

## Team 972 Ironclaw Robotics Build Season Kickoff Agenda - Work Days 1 to 7

**Kickoff Schedule Work Days 1 to 5 follow the Build Season Flowchart and are structured with the goal of accomplishing:**

- > Learning and Mastering the Game
- > Game Play Strategy - How Team 972 will play the game in support of the Team's Goals
- > Functional Robot Requirements - What the robot will do and how. Team will also identify what the robot will not do.

[Build Season Flowchart](#)

### Work Day 1: Saturday 01/06/24

Start Time	End Time	Duration (Hr & Min)	Flowchart Section	Task Description	Task #	
10:00 AM	10:15 AM	0:15		Open classroom. Day 1 & 2 Expectations, The Do's, and Don'ts. Day 1 break down. Could we ask students about food preferences?		
10:15 AM	10:35 AM	0:20	1	Watch the Season Kick-off Video and re-watch the Game Reveal videos and field walkthrough videos.	1	Watching Game release videos. As you watch, write any useful notes in the Games Rules Study Guide notes here to help you contribute to your team's strategy discussion.
10:35 AM	11:35 AM	1:00	1	Each student individually and in silence studies and analyze the Game Manual - the game itself and all the FRC rules. Students use the study guide to capture their own notes and insights during this exercise. <b>Mentors order game pieces on Andymark.</b>	2	Silent Reading of Game Manual. Keep in mind this activity is 60 minutes, so be smart about what part of the manual you are reading! Anything you write is just to help you remember.
11:35 AM	11:45 AM	0:10		Mini Break - snacks & drinks available		
11:45 AM	12:45 PM	1:00	1	All students participate in a group discussion sharing their first impressions of the game. Clarify/Analyze Unclear Rules Review Field Game Elements Together Record questions for FIRST Q & A	3	Write any important notes from the whole team analysis of the game manual. <b>NO STRATEGY OR DESIGN TALK!</b>
12:45 PM	1:30 PM	0:45		Lunch		
1:30 PM	2:20 PM	0:50	1	FRC Rules Quiz compiled by the Robotics Teachers to gauge the students initial understanding of the game.	4	This quiz does not count towards your final grade. May use Notes written on the Study Guide
2:20 PM	2:30 PM	0:10		Mini Break - snacks & drinks available		
2:30 PM	3:30 PM	1:00	2	Brainstorming Session 1 - Game Strategy Only (Breakout into 5 groups of 10 students)	5	Start with the Teams Goals for the Season. All students on the team should know this. <b>NO DESIGN TALK DURING STRATEGY TALK!</b> If there is design talk (even accidental) every member can assertively, but politely, please interrupt with the phrase "Objection: Design Talk"
3:30 PM	3:40 PM	0:10		Mini Break - snacks & drinks available		
3:40 PM	4:40 PM	1:00	2 & 3a	Brainstorming Session 2 - Continue with Game Strategy and start to consider Functional Robot Requirements (Breakout into 5 groups of 10 students)	6	From the Strategy Brainstorming Session 1 (Task 5) start to focus your groups brainstorming efforts in following areas: 1) What will the robot do to support the proposed Strategy? <b>This should include estimated CYCLE TIMES, which should be documented.</b> 2) What will the robot not do - <b>this should be documented.</b>
4:40 PM	5:00 PM	0:20		Day 1 Wrap up and Day 2 breakdown. Homework Watch some R13D footage to get subsystem ideas - Golden Rule 2 - Steal from the best and invent the rest. Be careful not to fixate on design		
		7:00 hours				

### Work Day 2: Sunday 01/07/24

Start Time	End Time	Duration (Hr & Min)	Flowchart Section		Task #	Additional Task Detail
10:00 AM	10:15 AM	0:15		Open classroom and prepare for the day. Day 2 break down.		
10:15 AM	11:45 AM	1:30	2 & 3a	Brainstorming Session 3 - Finalize Game Strategy, Functional Robot Requirements ideas, and Cycle Times for the readout (Breakout into 5 groups of 10 students)	6, 7	Finalize the work on Task 6. Start work on Task 7 deliverable for Group Readout Session (Task 8)
11:45 AM	11:55 AM	0:10		Mini Break - snacks & drinks available		
11:55 AM	1:10 PM	1:15	2 & 3a	Group Readout of Game Strategy, Functional Robot Requirements, Cycle Times and points scored - Readout from the 5 groups. (Proposed Timing - Strategy 5 min / Functional Requirements 3 min / Q&A 2 min)	8	Each Group presents their proposed Strategy, Functional Robot Requirements - What the robot will do, with estimated cycle times, and what the robot will not do
1:10 PM	1:45 PM	0:35		Lunch (Provided by Parents)		

