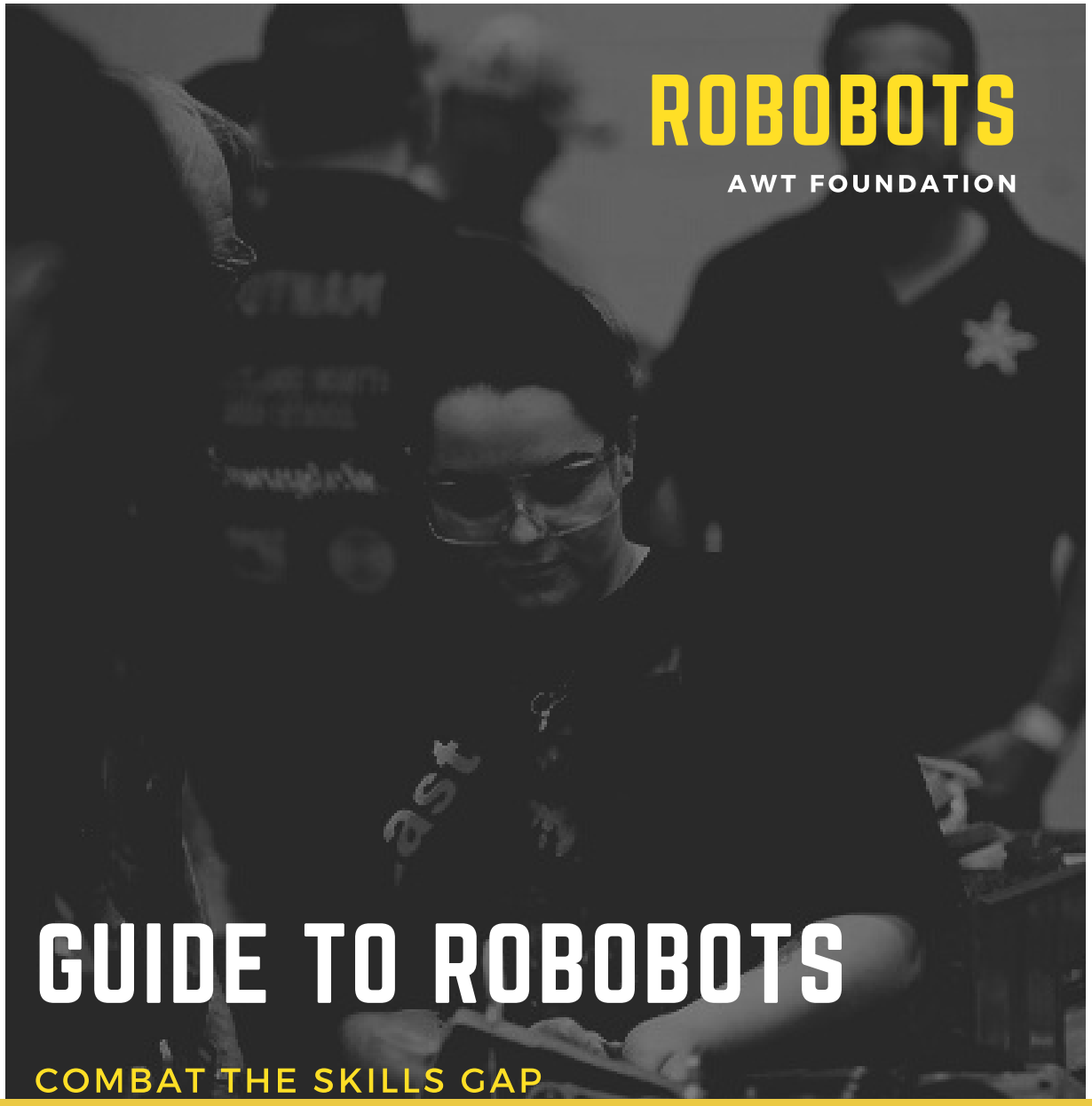

OUR MISSION

TO PROMOTE

REWARDING MANUFACTURING

CAREERS FOR THE FUTURE OF OUR COMMUNITIES

@AWT RoboBots
www.awtrobobots.com

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WHAT IS ROBOBOTS?

RoboBots is a high school combat robotics competition that allows high schools to partner with industry mentors to build a 15lb combat robot.

The industry partner provides financial assistance and mentorship to the high school students through the six-seven month robotic build process.

This program is used as a way for local manufacturers to mentor local talent. Many Robobot participants go on to become innovators, pursue engineering degrees, and a few even begin working for their company sponsor upon graduation.

This educational and workforce initiative was started by the AWT Foundation. The AWT Foundation promotes rewarding manufacturing careers for the long-term sustainability of manufacturing.

Check-out our JuniorBots & RoboBots trailer:

https://www.youtube.com/watch?v=bxUQxihpwL0&t=2s

ROBOBOTS COMPETITION DAY

DATE

Competition day is for both RoboBots (high school students) and JuniorBots (middle school students). This event always takes place on the last Saturday in April. **This year, that is April 24th, 2021**

LOCATION

Lakeland Community College (7700 Clocktower Dr, Kirtland, OH 44094-5198) Auxillary Gym (Building Y).

Here are some of the local hotels/lodging options for traveling teams: https://www.tripadvisor.com/HotelsNear-g50517-d8266249-Lakeland_Community_College-Kirtland_Lake_County_Ohio.html:

TIME

The competition day takes place from 8am-5pm. This is a double elimination competition, so students may need to spend all day here depending on how well their team competes against other teams. **RoboBot Teams should arrive around 7:30am-8am.**

LUNCH & CONCESSIONS

Students participating in RoboBots will receive a lunch waiver. Lunch normally consists of a water, sandwich or hot dog, and an additional small snack. Lakeland Community College's concessions will be open from 9am-4pm and open to the public.

EVENT PARKING & ADMISSIONS

Parking is free and within walk distance to Lakeland Community College's athletic building. This event is free and open to the public. We normally have about 2,000 individuals in attendance throughout the day.

SPECIAL GUESTS

As the largest regional robotics competition and a well-known workforce initiative in Ohio, we normally have a few special guests throughout the day including local politicians and celebrities throughout the day.

INTERVIEW, DOCUMENTATION, & SAFETY DAY

It is very important to note that documentation is not optional. Documentation is one of the critical pieces of this program to simulate a real-world work situation.

Interview, documentation, & safety day will take place the day before the competition day. This year, that means it is on Friday, April 23th, 2021 at Lakeland Community College Auxillary Gym (Building Y). Your team does not have to stay the whole day, you can sign-up for a couple of hours via a sign-up genius link in your google folder.

INSTRUCTIONS

All interview, documentation, and safety guidelines are in your team's google folder. If you do not have a team google folder, please e-mail Juliana Petti (Juliana@Thinkmfg.com).

Documentation must be submitted in your google folder by April 17th in order for industry experts to look over your documentation. Please bring a hard copy binder of documentation to interview, documentation, & safety day as well

When you sign-up for the interview, documentation, & safety time slot, please be on time to your interview. Our industry experts are donating a lot of time this day.

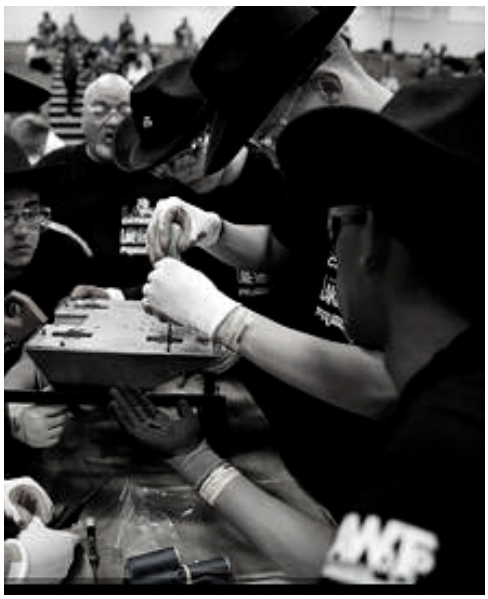
OWNERSHIP

Allow students to take ownership of their interview and documentation.

The interview and documentation portion of the competition can be completed in many creative ways. Allowing teams to have creative freedom brings about some of the best documentations we've seen. Try to ensure students are referencing the guidelines in the google folder when completing documentation and their interview

COMPETITION

Remember, the competition is not solely based on robot, students can win best presentation or best documentation as well.



WHAT DO I NEED TO START A ROBOBOTS TEAM?

RoboBots Coach: The RoboBots Coach could be a teacher or parent who will be responsible for the administrative aspects and behavioral aspects of the team. See page 6 for more information.

