



2024 ROBOBOAT

• S A R A S O T A , F L •

Team Time

Tuesday, January 9, 2024

12:00 Noon Eastern Time (US & Canada)





GET STARTED



- 1 Edit your name to "Name | Team Name"
- 2 Let us know in the chat:
Which task do you feel most prepared for?

AGENDA

- [12 : 00 - 12 : 05] Welcome
- [12 : 05 - 12 : 30] On-Site Reminders
- [12 : 30 - 12 : 50] Autonomy Challenge Prep
- [12 : 50 - 13 : 00] Questions?





2024
ROBOBOAT

• S A R A S O T A , F L •

Organizers



Premier Sponsors



Check out the latest
perks from our sponsors



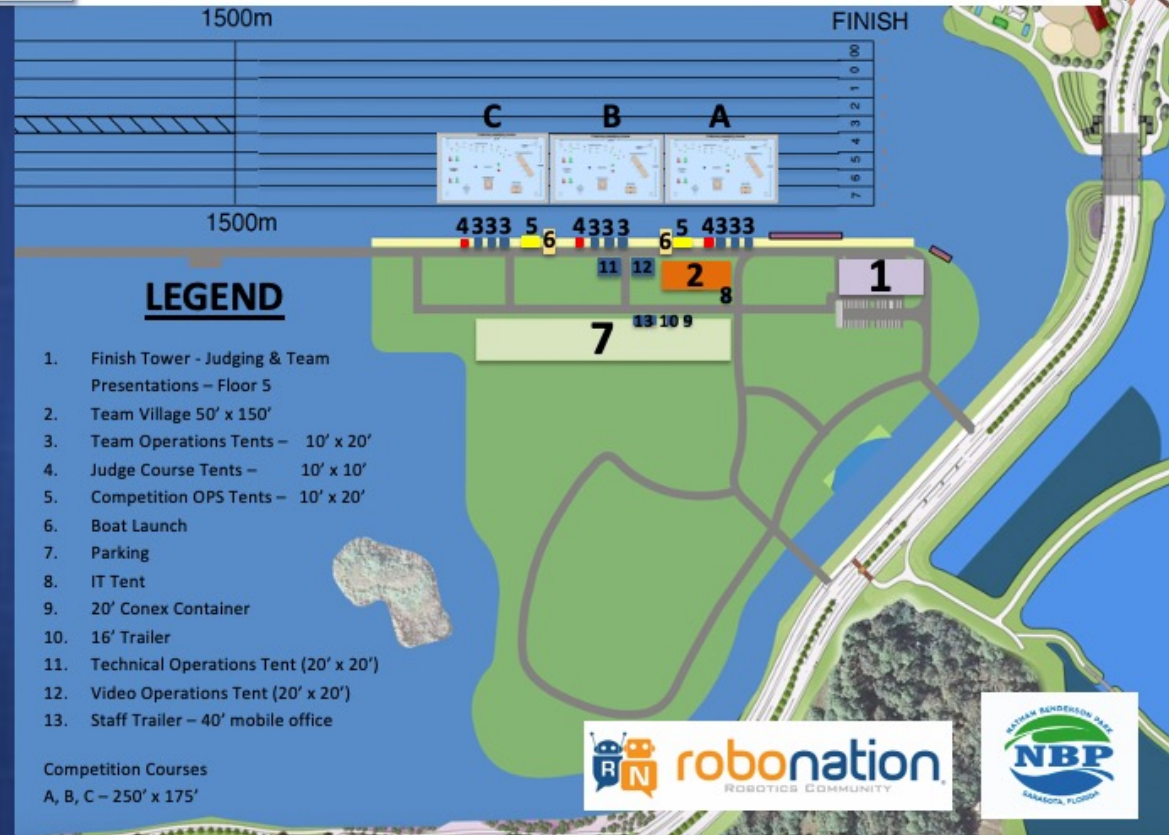
Venue Layout



roboboat.org/2024



2024 RoboBoat Venue Layout





On-Site Contacts



roboboat.org/2024

On-Site Contacts:

- Cheri Koch, Senior Events Manager
 - (850) 642-0536
 - ckoch@robonation.org
- Julianna Smith, Autonomous Programs Manager
 - (571) 239-9345
 - jsmith@robonation.org



Shipping Guidelines



roboboat.org/2024

- Teams may ship their equipment to our conference hotel (Ameniti Bay Sarasota Hotel & Suites).
- **IMPORTANT DATES**
 - FEBRUARY 1 - Shipments cannot arrive at hotels prior to February 1.
 - FEBRUARY 5 - All shipments must be picked up by Monday, February 5.
 - FEBRUARY 12 - Shipment must be shipped out before the team leaves (no later than February 12).
- Use the Inbound Shipping Label (in the Shipping Guidelines) for the hotel.
- Use the Outbound Shipping Label (in the Shipping Guidelines) using the address of the hotel or drop your crate off with your shipper directly.
- **Start now on planning on your outbound shipping arrangements now! Batteries are exceptionally difficult to ship.**
- Consult the Shipping Guidelines for local shipping outlets in Sarasota.

