

Mattawan Wirecats

FRC Team 5675

The logo consists of the word "WIRED" in a bold, italicized, white sans-serif font, centered within a solid blue rectangular background.

WIRED

Handbook

Table of Contents

| | | |
|------|---|----|
| I. | Background Information..... | 3 |
| | a. What is <i>FIRST</i> Robotics? | 3 |
| | b. Team Mission Statement | 3 |
| | c. Team History | 3 |
| | d. What we do | 4 |
| | e. What is in it for you? | 4 |
| II. | Roles and Responsibilities | 5 |
| | a. Adults | 5 |
| | i. Coaches | 5 |
| | ii. Mentors | 5 |
| | iii. Parents | 5 |
| | b. Students | 5 |
| | i. All Students | 5 |
| | ii. Team Leaders | 5 |
| | iii. Drive Team | 5 |
| III. | Codes of Conduct | 6 |
| | a. Safety | 6 |
| | b. Student Expectations | 7 |
| | c. Student Eligibility | 8 |
| | d. Adult Expectations | 8 |
| | e. Prohibited Behaviors | 8 |
| | f. Travel Rules | 9 |
| | g. Competition Rules | 9 |
| IV. | Budget Example | 9 |
| V. | Contacts and Resources | 10 |
| VI. | Forms | 11 |

I. Background Information

- a. **What is FIRST Robotics?** *FIRST* stands for “*For Inspiration and Recognition of Science and Technology.*” *FIRST* is a program that uses the building of a remote-controlled robot to create interest in STEM (**Science, Technology, Engineering, and Mathematics**) careers. The Mattawan Wirecats team competes in the *FIRST* Robotics Competition (FRC), which is a high school level program. The program is based on the varsity sport model where robots, piloted by the students, compete 3-on-3 on the floor of an arena. Unlike other varsity sports, every student on a *FIRST* Robotics Competition team can turn pro.

The robots are designed, built, and programmed by the students per specifications dictated by *FIRST* with guidance, if needed, by mentors. Teams of students work side-by-side with technical mentors from industry and the community to build their machines for competition.

Teams play in two district events in Michigan. The top 160 teams move on to a State Championship. Teams can also qualify for the *FIRST* Championship (“Worlds”) based on their performance at the district and state competitions.

Gracious Professionalism is part of the ethos of *FIRST*. It’s a way of doing things that encourages high quality work, emphasizes the value of others, and respects individuals and the community. Teams should always compete at their best while helping other teams do the same.

- b. **Mission Statement:** Challenge the minds of students in the greater Mattawan area to learn about and appreciate the fields of science, technology, engineering, math and business through participation in *FIRST* Robotics programs at the high school level.
- c. **Team History:** The Mattawan High School Robotics team was started in 2015 by April and Chris Turner and competes in Michigan district of *FIRST* Robotics Competition (FRC). In their first year of operation, the WireCats met in the basement of one of the mentors. They were extremely fortunate to garner the help of another local, more experienced team, the Twisted Devils from Gull Lake High School to provide guidance during the first few years of the team. The WireCats rookie season was capped off with a blue banner win at the Gull Lake tournament, which

helped to qualify them for the state championship.

Their second season in 2016 saw the WiredCats move from a basement to a room at WDP, Inc. located in Mattawan, Michigan. The site was still small and cramped but was an improvement over the original basement meeting location. This was certainly another year for growing the team and learning more of the basics, including the first year the team use CAD to help design some of the robot. The robot did well but the team was not able to secure a place at the state championships.

2017 would prove to be a great year for the WiredCats. The team was invited to meet at KVCC - Groves campus where they had access to more tools and more importantly, mentors and KVCC staff that could teach the students how to use some of the more complex machinery to help build the robot. The WiredCats won both of their qualifying competitions and did very well at the state championship. All of this earned them a spot at the World Championship held in St. Louis. They made a great showing, placing 19th out of 60 after the qualifying rounds but unfortunately were overlooked by any of the top eight teams when it came time for finalist alliances to be picked.

