



United Robotics of Lacombe

Handbook 2016-2017

Who is the URL Team?

The URL Team is a community based robotics team from Lacombe, AB for high-school age youth. The ultimate goal is to engage youth in discovering the excitement and rewards of science, technology, engineering and mathematics.

The URL Team is community based and welcomes private, public and home schooled students who are interested in *FIRST* robotics learning opportunities and experiences.

URL stands for United Robotics of Lacombe.

The United Robotics of Lacombe Philosophy

We try to create an environment where youth can have fun, learn new skills, enjoy the challenge of robots and enter competitions. We believe science, technology, engineering and mathematics should be accessible to all, and that youth should have the opportunity to explore those interests in a fun environment. We want high school robotics available to youth in Lacombe and central Alberta.

Our primary goal is to give youth a hands-on team experience that is fun while they learn and compete to the best of their abilities. We don't try to win at the expense of others. Since this philosophy fits with the goals of *FIRST*, our teams have done well over the years.

What is *FIRST*?

FIRST (For the Inspiration and Recognition of Science and Technology) creates opportunities for children and youth from 5 - 18 years to compete in robotics competitions at a level that is appropriate for the age and skill level. See <http://www.usfirst.org> for more information.

FTC is an exciting, international competition for high school students that engages them in solving an engineering design problem in an intense and competitive way. Teams have to design a robot to compete in this year's game, maintain an Engineering Notebook that documents the development of the robot, and do community outreach.

FRC is an international high school robotics competition. Each year, teams of high school students and mentors work during a six-week period to build game playing robots that weigh up to 120 pounds.

VEX is an engineering challenge presented in the form of a game. Students, with guidance from mentors build innovative robots designed to score the most points possible in matches.

SKILLS ALBERTA have students create an engineering project that encourages individuals with different skill sets to form cooperative teams to build and operate a robot.

FIRST engages students from various backgrounds, instilling new ideas and concepts in more experienced students, while helping to inspire, motivate, and encourage learning basic principles and

skills among students with less experience. Through their FIRST involvement, students also learn about important, life-long skills such as planning, research, collaboration, mentorship, and teamwork.

BENEFITS OF URL TEAM MEMBERSHIP

Team members can choose from many opportunities.

- Earn High School Credits
- Learn to Build Robots
- Travel to Competitions
- Learn CAD & other design skills
- Meet other Teams
- Earn Volunteer/Work Experience
- Gain Team Building and Leadership Skills
- Win Trophies, Awards or Scholarships
- Learn a Programming Language
- Community Presentations
- **Having Fun!!!**

A TYPICAL URL SEASON

The URL season officially begins the first week of school in September. The URL team meets two times a week, and some team members will be working on activities between meetings, depending on what they choose to get involved with. Each team has assorted time frames to design, build and program a robot to perform that year's challenge. Teams compete in qualifying competitions, usually starting as early as allowed, and culminating with the World Championships. Each competition has a different start and competition date, as do World Championships (if teams qualify). Every team member is encouraged to participate in at least one competition.

The team meets throughout the year for fund raising, team building, training, and community activities. In the off-season (summer), we may meet only once a month for special team building and learning opportunities. Team members choose the types of activities they will be involved in. The time commitment varies with the different activities. Building the robots may take 2-3 weeks per robot, while the drive team needs to spend time practicing with the robot right before the competition, programming is started as soon the appropriate program is provided. All team members are expected to spend at least 30 minutes a week keeping up with emails, and answering questions. Schedules and activity plans will be communicated to team members and their parents via email. Team members are responsible for reading and responding to email notices as soon as their are received.

JOINING the URL team

New members are encouraged to come to a team meeting to determine if the student and team are a good fit for one another. As a community based team, all students are welcome to apply to be part of our team. If the Team and Applicant agree that they would like to continue working together after the initial meeting, there is a membership fee of \$300 per member, which goes towards team expenses.

Membership fees are due by October 1, 2016 (unless a payment plan has been set up with Lacombe Composite High School).

TEAM ROLES and RESPONSIBILITIES

(Students are expected to be involved in 2-3 different groups).

1. Building Teams

The lead builders make decisions about building, and work to achieve consensus among team members on the mechanical design of the robot. Builders make related Engineering Notebook entries for the robot design and construction (FTC only). The Build Team will include someone responsible for Quality Assurance who will ensure that all wires and critical components of the robot are secure and in compliance with Challenge guideline and requirements. The Build team will also include someone responsible for hardware and tools management, to ensure that all equipment is well cared for and properly stored and inventoried.

2. Programming Team

Lead programmers ensure that programs are completed by appropriate deadlines, and are responsible for Engineering Notebook entries related to programming (FTC only). All programmers will aim for programs to work 90% of the time or better, and will schedule time with builders and drivers for changes and driving practice.