Shipping Guidelines: <https://roboboat.org/2024#resources>



SHIPPING

FROM: School Name
Address
City, State, Zip
Country



Ameniti Bay Sarasota Hotel & Suites
Attn: RoboBoat / School Name
5985 Brookhill Boulevard
Sarasota, Florida 34232

On-site Team POC Name:

Phone:



roboboat.org/2024





Schedule Overview



roboboat.org/2024

Schedule At-A-Glance

Monday 5-Feb	Tuesday 6-Feb	Wednesday 7-Feb	Thursday 8-Feb	Friday 9-Feb	Saturday 10-Feb	Sunday 11-Feb
	0745 Mandatory Team Meeting					
	<div> Presentations / Assessments Day 1 (Wednesday) 1300-1600 Day 2 (Thursday) 0900 - 1600 Day 3 (Friday) 0900-1200 </div>				0800-1200 Autonomy Challenge Practice & Qualifying	0800-1200 Autonomy Challenge Finals Round 2
	0800-1200 Safety Inspections & Autonomy Challenge Practice Qualifying Round begins Wednesday					
	1200-1300 Lunch Break					
1300-1330 Team Check-in	1300-1700 Safety Inspections & Autonomy Challenge Practice				1300-1700 Autonomy Challenge Finals Round 1	1200-1600 Autonomy Challenge Finals Round 3
1330-1430 Mandatory Team Orientation						
1430-1700 Unpack + Build Boats Safety Inspections						
	1700-1730 Mandatory Team Meeting					1800-1930 Awards
	1730 TEAM VILLAGE CLOSED					
	2200 - 0200 Overnight Pool Testing					2100-2300 Pool Party (Teams Only)





Schedule Overview



roboboat.org/2024



DAY 1 – FEBRUARY 05, MONDAY

Nathan Benderson Park – Team Village

- 1:00 pm – 1:30 pm | Team Check-in
 - 1 team representative must be present
- 1:30 pm – 2:30 pm | Team Orientation
 - Entire team must be present
- 2:30 pm – 5:00 pm | Unpack, Build boats, Safety Inspections
- 5:00 pm – 5:30 pm | Mandatory Team Meeting
 - 1 team representative must be present
- 10:00 pm – 2:00 am | Overnight Pool Testing





Overnight Testing



roboboat.org/2024



📍 Ameniti Bay Sarasota Hotel & Suites

- Monday, February 5 – Saturday, February 10
- 10:00 p.m. – 2:00 a.m.





On-Site Reminder



roboboat.org/2024

ASV TRANSPORTATION at COMPETITION

Teams must provide a cart to move the vehicle around the competition site.

- Cart must be manually propelled on site, no motorized carts.
- Cart's handle must be solid, no rope or chain.
- Cart's width must be less than thirty-six (36) inches.
- Carts are recommended to have six (6) inch (or more) diameter rubberized wheels.
- Carts may have to travel on concrete, dirt and grass surfaces and may also be submerged and sink in water when you launch and recover your boat.



Figure 15: Example Vehicle Carts



On-Site Reminder



roboboat.org/2024

Be Prepared!

- Pack a jacket / dress in layers. Sarasota in February can be cold in the morning and evening.
- Wear shoes with sturdy soles.
- Avoid SUNBURN - Bring sunscreen, hat, and long-sleeved shirt.
- Hydrate, hydrate, hydrate! Bring your own water bottle – water and ice will be provided.

Venue Closure

- Team Village closes at 5:30 pm every evening.



Competition Prep



roboboat.org/2024

DESIGN PRESENTATION & SYSTEM ASSESSMENT SCHEDULE Wednesday – Friday, February 7-9

Design Presentations

Teams are assigned a 25-minute time slot. Teams are invited to prepare visual aids. The presentation time slot is broken down to:

- Team video – 3 minutes
- Team presentation – 15 minutes
- Judges' Question & Answer – 5 minutes

System Assessments

Following the presentation timeslot, teams will proceed to their assigned 15-minute assessment time slot.



Team Photos

Teams will have team photos taken after the System Assessment. Teams that miss their scheduled photo time can reschedule on Friday afternoon only.





