



**SEASIDE
HIGH SCHOOL**

GROW, ACHIEVE, SUCCEED

JEFF ROBERTS, PRINCIPAL

JASON BOYD, ASSISTANT PRINCIPAL

WENDY CROZIER, ASSISTANT PRINCIPAL

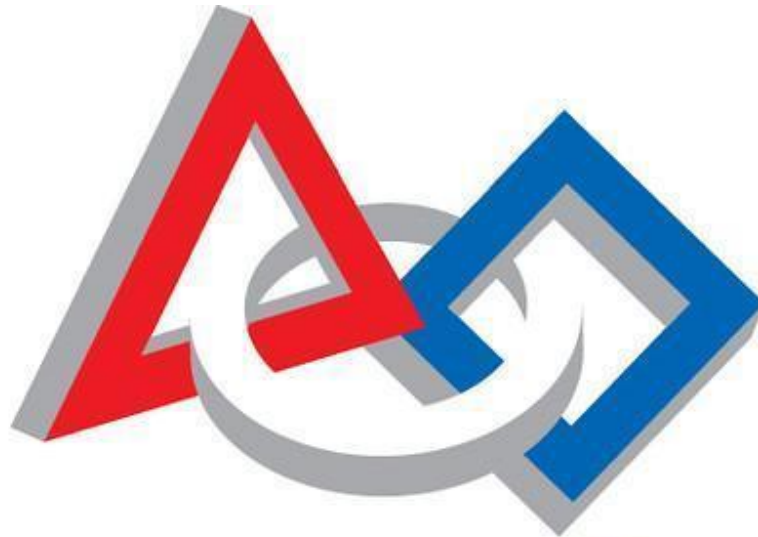
AARON TANABE, ATHLETIC DIRECTOR

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Seaside Robotics Handbook



FRC[®]

FIRST[®] Robotics Competition

Purpose of This Handbook

The purpose of this handbook is a supplement to the Seaside High School Student Handbook, Seaside School District Athletic Handbook and Parent/Coach Communication Flyer to address specific Robotics Team dynamics that are not addressed in those publications or policies. It does not override any rules or regulations of Seaside High School / Seaside School District #10

Team Overview

The team is composed of students in grades 9 – 12 who, with the guidance and oversight of coaches, adult mentors and volunteers, build a robot to compete in the FIRST Robotics Competition.

FIRST stands for “For Inspiration and Recognition of Science and Technology.” The FIRST mission (www.firstinspires.org) is dedicated to changing the way high school students regard education and careers in science and technology. The intent is to inspire an appreciation for the real-life rewards and career opportunities in these fields by challenging students and their adult mentors to solve an intense engineering design problem.

Seaside C.Y.B.O.R.G. Seagulls are active throughout the entire year. The team begins its season in the fall by securing funds to pay for the costs of: regional competition fees, robot parts, tools and materials, and outreach events. During the fall months, the team organizes and holds outreach/fundraising events as well as preparation sessions to help familiarize all members with the tools and software they may be using. At a FIRST kick-off event in January, the team learns the competition game scenario and game rules. The team has only (approximately) 6 weeks to complete a robot to play the year’s game. Using a FIRST-provided kit of parts including motors, sensors, and electronics, as well as additional purchased materials, the team designs, builds, and programs a full-scale, (approximately) 125-pound robot.

Team 3673’s budget is comprised of raising funds through sponsorships as required of all FIRST teams, Seaside High School ASB, Seaside School District #10 budgets and Grants

Season Timeline

- September - December: Team meetings / new members sign up and orientation. Meetings held at lunch (room C118) every Tuesday.
- January 7th: FIRST announces the game at kick off (this is in person or zoom)
- January 7th - March 8th: Build Season. Meet every night and Saturday. (3:50PM - 6PM Monday - Friday / 10AM - 4PM Saturdays)
- March 9th - Wilsonville Home District Event (Multiple Days)
- March 23rd - Oregon State Fairgrounds Event (Multiple Days)
- April - September: Community outreach events, fundraising events.