3. Chief Game Analyst and Strategy Team

This person, in coordination with the coach and adult mentors, is responsible for knowing game rules with updates and communication this critical information to team members. The CGA leads strategy discussions involving all interested team members, including the Building and Programming Teams. An important part of any strategy is scouting how other teams play the game.

4. Safety Captain

The Safety Captain will help establish safety rules and plans to enforce them. Responsibilities include ensuring that sufficient safety glasses are available and that they are worn by adults and youth at relevant times during practices and competitions, and that clothing and behaviour is appropriate with respect to safety of team members and others.

5. Marketing and Fundraising Team

This team, in coordination with adult mentors, is responsible for helping create team business plan, coordinate fund raising efforts, assist with community outreach opportunities, and maintaining team financial records. This Team will also ensure that the team “look” is effective, neat and well presented, and will also help develop and maintain sponsorship and team information packets, and may help with Facebook entries.

6. Team to Team Communications

This team talks with other teams to find out about their robots, scores robots during practice rounds and matches, and negotiates game strategy with our potential partners.

7. Playing Field Specialist

This team member or adult mentor organizes the building of the the year’s playing field including the purchase of supplies and understanding the field drawings.

8. Photojournalist

This team member helps document, via video and photography, the team year, and updates the Facebook page with photos. The complete build process' should be chronicled, as well as tournament activities, with photos for use in team displays, marketing and news media.

9. Team Spirit

This team will help create team cheers, pins, banners, signs, and competition give-aways for fun and PR, and help develop the team's identity with respect to encouraging spirited support and fun at meetings and events.

10. Robot Drive Team

Tele-op (remote controlled) drivers are typically those members who show an aptitude for remote control finesse, strategy and precision, but all who are interested are welcome to learn to drive and will be given a chance to drive the robot during competitions or practice rounds.

11. Public Relations

Members who speak with other teams and coordinate URL specialists to help other teams, as well as create connections within the community.

12. Facebook & Webpage/Multimedia Manager - maintain the team Facebook page

Note: Parents are encouraged to learn about and be part of the team. While some team roles must be done by the students (e.g. designing and building the robot), other roles can be done by adults (e.g. helping to organize a fundraiser, video taping, mentoring...)

TYPICAL SEASON

September - Teams and Role & Responsibility assignments chosen. Learning the VEX & FTC game, choosing a strategy, designing the robot.

October - Building the robots

November - Finish building and programming the robot. Robotics Rodeo at LCHS. Edmonton Regionals

December - Driver training, robot redesign or repairs if needed

January - finalize FTC robot changes, driver practice. FRC kickoff in Edmonton, choosing a strategy, designing the robot. Friends of the Library presentation.

February - Vex Championship Competition in Edmonton. Continue with FRC build. FTC Canadian Championships in Edmonton or Red Deer.

March - World Championship teams tweak, redesign and practice

April - VEX World Championships in Anaheim for teams that qualify. FTC World Championships in St. Louis for teams that qualify. FRC Competition at U of C Olympic Oval

May - SKILLS ALBERTA Championships in Edmonton.

Note: There is a ***“build freeze”*** before every competition. All major design and construction must be completed two weeks in advance of competitions. All major programming changes must be completed one week before the competition. Information, team updates, travel plans and other important notices, are sent out via email. ***All members are expected to check their emails regularly and to actively communicate with one another and the coach about meetings.***

EXPECTATIONS AT TEAM EVENTS:

1. **Gracious Professionalism and Respect** are expected at all times, for each other, for adult coaches and mentors, and for anyone with whom you're working, anywhere, at any time.
2. **Be an Active Participant**-If there doesn't seem to be enough for you to do, tell us; work with other teammates; take the initiative when you see something that you can do; don't wait to be asked for help.
3. **Be Informed**-All members should be thoroughly familiar with rules of the competition, team goals, arrive ready to work at meetings, and understand individual and group tasks.
4. **Communicate**-Ask questions if you need help or don't understand something. Communicate clearly, often and openly with each other, your coach and mentors.
5. **Be Responsible**-Be conscientious about the use and maintenance of equipment, parts and tools. Put things where they belong so they can be easily located when needed. Get to meetings on time; be sure you know what your role is and carry out your responsibilities. Clean up after yourself, and help others do the same.
6. **Be Involved**-Focus on getting to know your teammates. Personal Electronic devices are **NOT** allowed during team activities or at events. Cell phones must be turned off and left with coats.
7. **Have Fun!** The more respectful, professional, informed, communicative and responsible you are, the more fun you'll have and the more memorable and enjoyable your experience, and that of your teammates, will be.

