts of the engineering design process in an engineering notebook (physical and digital). They are also responsible for making sure all team members contribute to the notebook. The notebook manager should make sure that the notebook includes detailed designs in CAD, sketches, images, programs, concepts, and testing results.

They are also responsible for preparing the team for interviews and making sure everyone contributes to them at tournaments. They can also choose to design and create a pit display board for tournaments to introduce the team and the robot to the judges. The notebook manager's job is extremely important for the team's success and is a major portion of the rubric score for the design and excellence awards.
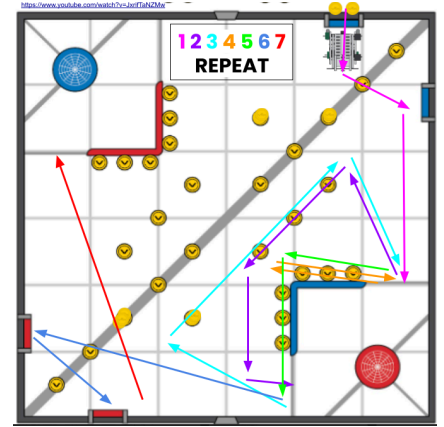


## Responsibilities

- Document all parts of their robot's creation using the engineering design process in an engineering notebook (physical and digital)
- Take pictures/videos of the robot as it is created and modified
- Include CAD in the engineering notebook
- Prepare the team for interviews while making sure that everyone has a role

# Strategists

The strategist will be responsible for designing their team's gameplay strategy and making the final decision of how to execute it during the matches. During matches, the strategist will stand with the driver's team, acting as their guide for the match. They will provide direction for the drivers and ensure that the appropriate strategy is being followed. They will also take input from the scout(s) to help make a decision when it comes to alliance selection. This job can also be done by a team's scout.



## Responsibilities

- Understand the game manual
  - Understand the scoring system for competition matches and skills runs
- Stand with the driver's team during matches and give verbal guidance to the driver
- Work with the team's scout(s) to analyze and decide on possible alliance members
  - Build connections with possible alliance members during competitions

# Scouts



Scouts are responsible for watching competition matches and recording information about all of the robots at the competition. They will work with the strategist to prepare gameplay ideas for upcoming matches. The information that they collect will also help decide which teams to align with during alliance selection. This role should be filled by one to three students to collect information on each robot during qualification matches. This job can also be done by a team's strategist.

## Responsibilities

- Understand the scoring system for competition matches and skills runs
- Prepare a list of teams attending a competition and bring it to the competition
- Watch matches and take notes on robots, strategies, etc.
- Work with the team's strategist to analyze and decide on possible alliance members
  - Build connections with possible alliance members during competitions
- *Can represent the team during alliance selection*

# **Drivers**

Drivers are responsible for operating the robot during the competition matches and skills runs.  They will take strategic guidance from their team during the match, as they try and lead their team to victory.  It is always a good idea to have backup drivers who have practiced in the case of a student's absence.

## Responsibilities

- Understand the game manual
  - Understand the scoring system for competition matches & skills runs
- Be able to take guidance from team members during a match
- Collaborate with all team members in a constructive manner
- Attend all competitions
- *Can represent the team during alliance selection*

# **Drive Team Members**

These (2) students, *along with the driver*, will be responsible for ensuring that the robot is ready to compete in every match  It is their shared responsibility to fix, maintain, and improve the robot between matches.  They will also be in charge of maintaining charged batteries for the robot or designating another team member to do so.  Drive team members stand with the driver during competition matches and provide *verbal guidance* to improve gameplay.  A total of 3 members, *including the driver*, can stand with the team during matches.

## Responsibilities

- Understand the game manual
  - Understand the scoring system for competition matches and skills runs
- Work closely with their team's strategist
- Stand with the driver and stay focused on the gameplay and field during a match
- Be able to give guidance to the driver during a match
- Maintain the robot between matches
  - Keep the robot's batteries charged