Student Requirements

Students

1. Must be a registered Seaside High School student, or homeschool High School student residing in Seaside School District #10, (Grades 9 – 12), 13 to 18 years old (14 years old minimum for drive team per FIRST)
2. Must pass 4 classes each term. Cannot miss class they have an F in to go to competition.
3. Must be able to work independently and take direction.
4. Must be able to handle working in loud, crowded and fast paced environments.
5. Are expected to make a significant time commitment to the team, actively participating in meetings, workshops, and events. Commitment to the team increases substantially during the months of January – March.
6. Are required to attend a minimum of 100 hours of meeting/build time to be eligible for competition attendance.
7. Are expected to be reliable (on-time, prepared to work, clean up, positive attitude, assist new members, responsive to mentors and other adult volunteers) and assist with team administrative tasks.
8. Must pass a written and practical safety test and be able to operate machinery by December 1st to be on the Build Team.
9. Students and parents must complete all required and necessary registrations with Team 3673, FIRST, and Seaside High School by December 1st.

Code Of Conduct

- Students will display “Gracious Professionalism” at all times and promote the ideals of FIRST
- Students will not violate the racial / religious / harassment / violence / and hazing bylaws of the Seaside School District #10 as outlined in the Student Handbook.

- Students will not do anything that would constitute conduct detrimental to the team.
- Students will behave in a courteous and cooperative manner, especially when in public, visiting corporate offices, presenting to sponsors, and during outreach events and activities.
- Students will be respectful of others and behave in a way that does not endanger the health and safety of themselves or others. There will be no horseplay in the robot room.
- Students will be respectful of the facilities, tools, equipment and all things being used by the team. The team, SHS and School District are not responsible for student owned tools, equipment or electronic devices that they choose to bring into the Robot Lab, or on Team events.
- Students shall not use profane, obscene or vulgar language in written, gestured, or verbal form.
- Seaside School District #10 Use Policy prevails for all communications, including all social media and Internet usage.
- Students will not give out passwords, IP addresses, etc, to others outside the current team members.
- Students will follow the directions of Coaches and Mentors.
- Students will keep current with team activities and requirements by checking Discord (or current team communication/messaging application), and their email frequently.
- Team members, Parents/Guardians, and Coaches/Mentors will not directly or indirectly give out personal information about themselves or other team members, either in person nor while using any form of team – related online/Internet communications/ digital media. This includes all social media (Twitter, Facebook, et al) associated with Team 3673, other FIRST teams or other FIRST-sponsored Forums, wikis or any Internet/Web/mobile device (smartphones, cellphones) communications.
- Students and their Parents/Guardians should be aware they are representatives of Team 3673 and that their actions and posts can reflect on the Team. We expect students' communications to be positive and should not negatively reflect on the team and should at all times reflect the tenets of FIRST and "Gracious Professionalism".

Violations of the Code of Conduct are subject to disciplinary action, to be determined by the team's Coaches and/or SHS Administration, which may include (but not limited to) suspension from team activities, ineligibility to travel with the team, or removal from the team.

Depending on severity of the violation, the disciplinary actions are as follows:

- 1 st Violation will result in a verbal warning and plan to correct the situation with a Coach.
- 2 nd Violation will result in a 2 week suspension from the team, effective immediately.
- 3 rd Violation will result in an inability to attend the next event with the team, including not going to competition.
- 4 th Violation will result in permanent suspension from the team and a referral to School Administration.
- Any Violation that endangers the safety and wellbeing of themselves and/or others on the team will result in immediate suspension from the team with referrals to the School Administration.

It is the philosophy of the Seaside School District that participation in athletic/activities is a privilege. The Athletic Handbook lines out violations for substances (alcohol, illegal/unauthorized drugs), tobacco and other offenses. Please see the Athletic Handbook for specific rules for those offenses.

Conflict Resolution

If a student feels the task is inappropriate, inform a Coach. If in dispute, the Coach will have the final say. If there is a conflict between people that becomes frustrating/upsetting to one or more parties: Take a break. Walk away from the situation to decompress and come back to discuss calmly. If heated or you feel uncomfortable, immediately notify a third party (Coach or Mentor). Third party will either mediate discussion or take appropriate steps depending on the situation.

Lettering and School Recognition

- The Advisor/Coach, with input from all team Mentors, will determine which students receive an SHS letter and/or school and team recognition awards.
- Students must be an active participant of the team.
- Students must be a member in good standing for the entire year.
- At a minimum, students must attend one FIRST competition and be a participant in fundraising or community outreach/service.
- The Advisor/Coach has total discretion on all lettering decisions.

