

THE HIGHLANDERS
FRC TEAM #4499
VERSION 2.4
9/16/16

TEAM HANDBOOK



www.highlandersfrc.com

The Highlanders

“It’s not about the game, it’s about the journey”



#4499

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PURPOSE

This is the team handbook for The Highlander's FRC Team #4499. It serves as an information source and communication tool for the FRC Team, their supporters, families, and for other FIRST Robotics Teams. This is a living document and a work in progress. The date of the last revision will be placed in the header.

ABOUT FIRST?

The mission of FIRST "is to inspire young people to be science and technology leaders, by engaging them in exciting mentor-based programs that build science, engineering and technology skills, that inspire innovation, and that foster well-rounded life capabilities including self-confidence, communication, and leadership." (www.usfirst.org) Participating in robotics offers a variety of opportunities for personal and educational growth.

WHAT IS FIRST?

FIRST (For Inspiration and Recognition of Science and Technology) was founded by inventor Dean Kamen to inspire young people's interest and participation in science and technology. *FIRST* is a 501 (c) (3) non-profit, public charity based in Manchester, N.H. *FIRST* is volunteer-driven and built on partnerships with individuals, businesses, educational institutions, and government. Some of the world's most respected companies provide funding, mentorship time, talent, and equipment to make *FIRST*'s mission a reality. As a volunteer with a *FIRST* team, you are in good company.

WHAT IS FRC

- FRC stands for First Robotics Competition
- Excitement of sport with science and technology
- Varsity sport for the mind
- A new challenge (game) is announced every year
- Six weeks to design and build a robot
- Teams compete in Regional Events

TEAM HISTORY

1. Our team History

Our team was originally formed in 2012, for the 2013 Ultimate Ascent season. This inaugural year students from Fossil Ridge High School, Liberty Commons High school, Rocky Mountain High school and Kinard Middle School formed The Highlanders. Our founding coaches are Tony English, Debbie English, Dean Iverson and Sondra Iverson. We have since added two more mentors to the list, Tim and Barbara Frye. Our first year we had 19 boys and girls on the team. We went on to The Hub City Regional in Lubbock Texas and won the Rookie All Star Award and the Colorado Regional Tournament and won the Highest Rookie Seed award and the Rookie All Star Award. By winning the Rookie All Star award we qualified for the World Championship in St. Louis, MO.

In year two our team competed at regional competitions in California and Denver. The team qualified for the Worlds in St. Louis by winning the Engineering Inspiration award from NASA. This is the #2 top award for the qualifier and come with a grant to pay for the championship entry fee. At the Colorado Regional the team won the Engineering Excellence award. The season had remarkable gains in leadership, use of a CNC milling machine, carbon fiber, CADD, and 3-D printing.

REQUIREMENTS/EXPECTATIONS

2. Team Membership Requirements

2.1 Academics

Each student must maintain an acceptable grade point average that is determined by his/her parent/guardian in order for that member to participate in the team meetings or tournaments. Members will work with the parent/guardian and verify with them on a weekly basis. If the member fails to meet the required expectation, the member will be required to work on getting their grades up before returning to the team meetings or tournaments. Team coaches/mentors will work with the member and parent/guardian to assist based on parent direction.

2.2 Fundraising

Fundraising is a requirement of all team members. These funds are needed to purchase the robot kit, parts and materials, competition registrations and travel expenses. In addition, members will have participation fees as well as travel fees to attend competitions.

2.3 Meetings

2.3.1 General Meetings – The team will decided the times/days of the meetings for these timeframes

Pre-season - summer – Generally one meeting a week on Sunday from 1-4

Pre-season - fall semester – Generally three meetings a week. Tues 6-9, Fri 6-9 and Sun 1-5.

Build Season – (Jan-April) Usually we meet right after school (3:30) -9:00. Sat 10:00-6:00 and Sundays 12:00-6:00 (some practices going later) Homework is required to be done before working in the shop and we recommend each member doing homework at the site. Dinner will be provided by PARENTS.