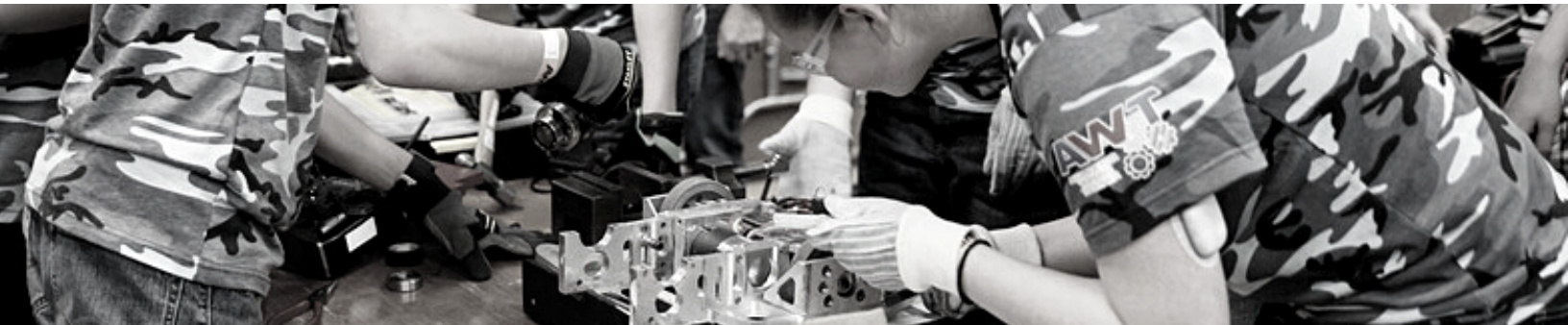
A Company Sponsor: A company sponsor will commit to meeting the financial needs of the team. See page 7 for more information.

Industry Advisor: From the company sponsor, we hope that the company can identify a technically inclined person who is comfortable working with tools to meet with the RoboBots Team during their schedule meeting times (normally two hours per week from October until April). During March and April, the time commitment may increase due to testing. See page 8 for more information.

Space: If you are a new team, space is key. Please designate a place for your team to meet. Normally a STEM lab or if you are a technical school, a CNC Machining room is the best place to meet. If you do not have those resources at your school, please communicate with your Industry Advisor, because you may need them to bring tools to your classroom or your sponsor company may allow you to work in their facility

Personal Protective Equipment (PPE): Students must wear gloves when working on their robot. Students must wear safety glasses when appropriate. If your company sponsor cannot supply safety glasses and gloves, the AWT Foundation can provide you with PPE. We also recommend purchasing a plastic container with a lid for transporting your RoboBot to and from the competition.

Communication: With so many organizations involved in this program, it is important for the Coach and Industry Advisor to keep each other informed of upcoming due dates, meeting dates, etc. If there is a team issue, please let a member of the AWT Foundation know. We will try our best to resolve it.



ROBOBOTS COACH RESPONSIBILITIES

The RoboBots Coach could be a teacher or parent who will be responsible for the administrative and behavioral aspects of the team.

JUNIORBOTS COACH RESPONSIBILITIES

- Recruit at least 8-12 high school students to participate on one RoboBots team
- Coordinating team meeting dates, times, and locations. In October, teams should be meeting at least two hours per week and perhaps even more until April (please keep in mind a plan for holiday breaks)
- Coordinating cage testing times. Fredon Corporation (8990 Tyler Blvd Mentor, OH) and A-tech (1565 State Route 167, Jefferson, OH 44047) will open up cages for testing in November. If your team is too far away, your team may want to purchase a testing cage
- Ensuring that the teams forms (team information sheet, volunteer waivers, background checks, and team documentation) are complete by the specified due dates in the team google folder that the AWT Foundation provides
- The Coach is also responsible for communicating the financial investment that companies are making in the robotics team
- Coordinate travel arrangements to team meetings and the robotics competition
- Attend all team meetings and **ensure that students are behaving properly and in accordance with all safety guidelines**
- **Creating a policy to address student attendance, behavioral, or work concerns that the industry sponsor agrees with**
- Stress that attendance, completion of projects/work assigned by the companies to the students. **Companies can "fire" a team at any time during the build process, because this program is supposed to simulate the real-world workforce**

COMPANY SPONSOR RESPONSIBILITIES

The Industry sponsor is responsible for providing financial and technical support for the RoboBots team.

COMPANY SPONSOR RESPONSIBILITIES

- **Sharing the safety practices of your company with the RoboBots students and parents, especially if students will be using your facility for their meetings**

- Provide funds and *company expertise to help your team design and create their own 15lb combat robot*

- Provide your team with tools and personal protective equipment (safety glasses & gloves) to use throughout the build process

- If you are able, provide a space in your facility for your team to meet

- Designate whether or not your team will use Fredon Corporation (8990 Tyler Blvd Mentor, OH) and A-tech (1565 State Route 167, Jefferson, OH 44047) testing cages. