

United Robotics of Lacombe (URL)

Handbook/Application 2021-2022

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This purpose of this document is to provide information about United Robotics of Lacombe (URL) and the competitions we will be participating in. The extensive length and format of this document are required and in accordance with [Wolf Creek Administrative Procedure 260](#), COVID-19 Protocols and First Robotics Society's recommendations.

Who is the URL team?: URL is a Lacombe Composite High School based robotics team for high-school age youth, who are interested in discovering the excitement and rewards of science, technology, engineering and mathematics (STEM) through robotics. The URL Team welcomes private, public & home school students who are interested in learning about strategic decision making, collaboration, robot design & construction, programming, outreach, business, media & marketing. Using a student led & mentor directed approach URL students will:

- Design, prototype, build & program robots to compete in FIRST robotic competitions.
- Develop student leadership skills.
- Strive for excellence through research and continuous learning from teachers, mentors, experienced students, alumni & other teams.
- Engage in fundraising activities
- Promote STEM education through volunteer activities and community outreach.
- Incorporate the following values
 1. Demonstrate “Gracious Professionalism” which is a way of doing things that encourages high-quality work, emphasizes the value of others, and respects individuals and the community.” (www.firstinspires.org)
 2. Use proper resolution process to solve conflicts:
 - i) Review URL values and identify the misunderstanding/issue. Avoid gossip or discussing the issue with other people.
 - ii) Go to the person you have the conflict with privately, and attempt to come up with a mutually agreed upon resolution. Take time to understand each other's perspective, avoid accusations and use I feel statements.
 - iii) If unsuccessful, approach a respected adult mentor to mediate a resolution meeting. Be willing to do your part to resolve the conflict.
 3. Use the Innovation Process:
Research→Plan→Prototype→Test→Revise→Test→Finalize
 4. Document the process with an Engineering Book, GANTT chart, responsibility matrix & design drawings & communicate this with mentors & team members.
 5. Respect others, the facilities, tools, equipment & items used by the team.
 6. Commit to the team and its goal.
 7. Behave responsibly which includes reliability, punctuality, being prepared, cleaning up, having a positive attitude,, including all team members and prioritizing safety.

What Robotics Programs does URL participate in?

1. FIRST Tech Challenge, FTC, is an international competition for high school teams of up to 8 students which designs a robot that accomplishes a variety of tasks in a 2.5 minute game on a 12'x12' field. The robot can be made of any material & must fit inside a 18"x18" box. The computer programs used are Java (Android Studio) or Blockly. This year the competitions will be virtual.
2. FIRST Robotics Challenge, FRC, is an international competition for high school teams with up to 16 students. During a six-week period teams build a large 120lb robot that accomplishes a variety of tasks in a 2.5 minute game on a large basketball court sized field. The computer programs of choice are Java or Labview.
3. SKILLS ALBERTA has students create an engineering project that encourages individuals with different skill sets to form cooperative teams to build & operate a robot. Any building platform and computer program can be used. We will wait and see if there is a competition this year.
4. GEEKSTARTER has been cancelled this year.

What are the BENEFITS of LCHS URL team membership?

- Earn 10+ High School Credits/year
- Learn Engineering skills
- Travel to competitions & meet teams
- Learn CAD & other design skills
- Earn volunteer/work experience
- Gain team Building & Leadership Skills
- Win trophies, awards or scholarships
- Learn a programming language
- Community presentations
- **Have Fun!!**

How Does a student, mentor or volunteer join the URL team?

- Students join the URL team by filling out this registration form and paying/fundraising the \$50 materials fee & joining one of the electrotechnology courses offered this year.
- Students may choose to work on their robots at home and be supervised by a mentor or guardian, but this will not be organized by the school.
- Mentors are a critical component for the success of URL. Mentors are needed to help with programming, design, fabrication, administration, electrical and public relations. Mentors that would like to join the URL team will need to complete a volunteer form, and a criminal check. Mentors will not be allowed into the school until Wolf Creek gives permission and after their evaluation of school reentry.

What is a Typical URL Season? (dates will be communicated as we become aware)

September & October: Courses are assigned & training begins. Sept 18 FTC kickoff. Roles & responsibilities are determined. FTC robot design begins.

November - January: Nov 5th ELT classes begin; FTC rookie teams begin designing robot December is the first competition.

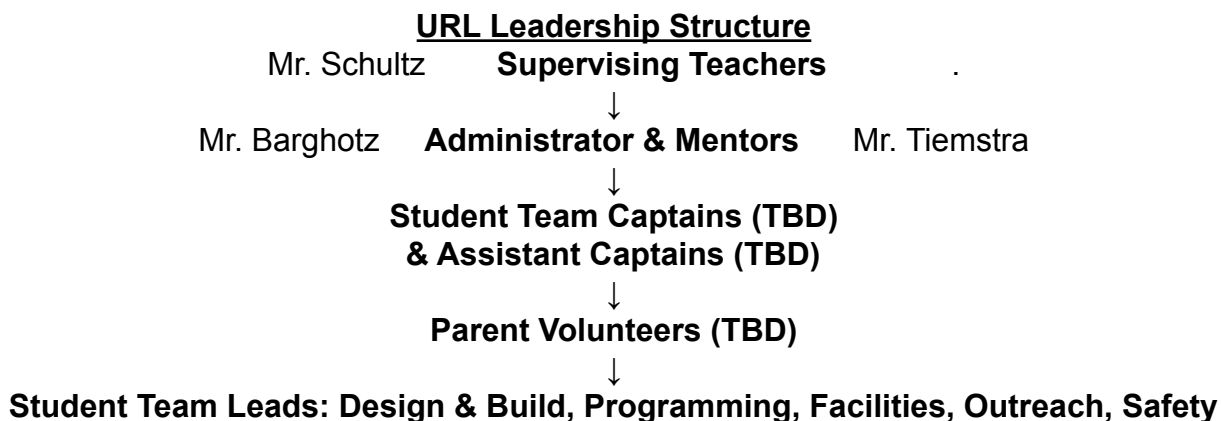
February: FTC tweaking; Geekstarter begins

March: FTC Canadian Championships; FRC build begins (same competition as last year).

April-FRC & FTC World Championships in Houston.**

May-SKILLS ALBERTA Championships in Edmonton.

**Teams must qualify for this event; Extra fundraising and a passport will be required.



Sample URL Team Expenses (teams of 4 to 15 students)

EXPENSES	Budget
Registration (3 league & 1 championship) (1 kit & 1 championship)	FTC \$150+/person FRC \$500+/person
Robot Parts (electronics, Tetrix parts, REV parts, etc) (electronics, frame, Roborio, etc...)	FTC \$150+/person FRC \$500+/person
Game Elements (\$1000+/per competition)	\$150+/person
Hotel(upto 10 nights) & Travel for tournaments	\$50+/person/night
Public Relations (shirts, promotions, displays)	\$50+/person
Consumables (plastic, wood, solder, metal)	<u>\$50+/person</u>
Average cost	\$500-\$2000/person

INCOME

Student payment	\$150person
Sponsorship from Sponsors and Fundraising	\$1800+/person

School Advisor: A teacher and/or LCHS-appointed adult

- Acts as the liaison between the team & the school. Schedules school activities
- Ensures students and mentors are following the COVID-19 protocols
- Encourages weekly communication between captains, mentors & volunteers
- Approves students, mentors and volunteers that want to join and helps assign roles and responsibilities. Supervises team activities and captain meetings.
- Maintains student records (grades, behavior, and attendance) & software licences

- Approves financial affairs including grants, registration, ordering and making payments. Coordinates yearbook page & Supervises handbook updates.
- Determines appropriate school and team recognition awards.
- Serves as “ Lead mentor and school contact” with FIRST organization.
- Must have a current [background check](#).