2.3.2 Rookie Members – We will conduct Rookie classes by our team leaders or a designated adult mentor/coach. These meetings will be held to acquaint new team members with many varied aspects of the team like:

- Introduction to FIRST/The Highlanders
- Kick Off & Brainstorming
- Designing & Fabrication
- Electrical & Controls
- Strategy and scouting
- Safety and Shop tools

2.3.3 Workshop/Classes – These meetings are to be run by a team mentor/coach and will be a training session on specific topics. These will be defined as the season and team decides.

2.3.4 Project Meetings – These meetings are to discuss specific project for team members to participate in and will be run by team leaders.

2.3.5 Business Sponsorship meetings – These meetings are when we visit local businesses and present our program and request sponsorship. Each team member must be present of at least 25% of all of these meetings and participate in at least 1 meeting per season.

2.4 Member Involvement

The Highlanders members have many ways to be involved with the team. In the fall, we participate in off-season competitions, fundraising and meetings. It is important that each member to participate in 90% of all meetings (10% or less as unexcused) and 50% of fundraising and business sponsorship activities. Some students in specialty roles may be structured on a custom schedule for specialized tasks (photos/videos, grant writing, business students).

2.5 Adult Mentor/Parent Involvement

This is an amazing program and so much to do that we could not do this without the help of each members parents/guardians help. As team leaders/mentors we understand that many of us are busy, so there are many ways to help:

- Donate snacks/drinks
- Dentate team meals during the build season
- Mentor help – if you have any experience with robotics, administration, finance, public relations, grant writing, tournament preparation, marketing...anything!

- Financial support

2.6 Agree to the code of Conduct contract and Member eligibility contract each season.

TEAM ABSCENCES

3. Team absences – We understand that member will have other commitments outside of Robotics and school. We will evaluate absences as such:
 - 3.1 Excused – We will excuse absences on a member by member basis. We will request 24 hours’ notice on all excused absences and all absences are subject to coach/mentor approval. We expect each member to contact one of the coaches/mentors either in writing, by telephone or text with the reason for the absence.
 - 3.2 Unexcused – We understand at times there are things that can come up, notifying the coaches/mentors right away will allow us to notify the reaming members of the team. But, if no communication is done, or if there is no excusable reason for the absence, then this classifies as an unexcused absence.
 - 3.3 Requirement – We are requiring each member to commit to attend 90% of practices unless absences are work through and categorized as excused and less than 10% as unexcused.

TEAM UNIFORMS

4. Team uniforms
 - 3.1 The team uniform is a basic polo-type shirt. Each member will be required to purchase a minimum of 1 shirt, but additional shirts may be purchased. The team also has sweatshirts and jackets available for purchase.
 - 3.2 The team will design the logo and can decide to change the logo at any time before the season starts (before September). If this happens, any team member who has received a free shirt will be required to pay for any additional shirts. Change in the logo and design might incur additional funds, so team funds will need to be verified before a change can happen.
 - 3.3 Each team member will be required to wear their team shirt at all business visits, tournaments, FRC team events and team photos.

COMPETITIONS/TOURNAMENTS

5. Tournaments

- 5.1 The number of tournaments -How many tournaments we will attend per year will depend on sponsorship, availability and interest level. As a team we will decide how many we should attend.
- 5.2 What tournaments to attend – The decision of which tournaments to attend will be decided on our team mentors/coaches but team member consideration will be taken into account. We will do the best we can to not miss many days of school, but understand that most tournaments are Wed-Sat events and will require each member to miss several days of school.
- 5.3 Unable to attend – We understand that some events are going to conflict with members school, sports and personal activities and we will do the best we can to pick tournaments that can fit most team members schedules.

TEAM FUNDING

- 6. Team Funding – our team is privately funded. We are considered our own non-profit business, Neaera Robotics (501c3) and can accept financial donations from any local business tax-free.
 - 6.1 Grants – As a team, we will apply and write grants for support. We will apply for as many grants as possible in the pre-season. Here are some of our last season’s sponsors:
 - 6.1.1 NASA
 - 6.1.2 OTTER Cares
 - 6.2 Local business sponsorship – As a team, we will present to local businesses for financial and product donations. We will try to do most of these visits in the pre-season. Here are some of our last year’s sponsors:
 - 6.2.1 Encorp
 - 6.2.2 Micron
 - 6.2.3 Wolf Robotics
 - 6.2.4 Trihydro
 - 6.2.5 Fleetwood Gold Co
 - 6.2.6 Pleasing Software & Neaera Consulting
 - 6.2.7 Family members : Baker Family, English Family, Mohan Family
 - 6.3 Fundraising – We will also try to raise money doing general fundraising throughout the season.
 - 6.3.1 Selling Light bulbs
 - 6.3.2 Selling concessions at FLL tournaments
 - 6.3.3 Raffle

2014-2015 CALENDAR

- 7. The 2016-2017 season dates available on FIRST’s website, <http://www.firstinspires.org/robotics/frc/game-and-season>.

- 7.1 Pre-season- Summer – June until the beginning of school
 - 7.1.1 Meetings – maybe meet 1 / week – TBA
 - 7.1.2 Events – We would like to have team social events, like trip to Water world?
 - 7.1.3 Business meetings – we would like to meet with businesses in the area and request sponsorship for the coming season.
- 7.2 Pre-Season – Fall – We usually meet 3 times per week in the fall. We will try to keep it to two weekday meetings and one on the weekend.
- 7.3 Kick-Off –January 3rd 2015. This event will be in Denver, location will be announced later. Usually, only 10 members can attend, but we will have a brainstorming meeting directly following this event.
- 7.4 Build Season – January 7rd – Feb 21st – Build a robot in 6 weeks!
- 7.5 Tournament season – Feb 22-April 22 – this is when all the tournaments are held.
- 7.6 Classes – Our mentors will be organizing and hosting various classes/workshops through the summer/pre-season. Details will be announced at a late date.

COMMUNICATION / RESOURCES

- 8. Communication – As a team we will do the best we can to communicate and have these processes in place:
 - 8.1 Email – Each member will be given an email with the team, like firstletteroffirstname+lastname@highlandersfrc.com. Email will be sent out at least 1 per week and when additional events or announcements are needed. Each member will be required to check this email daily and respond within 24 hours.
 - 8.2 Website – We have a team website, www.highlandersfrc.com. We will work on updating the site to have our announcements and notices. Most paperwork and documents will be available on this site.
 - 8.3 Phone – We have a phone list located on the website that will be secure and require a login and password to access private information.

SPECIFIC ROLES ON THE TEAM

- 9. Some roles/jobs on the team will require additional requirement, these roles are:

- 9.1 Drive Team/Programming Team/Engineering Team: In order to qualify for the drive team, members must attend 90% of all practices, be committed to all tournaments the team will attend, and be willing to participate in any/all practice sessions throughout the season.
- 9.2 Chairman's Team: In order to qualify for the chairman's team, members must be committed to create several required documents, participate in all/most tournaments, and participate in interviews at each tournament.
- 9.3 Team Captain/Leadership Positions: To qualify for these positions a team member must show team commitment, attend 90% of practices and display exemplary communication with coaches/mentors.