EXPECTATIONS AT COMPETITIONS:

1. **Be Graciously Professional** at all times. Help your teammates and other teams as able.
2. **Be Positive!**-Team members are expected to participate at all times in a positive and helpful manner, whatever the competition outcome or trend.
3. **Show Spirit!**-Support your team by cheering and sign waving. Cheer other teams, too.
4. **Look Good!**-Wear your team shirt. Sport a neat, clean appearance, and closed toe shoes; no baggie pants, or loose items of clothing, for safety reasons as much as appearance.
5. **Be Safe!**-Wear safety glasses where required; Long hair, or anything that dangles must be tied back when working with the robot or power tools. Look where you're going at all times and pay attention to what you are doing.
6. **HAVE FUN!**

QUALIFICATIONS FOR ATTENDING COMPETITIONS:

1. **Appropriate behavior at all times**, including at school and in your community, as well as at competitions or events.
2. **Be Reliable**-when you volunteer for a team role, make sure your team members can count on you. Make sure you know what is happening and read the Engineering Notebook (FTC).
3. **Complete and return all paperwork in a timely manner**-Throughout the year, various forms and agreements will be required. Please be responsible about completing and returning them.

4. **Understand and Meet Travel Requirements**-Many events are held throughout the province, and the U.S. (World Championships). If you don't already have a valid passport, be aware that it may be needed if your team qualifies for World Championships. Inform the coach if there will be any other limitations on your attending events in the U.S. (e.g. Custody agreements)

ADULT TEAM MEMBERS AND PARTICIPANTS (FAMILY AT EVENTS)

- Adults working one-on-one or travelling with youth on the URL team need to complete the FIRST Youth Protection Screening.
<http://www.usfirst.org/aboutus/youth-protection-program>
- Adult participants are expected to adhere to the behavior guidelines set forth for team members.

TRAVEL

The URL team travels to Edmonton and Calgary for many events. Team members are expected to attend at least one of these events. Costs are kept to a minimum. Usually we take a school bus to competitions. Families are always welcome to travel with the team (at their own cost). Team members must participate in all parts of the event. Coaches/Adult Mentors may act as chaperones during travel. Depending on the number and mix of students, 1-2 parents may be asked to accompany the team. When possible, travel costs are paid by the team. Travel costs that exceed the team budget are paid by the families. In future years, summer fund raising activities may cover most of the travel costs. Since we are reorganizing the team structure team fund raising will be a item for the near future. The amount of money available for travel costs depends on the effort and commitment to fundraising or finding sponsors.

SAMPLE URL TEAM EXPENSES

Expenses	Budget
Registration (US \$)	FTC \$300/team FRC \$4000 VEX \$150/team
Tournament Fees (US \$)	FTC \$50 -100 VEX\$50 - 100
Replacement Robot Parts (motors, plastics)	FTC/VEX \$2000-2500 FRC \$10,000
Game Elements	\$1000/ competition
Hotel & Travel for Tournaments ¹	\$50 pp/per night
Shirts	\$20 pp
Display Board, Promotion, Printing...	\$25 pp
Consumables (plastic, wood, solder)	\$100 pp
Annual Expenses²	

Notes:

1. All tournaments require travel including accommodations. The team expects to travel to a minimum. Costs could be higher due to unexpected expenses.
2. These costs do not include the original purchase of the robot kit, playing fields or items already owned by families like tools, computers, printers...
3. Travel costs are completely dependant on the number and location of the events we attend.
4. Team members, with the support of their families, need to create a financial plan for the team. In the past, the URL team has applied for Grants, and sponsorship from the community. In the future, the URL team will be doing fundraisers, sponsorship drives etc. Almost any activity can be successful if the team is enthusiastic and involved with the fundraiser.
5. Participation by team members and family members will be tracked for each fund raiser. Additional fees may be assessed based on participation in fund raising.
6. Finding financial sponsors would allow the team members to focus on the robot rather than fundraising.

URL TEAM

Possible Events for 2016/17*

September 10	FTC Kickoff at Red Deer College
September 24, October 29 or November 19	VEX Calgary invitational
November 17	URL Robotics Rodeo in Lacombe
November 28	VEX Edmonton Regional
January 7	FLL Championships & FRC Kickoff → Telus
February 11-12	FTC Championship -Telus Edmonton
February 19-20	VEX Championship - NAIT
April 5-8	FRC Championship at U of A Olympic Oval
May 9-11	SKILLS ALBERTA Championships-Edmonton

Other possible events

September 17 & 18	BeakerHead - Calgary DEMOS
September 29 & 30	Wolfcreek Tech Conference DEMO
December 3rd	FRC Invitation at RDC
February 25	FLL invitation Tournament at SAIT
April 19-22 **	VEX World Championships in Louisville
April 19-22 **	FTC World Championships in Huston

*Each team can go to two events at no additional costs; events after the second event must be fundraised

**The team must qualify for these events.