Presentations & Assessments



roboboat.org/2024

DESIGN PRESENTATION & SYSTEM ASSESSMENT SCHEDULE Wednesday – Friday, February 7-9

Presentation Time	Assessment Time	Day 1 Wednesday, Feb 07	Day 2 Thursday, Feb 08	Day 3 Friday, Feb 09
9:00 AM	9:30 AM		Lake Superior State & FAU	Istanbul Tech
9:30 AM	10:00 AM		Cornell University	Institut Teknologi Sepuluh
10:00 AM	10:30 AM		Break	
10:30 AM	11:00 AM		James Martin HS	Universitas Sebelas Maret
11:00 AM	11:30 AM		Advancing Science, Tech & Art / UCSD	University of Strathclyde
Break				
1:00 PM	1:30 PM	Georgia Tech	Memorial Uni of Newfoundland	
1:30 PM	2:00 PM	Embry-Riddle	University of Puerto Rico	
2:00 PM	2:30 PM	Hagerty HS & UCF	Break	
2:30 PM	3:00 PM	Break	AGH University	
3:00 PM	3:30 PM	South Dakota School	Gdańsk University	
3:30 PM	4:00 PM	US Coast Guard Academy	Tecnológico de Monterrey	
4:00 PM	4:30 PM	University of Michigan		





Autonomy Challenge



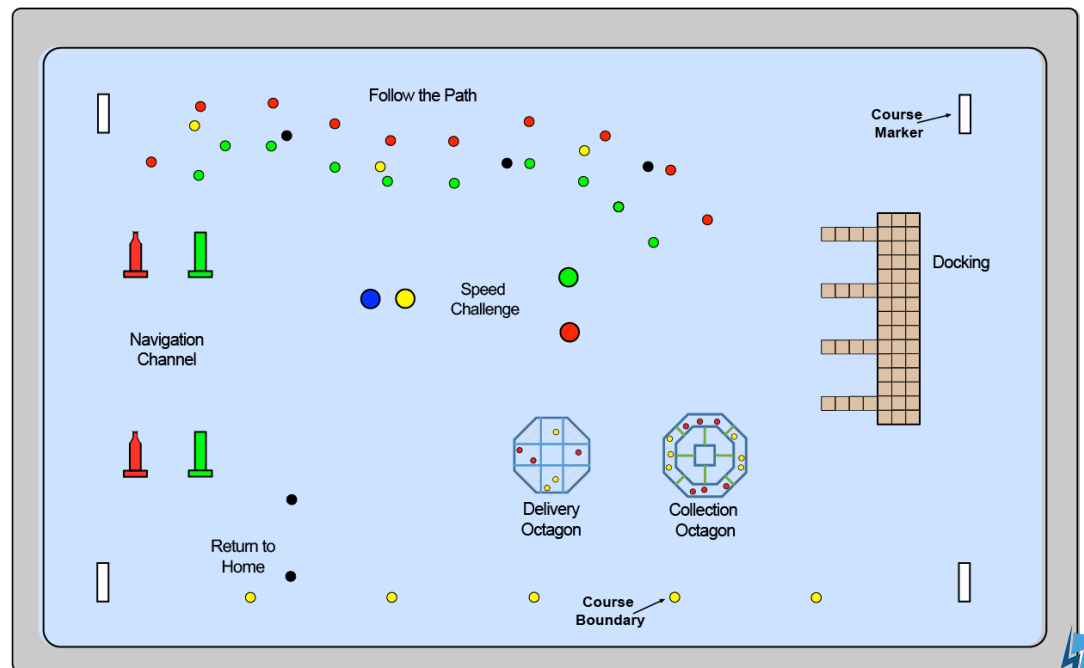
roboboat.org/2024

OVERVIEW

Refer to RoboBoat 2024 Team Handbook, Sections 2.5-2.6 (Page 20).

Qualifying Round

The Qualifying Round and task completion requirements is at the judges' discretion on-site at the competition.





Autonomy Challenge



roboboat.org/2024

OVERVIEW

Refer to RoboBoat 2024 Team Handbook, Sections 2.5-2.6 (Page 21).

Finals Rounds

Teams that qualify will have access to the Finals Course. These courses consist of eight (8) tasks: the mandatory navigation channel and tasks 2-8. Only one team may be on a Finals Course at a time.

During a scored run the ASV must:

- operate autonomously throughout the entire run;
- enter the course through the gates in Navigation Channel task;
- attempt the remaining Tasks 2-7 of their choice, in any order; and
- attempt to return to home (Task 8) at the end of the run (to earn maximum points).

Note: No remote-controlled operated surveys of course.