2018 continued where 2017 left off. The team continued meeting at KVCC -Groves. While they did not win any of their competitions, the WiredCats placed more consistently among the top teams. They managed to rank within the top 10 at both qualifying tournaments and were 4th place out of 40 in their division at the state championship. They again qualified for the world championship, this time held in Detroit, MI. At the end, the WiredCats were picked by the 8th seeded alliance to compete in the playoffs. Another step in the right direction!

- d. **What do we do?** We design, build and program a really cool robot to compete with and against other robots in a game challenge that is different every year. It is more than just building a robot; our team operates like a small business. We have different “sub-teams”, which are small groups that handle everything from marketing, fundraising, website design, electrical, programming, accounting and mechanical. There is a place for everyone on our team. It is more than just holding a wrench!

- e. **What’s in it for you?** Students have the opportunity for hands-on learning from people who do real life engineering and business management every day. *FIRST* offers over \$50 million of scholarship opportunities which are available for students who participate in *FIRST*

Robotics. Last year one in four students who applied for a scholarship received one.

II. Roles and Responsibilities

a. Adults

i. Coaches are responsible for:

1. Perform the administration duties for the team, i.e. team registrations, bookkeeping, scheduling, etc.
2. May also assume mentor roles.

ii. Mentors

1. Provide ideas and guidance for students in the various aspects of the team and step in to help students complete tasks when necessary.
2. Provide a safe environment for the students to learn, fail, and succeed.

iii. Parents

1. Parents need to ensure that their student has transportation to/from meetings and events and that their student arrives safely and on time.
2. Provide at least one meal.

b. Students

i. All Students

1. All students are expected to attend meetings as regularly as possible and should be actively involved with the team.
2. All students are expected to comply with the Codes of Conduct as outlined later in this handbook.

ii. Team Leaders

1. Each year, several students will be chosen and asked to become team leaders. This is a purely voluntary position.
2. Team leaders are expected to attend all competition-season meetings and help to lead certain aspects of the team. They will be considered subject matter expert on their aspect of the team.

iii. Drive Team

1. The drive team consists of one student driver, one auxiliary student driver and one student or adult drive coach. In recent years, *FIRST* rules have also included one student

human player and one student repair technician. Per *FIRST* rules, all drive team members must be enrolled in high school.

2. Each drive team member must attend all meetings once chosen and will need to have comprehensive knowledge of all the rules of the game challenge and be familiar with the robot and its functions. Drive team members must also attend all competitions for the entire duration of the competition.

III. Codes of Conduct

a. Safety

- i. Team member safety is our highest priority. Any team member, student, or adult who breaks any of these rules will be reminded of the rules and will need to take immediate corrective action. Repeated and/or egregious safety rules violations may result in the team member being asked to leave the area or the site. Safety needs be taken very seriously by everyone.
- ii. Proper PPE (Personal Protective Equipment) must be worn when appropriate.
 1. **Safety glasses** are required to be worn when working on the robot in any capacity, in the build shop, when working with or around tools/machinery, and in the pit area and on the playing field during competitions. Safety glasses must conform to ANSI Z87.1 standards. Prescription glasses with ANSI Z87.1 approved side shields are also allowed.
 2. **Shoes** must be closed-toe, closed-heel (no sandals, flipflops, crocs, etc.) when working with the robot, in the build shop, when working with or around any tools/machinery, and in the pit area and on the playing field during competitions.
 3. **Clothing** Do not wear loose clothing or accessories such as jewelry, ties, necklaces, etc. while working with tools.
 4. **Long hair** must be tied back or covered while working with tools/machinery or working on the robot.
- iii. No running. Anywhere. Seriously.
- iv. Do not operate any tools or machinery if you have not been trained on that equipment. Always get mentor approval before operating machinery. You must also abide by all rules and procedures set forth by KVCC the Groves when operating any tools/machinery.

- v. Be careful when moving long pieces of material. Have two people move long pieces when possible to avoid Three Stooges Effect.
- vi. Use proper lifting techniques when lifting heavy equipment. Lift with your knees, not your back. Use teamwork when possible.
- vii. Know the location of all safety equipment, first aid kits, eye wash stations, battery spill kit, etc.
- viii. Keep sharp objects pointed away from others, preferably pointy-side facing down.
- ix. *All* injuries (big or small) **must** be reported to mentors or safety team members ASAP.
- x. When working on or near the robot, please observe the following rules:
 - 1. Yell, “Enabling!” when activating the robot. Make sure no one is within the frame perimeter before powering up the robot.
 - 2. Have the robot powered down when working on any component.
 - 3. Disconnect all power sources before servicing any component.
 - 4. Never pick up batteries by the cables and plug/cover battery terminals when not in use.
- xi. Please use common sense with safety. If something seems unsafe or dangerous, do not do it.

b. Student Expectations

- i. Students should display “Gracious Professionalism” at all times and promote the ideals of *FIRST*.
- ii. Students will abide by the Mattawan Wirecats Robotics Code of Conduct at all times.
- iii. Students are expected to behave in a courteous and cooperative manner.
- iv. Students are expected to be respectful of others and behave in a way that protects the health and safety of themselves and others.
- v. Students will be respectful of the facilities, tools, equipment, and all things being used by the team.
- vi. Do not use any profane, obscene, or vulgar language.
- vii. Students visiting or working at corporate sites (including KVCC - Groves) are guests of the corporation and must be courteous and respectful to any employee. While at the corporate site, students are expected to follow all the rules of the site.

- viii. Students are expected to attend and arrive on time to all meetings and competitions during the normal competition season (January – April) unless they have an excused absence. Excused absences are illness, death in the family, or other school sanctioned activity. School class work should be the student’s highest priority. If students cannot complete class work outside of robotics meeting times, this can be a reason for an excused absence.
- ix. Students are expected to keep current with team activities and requirements. Notifications will generally be sent via email and/or posted on Slack.
- x. Please limit the use of electronic devices during meetings unless they are being used for team business.
- xi. Students must help clean up after each meeting.
- xii. Students should not show any form of public displays of affection during meetings if they are in a relationship with another student. Please keep all relationships “professional” during team meetings and at competitions.

c. Student Eligibility

- i. Students must maintain academic eligibility, as defined by Mattawan High School. This is the same standard as used for Mattawan High School sports.
- ii. Students must be considered to be in high school by the state of Michigan. A limited number of 8th grade students may also participate but are not permitted to be on the Drive Team.
- iii. Students (or parents) must complete and turn in all necessary forms and pay the required registration fees.

d. Adult Expectations

- i. Provide timely transportation to/from team meeting and events.
- ii. Assist and support their student with fund raising and community service activities.
- iii. Provide accurate medical information for their student and keeping coaches informed of any health changes.
- iv. All parents are expected to help in some manner during the competition season. This could be providing a meal, helping with travel arrangements, or volunteering at a competition.

e. Prohibited Behaviors

- i. Inappropriate language toward any adult or student team member.

- ii. Disrespecting any mentor, student, or parent.
- iii. Disruptive or inappropriate conduct.
- iv. Arriving late for meetings/competitions.
- v. Inappropriate dress/attire. No revealing or sexually suggestive clothing. No clothing that has any reference to alcohol, drugs, sex, or weapons.
- vi. No harassment of any type, including sexual, gender, or ethnicity.
- vii. No vandalism of any type.
- viii. Using, possessing, selling, or being under the influence of any illegal drugs, controlled substances, alcoholic beverages, or tobacco products. Violation of this rule will result in immediate expulsion from the team, travel home at parent's expense and possible legal prosecution.
- ix. Rule of three. Adults should never be alone with a student that is not a direct relation. Also, a male and female student should never be left alone, unsupervised.

f. Travel Rules

- i. The team has very strict rules when we are travelling. You are representing your school, your team, and yourself.
- ii. Depending on the severity of the violation, the consequences could include a verbal warning to being dismissed from the event.
 - 1. Please comply with all curfew and bed check rules unless you are with your parent.
 - 2. Do not leave the competition premises or assigned hotel without notifying and obtaining permission from an adult.
 - 3. Students of the opposite sex are not allowed in each other's hotel rooms.

g. Competition Rules

- i. Students and adults are responsible for keeping track of time to make sure they are on time to perform their assigned task.
- ii. Do not hang out in the pit area. Let the pit crew have space to do their work!
- iii. Take scouting responsibilities seriously. All students are expected to help with scouting. Scouting is vitally important.
- iv. Do not leave the competition venue without notifying an adult.

IV. Sample Budget

- a. Funding for the team comes from:
 - i. Corporate and educational sponsors

- ii. Grants
- iii. Team member registration fees
- iv. Fundraising
- b. Annual team expenses:
 - i. Competition registration fees
 - 1. Two in-state (usually local) district events \$5,000
 - 2. State Championship \$4,000
 - 3. World Championship \$5,000
 - ii. Materials and Tools
 - 1. Robot parts and materials \$5,000
 - 2. Materials for practice field \$500
 - 3. Tools for construction \$1,000
 - iii. Marketing
 - 1. Office supplies \$1,000
 - 2. Team uniforms \$500
 - 3. Marketing items \$500
 - iv. Travel
 - 1. District events \$500
 - 2. State Championship \$2,000
 - 3. World Championship \$2,000
- i. Total \$27,000**

V. Contacts and Resources

- a. Team website: www.mattawanwiredcats.org
 - i. For team information, pictures, calendar of upcoming events, etc.
- b. Coach April Turner: aturnerrn@gmail.com 269-548-7728
- c. Coach Dan Musson: mussond@sbcglobal.net 269-547-0277
- d. *FIRST* Robotics website: www.firstinspires.org
 - i. Official *FIRST* Robotics website. Find information about *FIRST* Robotics, scholarship opportunities, game manuals, etc.
- e. *FIRST* in Michigan (FiM) website: www.firstinmichigan.org
 - i. Official FiM District website. Find information about Michigan specific teams, competitions, etc.
- f. Real time competition information: www.thebluealliance.com

VI. Forms

- a. All students are required to submit the permission slip and the emergency contact information/health form to participate on the team.

- b. All students are required to complete the KVCC release form prior to performing tasks at KVCC-Groves.
- c. Students and mentors must register through *FIRST* to attend any competitions.
- d. Students need to complete the interest questionnaire to assist mentors in finding the best spot on the team for you.

Mattawan WiredCats Robotics

FRC Team 5675

Student Information:

Name: _____ Grade: _____ T Shirt Size _____

Email linked to Google Account: _____

Home #: _____ Cell #: _____

Parent/Guardian Information:

Parent #1: _____ Email _____

Do you want access to the team's Slack Account? **YES / NO**

Home #: _____ Cell #: _____

Parent #2: _____ Email _____

Do you want access to the team's Slack Account? **YES / NO**

Home #: _____ Cell #: _____

_____ I have enclosed the \$150.00 registration fee (includes two t-shirts) checks made payable to Mattawan High School Robotics. If you prefer to pay using RevTrak, you can follow this link

<https://mattawan.revtrak.net/mattawan-high-school/Mattawan-High-School-4/WiredCats-Robotics-Team/#/list>

Media Consent

I, _____, parent of _____ do hereby give my permission to include photos/videos of my child in publicity for the Mattawan Wiredcats Robotics FIRST Team 5675, including the team's website, Slack account, Facebook page, Instagram, and in other printed and electronic materials. Furthermore, I give my permission to use Slack for purposes of team communications.

Parent signature: _____ Date: ____/____/____

Code of Conduct Agreement

Violating Our Code of Conduct:

- First Offense: Verbal Warning
- Second Offense: Written Warning
- Third Offense: Team Suspension
- Fourth Offense: Cut from the Team

***Depending on the severity of the violation a student may be immediately removed from the team.

I agree that I understand the information presented in the Team Handbook and understand the requirements outlined in this code of conduct. I understand that I must follow the Code of Conduct and maintain good academic standing in order to remain on the team.

Student Signature: _____ Date: _____

Parents/Guardians

I understand that my student has chosen to be an active part of this team, and that while any level of participation is encouraged, my student must meet the team requirements in order to participate on the team. I also understand that I am part of those requirements and agree to attend the parent information meeting, at least one team activity, and provide at least one meal for the team during the build season. I understand that parents can be a vital part of the team, and are a big help in getting many of the team activities accomplished. I will do my best to support my student and the team in this endeavor.

Parent Signature: _____ Date: _____

Mattawan WiredCats, FRC Team 5675

Health, Safety, and Liability/Medical Release Form

Student Name _____ Birth date ____/____/____

Allergies _____

Current Medications _____

Other medical conditions _____

Medical Insurance Company _____

Policy holder _____ Policy number _____

Student's primary physician _____ Phone # _____

Student's dentist _____ Phone # _____

Consent for Medical Treatment

I, the parent/legal guardian of above student, do hereby release, discharge and/or otherwise indemnify the Mattawan High School Robotics Team and its mentors, students, and volunteers, and the Mattawan Consolidated Schools, against any claim by or on behalf of the student as a result of the student's participation on the team and/or being transported to or from the same, which transportation I hereby authorize.

Parent/Guardian Agreement

As the parent/legal guardian of above student participating on the Mattawan Wirecats Robotics Team, I hereby give my consent for emergency medical care prescribed by a duly licensed Doctor of Medicine or Dentistry. This care may be given under whatever conditions are necessary to preserve the life, limb, or well-being of my dependent.

Parent/Legal Guardian (Please Print) _____ Phone # _____

Parent/Legal Guardian (Please Print) _____ Phone # _____

Parent Signature _____ Date: ____/____/____

Emergency Contact (Please Print) _____ Phone # _____

Mattawan Wirecats Team Member Interest Survey

Member Name: _____

Current Grade Level (circle one): **8th** **9th** **10th** **11th** **12th**

How many years have you participated on Team 5675 (prior to this upcoming season)? _____

How many years have you participated on other robotics teams? _____

Circle all times when you **CANNOT** regularly attend team meetings due to other commitments

MON 6-9pm **TUE** 6-9pm **WED** 6-9pm **THU** 6-9pm **FRI** 6-9pm **SAT** 9am-4pm

List all other activities you participate in and when/how they might conflict with robotics from early January through end of April

Rank order the top 3 subteams in which you wish to participate (1 is most interested, 3 least interested)

_____ Safety Team

_____ Scouting Team (in charge of creating scouting app and analyzing data)

_____ Multimedia Team (former Marketing Team)

_____ Build Team (including building game field pieces)

_____ CAD Team

_____ Programming Team

_____ Electrical Team

Are you willing to take on leadership position (eg. subteam leader)? **Yes / No / Not sure**

Are you interested in trying out for the Drive Team? **Yes / No / Not sure**

Note: Drive Team members must be present the entire time at ALL competitions

If YES, please check all Drive Team positions in which you are interested

_____ Primary Driver

_____ Human Player

_____ Auxiliary Driver

_____ Repair Technician

List any hobbies and interests you have (video games, knitting, drawing, drama club, etc.). This is optional but would be helpful to the mentors. Do NOT limit this to robotics-related interests.