Mentors: Adult volunteers with a STEM background.

- Mentors must be approved by the School Advisor
- Works & meets with school advisor, mentors and parent volunteers regularly.
- Helps assign roles & responsibilities for students & parent volunteers
- Trains & mentors students in specific roles (programming, design, wiring, mechanical engineering, etc....)
- Ensures that there are responsible students overseeing each role on each team
- Attend the captain meetings at the end of every activity they participated in.
- Lead mentors must have a current background check

Administrator: Adult volunteer in charge of administrative duties

- Administrator must be approved by School Advisor and must support School Advisor
- Primary contact with FIRST or other Robotics Organization events .
- Facilitates communication between captains, mentors, community & volunteers
- Submits registration for Robotics events & Distributes competition information
- Maintains team email distribution lists and rosters. Maintains team history
- Maintains budgets, sponsorship & partnerships. Coordinates travel.
- Works with students and mentors to update the team's social media.
- Must fill out Wolfcreek volunteer forms.

Volunteers: Adults involved in supervision and public relations.

- Volunteers must be approved by the School Advisor and Administrators
- Provide guidance, supervision, or non-technical training to students.
- Many donate or coordinate food and refreshments during events or build sessions.
- Must fill out Wolfcreek volunteer forms.

Sponsors: Are corporations and individuals that contribute funds, services, supplies, or support

STUDENT ROLES and RESPONSIBILITIES (Students are expected to be involved).

Student captains: One year commitment → attends leadership/mentorship training opportunities, all team meetings, build days, competitions and outreach events

- Coordinates & Communicates regularly with team, school advisor, administrator, & mentors.
- Coordinates brainstorming sessions and ensures the team follows the innovation process.
- Stay current on all game rules and communicate information to team
- Organize scouting activities
- Must seek approval about all build decisions to get feedback and proof of concept.
- Represents URL in all official capacities.
- Supervises all build activities and ensures this is recorded in the engineering book
- Prepares BOM – the Bill of Materials (a complete listing of all robot parts and supplies and their exact cost) for competitions and present this BOM at competitions

Assistant captains: two year commitment - 1st year as assistant captain and 2nd year as team captain. → attends leadership/mentorship training opportunities, all team meetings, build days, competitions and outreach events

- During the 1st year, the assistant captain's "shadows" and supports the student captain
- In the absence of the student captain, the assistant captain will represent the team.
- Helps communicate regularly with team, school advisor, administrator, & mentors.
- Serve as team treasurer & fundraising coordinator in consultation with the administrator.
- Records all team goals, activities, challenges, pictures, budgets, & team member profiles
- Maintain team's brand identity across all media & promotional material
- Help organize outreach and other events & activities
- Place orders for parts, tools and equipment with the administrator

Design & Build Team Lead: Commitment: attends all team meetings & competitions

- Facilitates design brainstorming of robot's structure, assesses feasibility of design choices (Proof of Concept), analyzes weight, size or other restrictions of the robot.
- Creates & submits drawings of robot design using design software (PTC CREO);
- Help construct prototypes
- Keep current with Chief Delphi and other FIRST-related websites
- Communicates with team captains
- Leads construction, and maintenance of the robot's drive-train and manipulator systems.
- Communicates purchases to assistant captain
- Supervise work in pit during competitions in coordination with Safety Captain
- Insure BOM is packed along with tools for competitions
- Maintain a build schedule and hold build team to the schedule using organizational charts

Programming Team Lead: Commitment: Attends all team meetings, programming sessions, competitions and outreach events

- Ensure all programmers learn how to program and participate in programming the robot
- Oversee Robot Programming, especially at competitions
- Designs and builds robot electronics, wiring, circuitry, and sensor systems.
- Develops and updates robot computer programs (C++, LabVIEW, Java, et al).
- Plan and supervise subteam meetings
- Keep current with Chief Delphi Work on wiring in conjunction with Build subteam
- Wire and program practice robot
- Maintain communication and/or assign subteam members to maintain communication with CAD and Build subteams, both verbally and electronically.

