

STEM Gals/NTX Rules 2024

Updated 9/16/2024

We believe that TRI's rule changes were just right and have adopted some of these changes. Thank you TRI for allowing us to use their verbiage. STEM Gals & NTX Tournament of Robots 2024 will be using the FRC 2024 CRESCENDO rules except for the changes noted below.

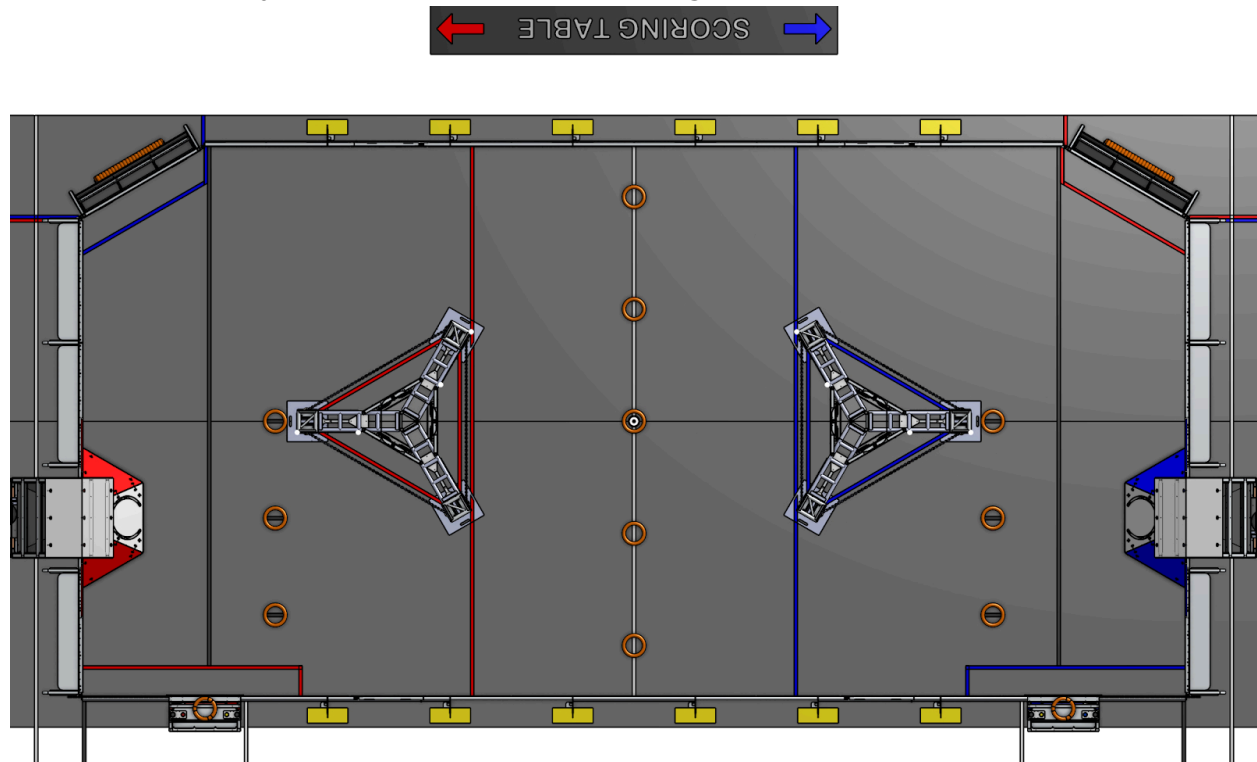
STEM Gals Drive Team Rules

1. Drive team drivers, operators, and human players must be females.
 - a. If there are not enough females for all of the drive team positions, a team may borrow members from other teams, or use male members if needed.
2. The drive coach may be either a normal season drive coach or a male driver from the normal season who wants to try the driver coach position.

STEM Gals/NTX Rule Changes

1. Field Marking Changes

The STAGE ZONE and associated tape markings have been shrunk and are now bounded by the inside of the Truss Legs.



[TRI Field Cad Link](#)

2. Ranking Points

Ranking Point	Requirements	Ranking Points Awarded
MELODY	At least 20 AMP & SPEAKER NOTES	1
ENSEMBLE	At least 10 STAGE points and at least 2 ONSTAGE ROBOTS	1

Tie	Completing a MATCH with the same number of MATCH points as your opponent	1
Win	Completing a MATCH with more MATCH points than your opponent	2

3. Coopertition Bonus

The Coopertition Point has been eliminated. Hitting the Co-op Button will do nothing.

4. Game Rule Updates

All YELLOW and RED Cards are now at the discretion of the Head Referee. Minor non-match-affecting incidents will be given warnings before cards are given. Teams will not be punished for field staff giving them directions such as entering the field.

Q101. Be reasonable with the Head Referee.

Most situations will likely only require one or two people to talk with the Head Referee. Still, we aren't going to institute a rule that doesn't allow other drive team members (including adult drive coaches) to provide information or listen to the conversations. Please be mindful that the Head Referee makes the final decision on calls but may be advised by other referees and the Event Director (who replaces HQ at off-season events). Also, please remember that G212 is a rule, and the Head referee may give YELLOW or RED CARDS for any interactions that are deemed to be egregious. We are all working for the inspiration of our students. Be polite, reasonable, and respectful; we will all have a great event.

The original Q101 causes more issues than it solves and is often not enforced to the letter of the rule. We trust our volunteers and teams to be reasonable and act in good faith to get the best outcome for everyone involved.

G302. You can't bring/use anything you want.

Clothes and shoes are okay, and backpacks and items in your pockets or backpacks are okay if they don't violate the other rules stated in G302.