Task Name	Potential Pts
Navigation Channel	200
Follow the Path	550
Docking	500
Duck Wash	550
Speed Challenge	550
Collection Octagon	350
Delivery Octagon	100+
Return to Home	800
Time Bonus	+



Autonomy Challenge



roboboat.org/2024

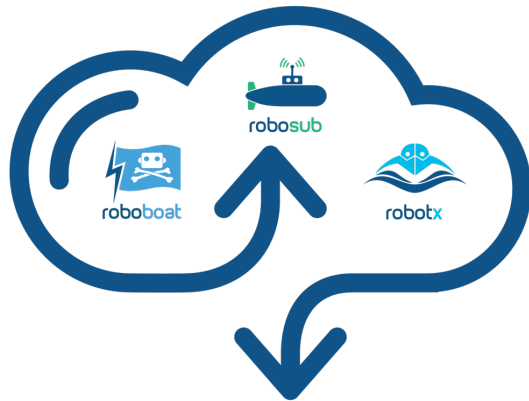
SCORING OVERVIEW

Refer to RoboBoat 2024 Team Handbook, Sections 3.1 (Page 22-23).

Task/Measurement	Performance Measures	Points	Potential Points
Weight measurement	Weight (W)	See Table 3	Vehicle Dependent
Thrust measurement	Generate pounds of thrust (in lbs) (Th)	$100 * (Th / W)$	
Task 1 – Navigation Channel	ASV navigates through both gates		0,200
Task 2 – Follow the Path	ASV maneuvers through gates (G), without striking buoys (S) (maximum buoy strikes: 5)	$25 * G - 25 * S$	0-250
	ASV maneuvers through gates, in one sequence	$25 * G$	0-250
	ASV exits pathway and circles in place, equivalent to number of yellow buoys in task		0,50
Task 3 – Docking	ASV enters any docking bay (points awarded once)		0,50
	ASV enters correct docking bay on first attempt		0,150
	ASV remains in dock for 30 seconds		0,150
	ASV style points <i>50 for entering in any direction, other than forward</i> <i>50 per turn in place, while remaining in dock (max: 2)</i>		0-150
Task 4 – Duck Wash	ASV shoots water near task platform		0,100
	ASV delivers water on duck banner		0,150
	ASV delivers steady stream of water on duck banner for 5 seconds continuously		0,300
Task 5 – Speed Challenge	ASV navigates through gate, without touching any buoy		0,50
	ASV circles yellow buoy, without touching any buoy		0,100
	ASV circles blue buoy, without touching any buoy		0,50
	ASV exits through gate, without touching buoy		0,100
	Task completion time (T)	$250 - T$	0-250
Task 6 – Collection Octagon	ASV makes contact with item from collection octagon		0,50
	ASV collects items (i) from collection octagon	$50 * i$	0,50,100,150
	ASV collects ducks (d) from collection octagon	$50 * d$	0,50,100,150
Task 7 – Delivery Octagon	ASV delivers items (i) to any nest	$50 * i$	No limit
	ASV delivers items (i) to correct nest	$50 * i$	
Task 8 – Return to Home	Return to home after attempting tasks (#t)	$100 * \#t$	0-700
	Bonus for attempting all tasks and returning to home		0,100
“The First Duck Gets the Worm” Time Bonus	Multiplier applied to overall points earned, based on number of seconds remaining on the timeslot clock.	Up to 40% bonus on overall score proportional to time remaining on timeslot clock.	



roboboat



Data Sharing

 roboboat.org/data-sharing



Centralized Repository



Community Driven



Competition
focused

Vision
Acoustics
Mixed Data

Mechanical Designs
Electrical Designs



DATA FOR ALL
TEAMS



LARGE DOMAIN
OF DATASETS



**NEW
Local Server**

A local server will be available on-site at the competition for easier uploads / downloads and access to relevant data.

Note: The data that is uploaded to this server will not be available overnight at the hotel.





**Stay
Connected**



roboboat.org/2024

RoboBoat 2024 Discord



Discord

All on-site communications
will be posted on Discord.

JOIN TODAY!

- Scan the QR Code
- Select the RoboBoat24 role
- Turn on notifications





2024 ROBOBOAT

• S A R A S O T A , F L •

Questions?





robonation



seaperch



seaglide



gosense



roboboat



robosub



robotx



RoboNation is a 501c3 nonprofit organization whose mission is to provide a pathway of hands-on educational experiences that empower students to find innovative solutions to global challenges. Working together with the industry, research and educators, we have grown to include over nine student competitions and programs and engage more than 250,000 students per year.

For more information contact autonomy@robonation.org