Team Organization

Coach: Greg Dotson

Andrew Gooch

gdotson@seasidek12.org agooch@seasidek12.org

- A Seaside School District #10 employee.
- Must be Board approved, fingerprinted and background checked.
- Final decision maker on all design and programming choices.
- Submits registration for FIRST events.
- Is present at competitions and other FIRST events.
- Distributes FIRST information to appropriate adult and student team members.
- Monitors the standing of each member (grades, behavior, and attendance).
- Communicates to the schools and schedules school facilities.
- Submits grant proposals.
- Coordinates yearbook page with school yearbook staff.
- Determines appropriate school and team recognition awards.
- Supervises team activities.
- Serves as Primary contact with FIRST organization and SHS/District Administration.
- Maintains open communication with parents, mentors and students.
- Supervises travel plans for the team.
- Signs and approves expenses.
- Supervises handbook updates.
- Oversees team budget and finances.
- Coordinates team communications, calendar and schedule.

This handbook may not address all situations coming before the team; the Coach's are entrusted with ensuring that there are responsible adults overseeing the ongoing operations of the team.

Technical Mentors (Volunteers):

- Adult volunteers with an engineering or technical background.
- Must pass a background check.
- Provide professional expertise and supervision.
- Guide and teach students new skills.
- Mentorships must be approved by the Coach's

Non-Technical Mentors (Volunteers):

- Adults that direct the team in business, marketing, and media.
- Must pass a background check.
- Provide professional expertise, guidance, supervision, or training to students.

- Mentorships must be approved by the Coach's

Parents / Guardians:

- Are expected to provide additional support of the team; including chaperoning, making sure their team member(s) are timely dropped off/picked up, and communication with Coaches.
- Supplemental information provided in the Seaside High school Parent/Coach Communication (although the pamphlet is Athletic in nature, the same rules apply.) If any issues arise during competition, a parent/guardian will be required to pick up the student at the competition location.
- It is District policy that rides between home and school will not be provided by the District nor Coaches.

Team Captains and SubTeam Leaders:

- Students that lead a group of students on a subteam.
- Must attend all team competitions.
- Must be available all days during build season.
- Attend mentor/student leader meetings.
- Must attend off season meetings. (Significant Time Commitment.)
- Bring problems to the attention of Coaches/Mentors.
- Duties as assigned by the Coaches/Mentors. (see following pages for outline)

Selection of Leadership Roles:

- Team members interested in leadership roles should express their interest to the Team Coaches.
- All candidates must be team members in good standing.
- The leadership of Team 3673 will be determined by the Team Coaches with input from the graduating senior class.
- All other positions are for a single year/season only and must be renewed annually.
- Subteam leaders and team members are divided into sub teams based on their interests and expertise.
- Subteams are developed based on the size of the team, the nature of the year's competition, and the availability of mentors.
- Returning team members are placed onto subteams before new team members are placed.
- New members will be placed on subteams based on ability, need, availability, and testing.

Description of Student Leadership and Subteams:

Team Captain

- Represents Team 3673 in all official capacities, including FIRST competitions. Is chief spokesperson for the Team.
- Make decisions regarding robot design.
- Coordinate with mentors.
- Keep track of what tasks need to be completed for build, including monitoring of FIRST manuals. (Shared with Engineering Captain)
- Leads design of robot's control systems, creates CAD models of design, aids in design process, assesses feasibility of design choices, simulates motion and analyzes weight of robot. Cooperate with the Business Subteam to prepare BOM – the Bill of Materials (a complete listing of all robot parts and supplies and their exact cost) for FIRST competitions and present this BOM at competitions.
- Supervise robot build (Shared with Engineering Captain)
- Coordinate projects and communications with subteam leaders.
- Coordinate and communicate regularly with team mentors. Include team's Coach, and Mentors in all team decisions.
- Communicate with the Business Subteam to order parts, tools and equipment.
- Supervise subteam leaders.
- Coordinate with Safety Captain for training to use equipment correctly and safely.(Shared with Engineering Captain) Other duties as assigned by Coaches/Mentors.

Engineering Captain

- Build Team leader. Supervises all build activities.
- Keep track of what tasks need to be completed for build, including monitoring of FIRST manuals (Shared with Team Captain) Supervise robot build. (Shared with Team Captain)
- Supervises design and build for robot electronics, wiring, circuitry, and sensor systems.
- Coordinate with Safety Captain for training to use equipment correctly and safely. (Shared with Team Captain) Other duties as assigned by Coaches/Mentors.