1:45 PM	3:00 PM	1:15	2	Strategy and Functional Robot Requirements Discussion and Decisions - What will the robot do and not do - <b>DVC</b> Leads this and documents. This is not the how, so no subsystems ideas or designs are discussed during this session.	9	<b>NO SUBSYSTEM IDEAS OR TALK AT THIS TIME!</b>
3:00 PM	3:10 PM	0:10		Mini Break - snacks & drinks available		
3:10 PM	3:25 PM	0:15	3a	DVC Vote on Game Strategy and Functional Robot Requirements. An important milestone ahead of the subsystems ideas and design brainstorming sessions.	10	15 minute session to allow the DVC to vote on the best proposed Strategy that aligns with the teams season goal and capabilities.
3:25 PM	3:30 PM	0:05		Mini Break - snacks & drinks available		
3:30 PM	4:45 PM	1:15	3b	Brainstorming Session 4 - Start brainstorming Subsystem Ideas and Design Requirements to support the Game Strategy and Functional Robot Requirements (Breakout into your assigned groups of 10) - Pro Tip: Discuss and review latest RI3D	11	
4:45 PM	5:00 PM	0:15		Day 2 Wrap up. Check-in on RI3D, are there any RI3D ideas that could be leveraged by the team during Subsystem prototyping.		
		7:00 hours				

**Work Day 3: Monday 01/8/24**

Start Time	End Time	Duration (Hr & Min)	Flowchart Section	Task Description	Task #	Additional Task Detail
2:30 PM	2:40 PM	0:10		Open classroom. Day 3 break down.		
2:40 PM	3:55 PM	1:15	3b	Brainstorming Session 5 - Continue with Subsystem Ideas and Design Requirements to support the Functional Robot Requirements (Breakout into your assigned groups of 10) - Pro Tip: Don't forget to discuss and review latest RI3D updates	11	
3:55 PM	4:00 PM	0:05		Mini Break.		
4:00 PM	5:20 PM	1:20	3b	Brainstorming Session 6 - Finalize Subsystem Ideas and Design Requirements to support the Functional Robot Requirements and start to prepare for the readout session (Breakout into your assigned groups of 10).	11,12	Finalize the work on Task 11. Start work on Task 16 deliverables and complete overnight if additional time required for Group Readout Session (Task 12) on Tuesday
5:20 PM	5:30 PM	0:10		Day 3 Wrap up. Check-in on RI3D, are there any RI3D ideas that could be leveraged by the team during Subsystem prototyping.		
		3:00 hours				

**Lesson learned from 2023: After Work Day 3, Schedule a one day break before Work Day 4. This will allow students time to digest their different designs within their groups, finalize design requirements to support the overall robot strategy, research what other teams may be considering and finalize the group readout presentations that will commence Work Day 4.**

**Work Day 4: Wednesday 01/10/24**

Start Time	End Time	Duration (Hr & Min)	Flowchart Section	Task Description	Task #	Additional Task Detail
2:30 PM	2:40 PM	0:10		Open classroom. Day 4 break down.		
2:40 PM	4:00 PM	1:20	3b	Start group readout of Robot Subsystem Ideas, Design Requirements, and subsystems to prototype - Readout from the 5 groups (Per group - Subsystem Ideas, Cycle Times, Design & Metrics 20 min / Q&A 5 min). Notetakers records possible subsystems to prototype and consolidates similar subsystems	12	
4:00 PM	4:05 PM	0:05		Mini Break.		
4:05 PM	5:20 PM	1:15	3b	Complete the group readout of Robot Subsystem Ideas, Design Requirements, and subsystems to prototype - Readout from the 5 groups (Per group - Subsystem Ideas, Cycle Times, Design & Metrics 20 min / Q&A 5 min). Notetakers records possible subsystems to prototype and consolidates similar subsystems	12	
5:20 PM	5:30 PM	0:10		Day 4 Wrap Up.		
		3:00 hours				

**Lesson learned from 2023: After Work Day 4, Schedule a one day break before Work Day 5. This will allow students time to digest the information presented during the group readouts from Task 12 and be prepared for productive discussions on Work Day 5 and final decision on what subsystems will be approved for prototyping.**

**Work Day 5: Friday 01/12/24**

Start Time	End Time	Duration (Hr & Min)	Flowchart Section	Task Description	Task #	Additional Task Detail
14:30	14:40	0:10		Open classroom. Day 5 break down.		

14:40	15:25	0:45	3b	Start discussion and decision on Subsystem Ideas to Prototype, including the Design Requirements to support the Functional Robot Requirements - DVC Leads this and documents the outcomes after their vote. to support the Game Strategy (Swerve, West Coast Drive or other) and robot frame perimeter.	13	
15:25	15:30	0:05		Mini Break.		
15:30	17:20	1:50	3b	Final discussion and decision on Subsystem Ideas to Prototype, including the Design Requirements to support the Functional Robot Requirements - DVC Leads this and documents the outcomes after their vote. DVC decides/votes on the type of drive train to support the Game Strategy (Swerve, West Coast Drive or other) and robot frame perimeter.	13	End of whole team engagement and collaboration on initial Strategy, Functional Requirements and Sub System Ideas.
17:20	17:30	0:10		Day 5 Wrap Up.		

3:00 hours

**Work Days 6 to 12 follow the Build Season Flowchart and are structured with the goal of accomplishing:**  
 > Subsystem prototyping - intake, storage/index, outtake and endgame  
 > Robot Building Time - preapproved and game validated subsystems - drivetrain, bumpers, control system board, vision  
 > Auto routine path planning using 2023 offseason test swerve robot  
 > Driver practice using 2023 swerve robot (Vertigo)

[Build Season Flowchart](#)

**Work Day 6: Saturday 01/13/24**

Start Time	End Time	Duration (Hr & Min)	Flowchart Section		Task #	Additional Task Detail
10:00	10:15	0:15		Open classroom. Day 6 break down.		
10:15	10:45	0:30		Group assignments for sub system prototyping and work on bumpers and robot drive train.		
10:45	16:00	5:15	4 & 6	Work Day 6 to 12: 1) Subsystem prototyping - intake, storage/index, outtake and endgame 2) Robot Building Time - preapproved and game validated subsystems - drivetrain, bumpers, control system board, vision. 3) Auto routine path planning using 2023 offseason test swerve robot 4) Driver practice using 2023 competition swerve robot (Vertigo)		> Auto routine path planning using 2023 offseason test swerve drive starts on Work Day 6. > Driver Practice using Vertigo starts on Work Day 6
16:00	16:45	0:45	4 & 6	Mini design review - Each group provides an update on prototype work completed and answers questions.		New this year - Mini Design review by group (5 to 7 min) so all students and mentors are aware of what each prototyping group worked on during that session. Highlight what was accomplished, lessons learned, any pivots/changes based on lessons learned.
16:45	17:00	0:15		Day 6 Classroom and shop clean-up.		

7:00 hours

**Work Day 7: Sunday 01/14/24**

Start Time	End Time	Duration (Hr & Min)	Flowchart Section		Task #	Additional Task Detail
10:00	10:15	0:15		Open classroom. Day 7 break down.		
10:15	16:00	5:45		Work Day 6 to 12: 1) Subsystem prototyping - intake, storage/index, outtake and endgame 2) Robot Building Time - preapproved and game validated subsystems - drivetrain, bumpers, control system board, vision. 3) Auto routine path planning using 2023 offseason test swerve robot 4) Driver practice using 2023 competition swerve robot (Vertigo)		
16:00	16:45	0:45	4 & 6	Mini design review - Each group provides an update on prototype work completed and answers questions.		New this year - Mini Design review by group (5 to 7 min) so all students and mentors are aware of what each prototyping group worked on during that session. Highlight what was accomplished, lessons learned, any pivots/changes based on lessons learned.
16:45	17:00	0:15	4 & 6	Day 7 Classroom and shop clean-up.		

7:00 hours