DESCRIPTION OF TEAM ORGANIZATION

- 10. Team organization – as a team of 22-28 members for our past 4 seasons we found grouping each member in their interested teams is important. We can't have everyone be a leader so we have the following process in place for determining the leadership positions.
 - 10.1 Member volunteer: Each team member will give a speech about what team leader position they are interested in and team coaches/mentors will review and decide as necessary and a team leader for each position will be decided. Overall team leader position will be decided by the coaches/mentors, but will take in account team commitment, dedication to position and past experience on the team.
 - 10.2 Pre-season/Build season – We might have 2 different groupings for the pre-season and build season. This will depend on the team and coaches.
 - 10.3 Specialty teams – The drive team, safety team and Chairman's teams are considered specialty team positions. These positions are decided on by the coaches/mentors. More details will become available as the season continues.

MEMBER APPLICATION

- 11. Each new member will complete a member application that is located in the appendix.

CODE OF CONDUCT CONTRACT

- 12. Each member will agree and sign the code of conduct contract at the beginning of each new season.

LIABILITY WAIVER

- 13. Each member will agree and sign the Liability waiver at the beginning of each new season.

THE HIGHLANDER'S ROBOTICS APPLICATION

MEMBER INFORMATION

Name:		
Home address:		
City:	State:	ZIP Code:
Birth Date:		
Home Phone:	Cell Phone:	Receive texts? Yes No
Current School:		
Grade: 8 9 10 11 12	GPA:	
Other Contact info: (Facebook, etc.)		
You do have a drivers License? Y/N Do you have your own vehicle? Y/N		
Do you need a ride to practices or meetings? Y/N		

PARENTS(S) INFORMATION

	Parent 1	Parent 2
Name:		
Address		
Home Phone		
Cell Phone		
Email		
Interested in volunteering?		
If so how?		

MEDICAL INFORMATION

Any Medical Conditions?		
Allergies?		
Physician	Phone Number:	
Emergency Contact:		Phone number:

FIRST/ ROBOTICS EXPERIENCE

Please check special interests		
<input type="checkbox"/> Programming (C#, Java)	<input type="checkbox"/> CAD	<input type="checkbox"/> Photography / Videography
<input type="checkbox"/> Metal working	<input type="checkbox"/> Marketing (Design flyers/handouts, etc.)	
<input type="checkbox"/> Electrical (wiring, circuit boards)	<input type="checkbox"/> Website development	<input type="checkbox"/> Other _____

THE HIGHLANDER'S ROBOTICS APPLICATION

Select the past robotics experience:		
<input type="checkbox"/> FLL _____ # years/seasons	<input type="checkbox"/> Vex Robotics _____ #years	
<input type="checkbox"/> FTC _____ # years/seasons	<input type="checkbox"/> Other _____ # years_____	

Check the classes you have taken in school that can give you skills that will help on a robotics team:		
<input type="checkbox"/> Intro To Engineering	<input type="checkbox"/> Photography	<input type="checkbox"/> Technical writing
<input type="checkbox"/> CAD	<input type="checkbox"/> Videography	<input type="checkbox"/> Programming
<input type="checkbox"/> Robotics	<input type="checkbox"/> Journalism	

HOBBIES

List any hobbies you are interested in:

AFTER SCHOOL COMMITMENTS

Please list what after school activities you are involved with throughout the year:		
Name	Time of year	# hours

ROBOTICS INTEREST

List Robotics interest		
Please select the sub-team on an FRC team that you would be interested in?		
<input type="checkbox"/> Build Team	<input type="checkbox"/> CAD team	<input type="checkbox"/> Programming
<input type="checkbox"/> Business (public relations, marketing)	<input type="checkbox"/> Videography	<input type="checkbox"/> Photography
<input type="checkbox"/> Website		

THE HIGHLANDER'S ROBOTICS APPLICATION

SHORT ANSWERS

Please take time to consider your answers for each of the following questions. There are no right or wrong answers, your answers will assist in selection to/placement on the robotics team. Feel free to attach additional paper or type your responses if easier.

Why do you want to join this team?

What qualities/experiences do you have that would make you a significant contributor to our team?

What do you hope to gain from this experience?