Safety Captain - *This position is required by FIRST for allFRCTeams.*

[Safety Manual \(firstinspires.org\)](http://firstinspires.org)

- Plan, create, and present an annual team safety seminar and supervise quizzes.
- Document all injuries and instruct on safety.
- Advise Coaches on any safety violations.

- Coordinate with Team Captain for trainings to use equipment correctly and safely.
- (At competitions) represent the Team to UL in the position of Safety Captain.
- At all competitions, monitor pit safety and proper tool use.
- Distribute and collect safety glasses; insure safety glasses are packed for outreach events and competitions.
- Communicate with the Business Subteam to purchase safety glasses and other safety equipment, including fire extinguishers, as needed.
- Monitor websites (FIRST, Chief Delphi) for vital information.
- Coordinate safety of tools and oversee tools management.
- Download and print-out current year safety manual, including safety (SDS/MSDS) information about batteries and chemicals used by the Team.
- This information should be available in the workshop and at competitions as part of information shared with Judges and UL.
- Coordinate work with Subteams on safety plan/equipment for pit; supervise the safety of the workshop during build sessions.
- Maintain Safety Captain Log Book.
- Interprets FIRST-supplied blueprints of the playing field and builds parts of the field according to those specifications. (Shared with Business Team)
- Designs, builds, and sets-up pit area at competition. (Shared with Business Team)
- Other duties as assigned by Coaches/Mentors.

Operations/Logistics Captain

- Promotes inspiration of technology and engineering through various activities.
- Contributes to Award submissions (may include essay, scripts, and visual aids)
- Coordinates demonstrations with other schools and community functions.
- Coordinates team photography, team videos.
- Coordinate the production of marketing and other promotional videos.
- Monitor The Blue Alliance, The Red Alliance, Chief Delphi, other FIRST-related websites and Forums.
- Maintain digital social media presence and Team website in accordance with Seaside School District #10 communication rules, standards and practices.
- (Coordinate with Tech Mentor/Coaches.) Make competition packing lists for each subteam.
- (Coordinate with subteam Captains) Battery Master: Makes sure batteries are tested, rotated and charged. Dispose of bad units properly.
- Double check packing lists to what is actually packed and act accordingly.
- Other duties as assigned by Coaches/Mentors.

Business Captain

- Build and maintain BOM (Bill of Materials)
- Coordinate the purchase of parts, filling out requisitions, finding materials online.
- Assist in building of bumpers and other parts that can be put together by hand.
- Writes and finalizes sponsor letters and outreach materials.
- Organize pre-scouting activities.
- Develop a scouting database and data collection system.
- Assign and coordinate scouts during competitions.
- Prepare a database of teams/capabilities during competition.
- Prepare/deliver a scouting report.
- Stay current on all game rules and communicate information to the team.
- Interprets FIRST-supplied blueprints of the playing field and builds parts of the field according to those specifications. (Shared with Safety Captain)
- Designs, builds, and sets-up pit area at competition. (Shared with Safety Captain) Other duties as assigned by Coaches/Mentors.

Programming Captain

- Give vital input into robot design.
- Keep current with Chief Delphi and other FIRST-related websites.
- Ensure all programmers learn how to program and participate in programming the robot.
- Oversee Robot Programming, especially at competitions.
- Develops and updates robot computer programs.
- Maintain software licensing in coordination with mentors / coaches.
- Program practice / main competition robot.
- Other duties as assigned by Coaches/Mentors.

Funding and Financials:

FIRST requires its teams to secure funding from corporations and other business sponsors. As such, funding for the Robotics Team comes from these sources:

1. Corporate Sponsors– corporations and nonprofit organizations that donate funds.
2. Grants – Grants funded by Government and Corporate entities.
3. Educational Sponsors – Seaside High School and Seaside School District #10 budgets.
4. Team 3673 deeply thanks its Sponsors for their ongoing support of our participation in the FIRST Robotics Competition. Every year, our team must solicit corporate sponsorships and donations to support a \$37,000 budget to

design and build a competition-ready robot. Listed here are a few of the budget line items:

FIRST registration (entitles team to robot kit-of-parts and two District Qualifying Competitions)	\$11,000
District Championship Competition registration fee (if qualified)	\$5,000
Practice Playing field construction, practice robot	\$5,000
Robot construction	*+/- \$9,000
Computer hardware, software	\$1,000
Team promotional items (banners, robot signage, giveaways, uniforms, jackets, fliers, etc.)	\$4,000
Administrative costs (video, website fees, photocopies, postage, printing, etc.)	\$2,000
	Total: *\$37,000

*Competitions beyond our District will be approximately \$30,000.00 more than this budget entails and will be discussed if we qualify.