Facilities Team Lead Commitment: Attends field building dates, all competitions.

- Interprets FIRST-supplied blueprints of the playing field and builds parts of the field according to those specifications.
- Designs, builds, and sets-up pit area at competition.
- Constructs shipping crates (as needed).
- Organize and supervise design and build of all non-robotic materials including: crate (as needed) , pit, and practice field;
- design and construct bumpers for robot;
- manage workshop and inventory of tools;
- Coordinates the placement of corporate logos on the robot.

Outreach Team Lead: Commitment: Attends team meetings and Outreach activities.

- Promotes inspiration of technology and engineering through various activities.
- Coordinate COVID friendly events, seminars, and activities to raise awareness of URL
- Coordinate assistance to other FRC, FTC and FLL teams.
- Organize and supervise outreach events and projects
- Acquire and maintain Corporate Sponsorships with Assistant Captain and Administrator
- Maintain communications with assistant Captain about purchases
- Contributes to Award submissions (may include essay, scripts, and visual aids).
- Coordinates team photography, team videos, and digital presence
- Help create team cheers, pins, banners, signs, and competition giveaways for fun and PR
- Encouraging spirited support and fun at meetings and events including a mascot.

Safety Team Lead - Commitment: Attend All team meetings and competitions

- Ensures team completes safety checklist before every build session
- At competitions & build sessions, represent Team URL as Safety Lead
- At all competitions, monitor pit safety and proper tool use
- Pack, distribute and collect safety glasses for all outreach events and competitions.
- Coordinates safe use and condition of tools.
- Create a safety poster for FIRST competitions

Student Expectations, Safety Guidelines and Special Equipment

- Teams must have a functioning robot to attend an event
- Teams must prove that they know the competition rules and expectations
- Students must follow safety and COVID-19 protocols (ie) wear safety glasses and mask
- Students are encouraged to bring snacks and a water bottle
- Students are encouraged to bring a pen and a notebook to write down information
- Students must have all payments and paperwork submitted before the first event
- Students are to follow all bus transportation rules and etiquette.
- Students are to follow all Competition Venue Rules
- Students are to follow WCPS student code of conduct expectations including school rules and supervisor/mentor instructions.
- Students may not leave designated activity or accommodation areas without permission
- Students are only permitted to use cell phones and electronic devices at the teacher's discretion and in accordance with the WCPS digital citizenship norms and acceptable use policy. Electronic devices may NOT be used on the competition floor.
- All items unattended are left at the owner's own risk. The school will not be responsible for lost or stolen items.
- No one is allowed to bring any alcoholic beverages or illegal drugs/cigarettes, smokeless tobacco products etc. Students will be sent home at the parent's expense if this is broken.
- All students are expected to take part in all scheduled activities unless otherwise discussed with the lead teacher.
- Any malicious damage or theft that occurs during your visits to any venue, belongings of others etc. will be assessed by the lead teacher. Students will be held responsible for any such damage/theft etc.
- Students are expected to behave in a polite and respectful manner at all times.

Emergency Procedures in the event of injury, illness or unusual circumstances:

- At least one supervisor trained in first aid or otherwise qualified to render emergency medical assistance will be on the trip.
- We will have a medical alert list of students who have special medical conditions.
- Depending on where the incident happens, staff will be notified immediately by walkie-talkies, cell phone or in person.
- A supervisor will remain with the student while someone goes for help (if necessary). Staff will be notified immediately by walkie-talkies, cell phone or in person.
- An ambulance will be dispatched if the injury or illness is severe.
- Parents will be notified as soon as possible of the incident.