Violation: MATCH will not start until the situation is remedied. If discovered or used inappropriately during a MATCH, YELLOW CARD.

Almost everyone has a phone in their pocket or bag and wears clothing, so it should be against the rules. You still can't use your phone or radio to communicate with anyone during the match or any of the other violations, but it's just weird that it's not clear in the rules that it's allowed.

G417. Stay out of other ROBOTS.

A ROBOT may not use a COMPONENT outside its FRAME PERIMETER (except its BUMPERS) to initiate **more than inconsequential** contact with an opponent ROBOT inside the vertical projection of that opponent ROBOT'S FRAME PERIMETER.

Violation: FOUL

G418. This isn't combat robotics.

A ROBOT may not damage or functionally impair an opponent ROBOT in either of the following ways as a direct result of the contact:

- A. deliberately, as perceived by a REFEREE.
- B. regardless of intent, by initiating contact inside the vertical projection of an opponent ROBOT'S FRAME PERIMETER.

Violation: TECH FOUL and YELLOW CARD. If opponent ROBOT is unable to drive **as a direct result of the contact**, TECH FOUL, and RED CARD

For G417 and G418, Robots attempting to "play the game" (score a game piece, move in the direction of one of their protected zones, etc.) will get the benefit of the doubt. In cases where referees are forced to make a judgment call regarding a destructive interaction between robots or an interaction that results in a questionable rules violation, the referees will err on the side of robots attempting to "play the game."

G422. PODIUM Protection

A ROBOT may not contact (either directly or transitively through a GAME PIECE CONTROLLED by either ROBOT and regardless of who initiates contact) an opponent ROBOT whose BUMPERS are in contact with their PODIUM.

Violation: TECH FOUL

Due to the PODIUM not being part of the STAGE ZONE with the Field Marking Changes, keeping the rule in its original state would eliminate any PODIUM protection in the last 20 seconds of the match.

G424. STAGE Protection

A ROBOT may not contact (either directly or transitively through GAME PIECE CONTROLLED by either ROBOT and regardless of who initiates contact) an opponent ROBOT if either of the following criteria are met:

- A. the opponent ROBOT **meets the criteria for ONSTAGE** or

B. any part of either ROBOT'S BUMPERS are in the opponent's STAGE ZONE during the last 20 seconds of the MATCH.

Violation: 2 TECH FOULS plus the opponent ALLIANCE is awarded the ENSEMBLE RP if a Qualification MATCH.

G426. COACHES and other teams: hands off the controls.

A ROBOT shall be operated solely by that team's DRIVERS and/or HUMAN PLAYERS.

Violation: TECH FOUL and Warning. Repeated/Extended: TECH FOUL and RED CARD.

Coaches may touch the driver station laptop to diagnose a problem with the robot but may not directly contact any controllers or operate the robot in any way.

5. Inspection Rules

+5 pounds weight allowance and no formal inspections.

This allows repairs and minor modifications without major work to maintain 125 lbs. Robots may weigh up to 130 lbs. We also won't have inspections at this event; event staff may ask you to make modifications if your robot doesn't meet the FRC robot rules.

6. STEM Gals & NTX Alliance Selection

A. Alliance Captains are not allowed to select each other.

B. If we have more than or equal to 32 teams, The standard championship subdivision level alliance selection process will be used, including the 4 robots per alliance rules as outlined in the game manual. 1-8, 8-1, 1-8.

C. If we have fewer than 32 teams. We will use the standard 3-team alliance format from district/regional events.

D. At the beginning of Alliance Selection, the Emcee will ask if any teams would like to withdraw from Alliance Selection. Any teams wishing to not play can withdraw at this time. After the final Alliance has made their first pick, teams are no longer allowed to decline invitations and all further picks will be assumed to be accepted.

7. Video Review

Given that the technology allows it (the video system doesn't go down, etc.), there will be a video review process.

- Each Alliance is allowed one challenge/review in the playoffs. The alliance captain will be provided a video review coupon.
- Video review coupons must be given to the head ref within 2 minutes after the end of a match for it to be reviewed.
- Only match-affecting calls and yellow/red cards can be reviewed.
- The score or lack of score being reviewed must be significant enough to affect the match's outcome. The Head Referee can choose not to review any call they do not believe will change the match's outcome.
- Video evidence must be indisputable to change a call. The point is to receive credit for a missed score, not to debate further a close call on which a referee already used their best judgment. The Head Referee's decision is final after a review.
- Only the head referee will use the event-provided video during a video review. Referees will not review any other video footage, including camcorders, phones, or tablets not provided by the event.
- At their discretion, the Head Referee may choose to review any ruling throughout the event. Please do not ask for a video review at any time other than giving the referee your alliance's video review coupon during the playoffs. All other requests will not be granted.

We don't plan on ever having this happen, but we want to provide the best event possible to teams; a video review of other situations may allow us to do this.

8. Soft Time Cap

To allow teams to get out of the event in a reasonable amount of time if we have match delays, we will be instituting a soft time cap during the event. At the discretion of the event organizers, if Finals start after 5:30 P.M. Central Time*, we will be moving to a "Best of 1" elimination format instead of the usual "Best 2 of 3" format for Finals.

* Time is tentative. It could be later or earlier. Depends on Match Cycle Times and Venue.

9. Break Changes

Due to the lack of awards, all pre-scheduled breaks in between rounds have been reduced to 8 minutes long. This is to speed up the process, however, we kindly ask that alliances come to the field as soon as possible to speed up

playoffs. Matches will begin as soon as all 6 robots are ready to start the match.

This rule isn't meant to rush teams with a broken robot on the field. If you need the full 15 minute break for Finals, the full break will be given.

10. Radios

The Open-Mesh radios will be used for STEM Gals and NTX.