Safety:

- Team members will act in a safe manner AT ALL TIMES. This includes all team-related activities including while traveling to team events and during competitions.
- Team members will be respectful to the Safety Captain and adhere to any reasonable request made by the Safety Captain and team mentors / coaches.
- Team members are required to attend safety trainings. Power tools or equipment may only be used under supervision of an adult mentor.
- Team members are required to wear safety glasses at work sites and in the pit area at all competitions. Team members are required to wear closed-heel and toe shoes (no crocs or sandals) in work areas and at competitions. In addition, team members may be asked to wear gloves, ear protection, and face coverings during certain tasks.
- Horseplay will not be tolerated.
- All work areas will be cleaned up at the end of the day including sweeping the floors and work surfaces, putting away tools and materials, and throwing away trash. A clean work environment is key to success and time management.

By my signature, I acknowledge that I have read, understand, and agree to the policies and procedures of Seaside High School FIRST Robotics Team as defined in this handbook and Seaside High School Athletics Handbook that I received and reviewed.

Student Signature

Date

Parent/Guardian

Date

Student Name (Print) _____

SHS ROBOTICS STUDENT SAFETY PLEDGE

I understand that working in the robot room, using equipment and machines, can be hazardous unless certain rules and precautions are carefully observed. Therefore, I make this pledge of cooperation in order that my safety and the safety of my team mates may be assured. **I fully realize that repeated violations of safety rules will lead to disciplinary action (see SHS Robotics handbook for details).**

1. I will dress properly for class work: wear apron, smock, or old clothes; before working in laboratory/shop, remove all loose or dangling clothing and/or jewelry; ensure long hair is safely contained, remove sweaters, jackets, or coats before working in the laboratory/shop area.
2. I will wear eye protection at all times when required.
3. I will not play with machines/tools/equipment.
4. I will be responsible for the care and safe use of machines/tools/equipment within the robot room.
5. I will never leave any machine/tool/equipment while it is running or still turning.
6. I will ensure that my portable machine/tools/equipment, which I use, are equipped with a ground wire or three-pronged plug and/or appropriate guards and will report any discrepancies to the instructor immediately.
7. I will not use any equipment/machine/power tools unless I have been thoroughly instructed in its use and passed the required safety test for its operation.
8. I will not use any machine/tool/equipment without the instructor's awareness at any time.
9. I will not participate in horseplay or running in the robot room at any time.
10. I will not throw anything in the robot room at any time.
11. I will immediately notify the coaches / mentors / safety team, if I observe anyone violating a safety rule or doing anything which might lead to injury for anyone in the robot room.
12. If I feel ill or need assistance, I will notify the coaches / mentors.
13. I will report any injuries to the coaches / mentors / safety team, no matter how minor they appear and will notify the coaches if there is any blood spilled as a result of an injury.
14. If I feel that I need more supervision before going ahead with some team activities or feel unsure of myself while working in the robot room, I will notify the coaches / mentors of my feelings.
15. I will take part in cleaning the robot room. Cleaning is part of the educational process and ensures a safe working environment.
16. I will not operate any machine without a coach present.
17. I will wear proper respiratory and auditory protection when appropriate.
18. I will report any unsafe conditions, such as: spilled liquids, malfunctioning equipment, broken tools, etc.
19. I will not interrupt a person using equipment until he/she is finished and the equipment is in a safe position.
20. I will always use proper lifting techniques when moving objects; always lifting with my legs and not my back. I will get help when lifting heavy objects.
21. I will follow any other safety standards appropriate to my trade and technical class area.

This safety pledge is to be signed by the student and the parent/guardian in the appropriate space provided and returned to the instructor before the student is allowed to operate machines/tools/equipment in the robot room. I certify that I have read and understand the above pledge.

Student Signature: _____

Date: _____

Parent/Legal Guardian Signature: _____

Date: _____