Thank you in advance for discussing the robotics program and these expectations with your child and ensuring they have all necessary materials for the robotics program. **The cost of the robotics program is between \$50 & \$150 depending on sponsorship and costs. Students with financial difficulties can obtain financial aid. Please have arrangements or payment of \$50 by September 30th. Methods of Payment: Cash, Cheque (payable to Wolf Creek Public Schools), online or at the office (eCheck/Visa/MasterCard/Visa Debit).**

EDUCATIONAL OBJECTIVES: Students will earn Electro-Technologies, Computer Science and Leadership credits as part of robotics. Please sign the following consent and medical information portion and return to Mr. Schultz by **November 15th**. Should you have any questions, please do not hesitate to contact Mr. Schultz, at 403-782-6615 or by email at steven.schultz@wolfcreek.ab.ca

Yours truly,



Mr. Schultz, Robotics Teacher and Mentor

Acknowledgement of Risk and Informed Consent Form

RE: 2020 - 2021 URL Robotics Season

I, _____ (please print full name) the parent/guardian of _____ (please print full student's name), recognize that my child will participate in **the 2021 - 2022 URL Robotics** as sanctioned by Lacombe Composite High School.

- I understand that robotics involves certain risks, dangers, and hazards to the participants. These may include but are not limited to, personal injury, death, property damage, expense and other loss, delay or inconvenience and trip or event cancellation or curtailment.
- **I understand that we are in the middle of a COVID-19 pandemic and agree to following all the protocols while at school to minimize the risk of transmitting the disease including staying home if I am sick or been diagnosed with COVID-19, sanitizing my hands and work space, social distancing when possible and wearing a mask when social distancing is not possible.**
- I understand that during robotic activities, authorized staff of Lacombe Composite High School, supervisory adults, as well as employees of other agencies associated with this activity will endeavor to instruct, protect, and care for the wellbeing of my child as would I in their place, including making decisions regarding the medical care of my child.
- I understand that my child will be expected to uphold the behaviour expectations of students of Lacombe Composite High School, as in any other school endeavor as outlined in the Student Code of Conduct and failure to abide by behaviour expectations could result in their removal without refund.
- I will ensure my child is prepared for robotics with the necessary safety guidelines & equipment.
- I am aware that the Principal reserves the right to postpone, terminate or cancel an activity at any time and with little notice if the activity can no longer be conducted in a safe and secure manner. I realize that I may not receive all or any of the money I had thus far invested and accept the loss without expecting reimbursement from the school.
- I understand that my child and I will be committed to the URL robotics team and will meet all scholastic, volunteer (10+ hours), behavioural & participation requirements including paying \$50.
- I grant permission for the URL robotics team to use my child's likeness (photo, video & voice) in promotional or other team related materials.
- I understand that if there is travel permitted for Robotics, that it will be by way of Wolf Creek School Bus or Mr. Schultz's Van which has 2 million dollar liability insurance. Students are expected to ride in the Bus or van to and from the activity location. **If your child is not able to ride the bus, they may only ride with their guardian if written notice is provided to the supervisor in charge PRIOR to the trip. Students will NOT be permitted to ride to/from the venue with another student's parents.**
- I have discussed the risks and expectations outlined above with my child and have confidence that my child understands them. I am aware that every parent has the right to deny his/her child's participation in a school activity and that this activity is not a prerequisite for the completion of any required course of study. I have read the above statements and understand the nature of the document and consent to the participation of my child in this activity and associated activities.

Student's Name: _____ Student's Cell Phone #: _____

Student's Signature: _____ Date: _____

Parent's Name: _____ Parent's Emergency Phone #: _____

Parent's Signature: _____ Date: _____

Mailing Address: _____

Medication/Medical Treatment/Medical Conditions: please write any and all medication(s), medical treatment(s) or medical conditions for your child. This includes treatment for allergies as outlined in Wolf Creek Administrative Procedure 317 - Life-Threatening Medical Conditions. Please note, any distribution of medication to students must meet all requirements of Wolf Creek Administrative Procedure 316 - Administering Medication or Medical Treatment. Please contact the lead teacher well in advance if your child will be requiring distribution of medication during this field trip. _____.