Are you able to commit to a very heavy schedule during the build season? (usually 1/5 – 4/15)

Are there any specific dates during the 6 week build season that you will not be available? (1/5 – 2/17)

THE HIGHLANDER'S ROBOTICS APPLICATION

During the build season, our team meets 6-7 days a week from 3:30-9:00 (homework club is first), are you able to commit to this schedule and keep your school work up? If not, explain the circumstances.

Many of our competitions will require travel to another state, do you have the support (1 parent/guardian is required on all trips)?

SIGNATURES

I agree that the information that I provided is true and correct to my ability.

Signature of applicant:

Date:

Signature of parent/guardian

Date:

*If accepted into this program, there will be a 30 day trial period. After that time, we will talk with you about your experience and receive team member evaluations.

CODE OF CONDUCT	
Please read the following and sign	
<input type="checkbox"/>	I agree to actively participate during the pre-season, build season and competition season and accept your role on the team as assigned by the team mentors and team leaders.
<input type="checkbox"/>	Our team has a very intense philosophy and realize that this team might not be for everyone. You must agree to commit, as much as possible, to the team during the build and tournament seasons. Understand that we practice almost 7 days a week for 5-8 hours per meeting. The lack of commitment to the team will likely hurt the design and build phases of this program.
<input type="checkbox"/>	You become a part of a team and collectively work toward a defined goal.
<input type="checkbox"/>	Maintain your school homework and GPA. The team coaches/mentors will expect your homework to come first and assist you in any help you need with accomplishing this task. This will not be actively monitored by the coaches/mentors, but it is required for your parent/guardians to keep track of.
<input type="checkbox"/>	Agree to attend the mandatory Kick Off Day (either at the event, or after the event at the defined location) January 4 th , 2014. This is when the game and tasks are announced and starts the beginning of the season and is when our brainstorming begins.
<input type="checkbox"/>	Agree to stay with the team while at a tournament and understand that there is much time that is un-supervised by a mentor. During this time, you are expected to be courteous to other teams, coaches and spectators. You are also required to assist the team in any support needed, but stay with the team during the duration of the tournament. You will also be required to check in and out with a coach/mentor.
<input type="checkbox"/>	Agree to assist in fundraising to offset expenses.
<input type="checkbox"/>	You respect all members of the team as well as the adult coaches, mentors and engineers.
<input type="checkbox"/>	You check your email and the team website daily for updates and other important information regarding team business.
<input type="checkbox"/>	Agree to sign in and out, fill out the attendance log, when you arrive and leave from each meeting.
<input type="checkbox"/>	Agree to follow all safety rules, clean the work area and put all items back where they belong.
<input type="checkbox"/>	Agree to be courteous and respectful when visiting or working at corporate sites
To be filled out by Parent/Guardian	
<input type="checkbox"/>	Have read the team handbook and agree to responsibilities and expectations defined.
<input type="checkbox"/>	Commit to a level of support (donating meals, snacks, etc.), transportation of your own child to and from meetings and tournaments
SIGNATURES	
I agree that I will commit to the above requirements.	
Signature of applicant:	Date:
Signature of parent/guardian	Date:

MEMBER ELIGIBILITY

Please read the following and sign

1.	Members must be attending school, middle school or high school.
2.	Members must maintain a grade point average defined by your parents/guardian.
3.	Members must be willing to make a significant commitment to the team, actively participate in meetings, workshops and events. Especially during January – April.
4.	Members are expected to be reliable (on-time, prepared to work, clean up, positive attitude, assist new members, and work with adult mentors and volunteers) and assist in teams administrative tasks.
5.	Members must attend the Kick-Off event (January 6 th , 2014) either at the actual hosted event or the after event brainstorming session.
6.	Participate in a minimum 90% of all meetings, with less and 10% as unexcused absences.
7.	Have read the Handbook and agree to details written.

SIGNATURES

I agree that I will commit to the above requirements.

Signature of applicant:	Date:
Signature of parent/guardian	Date: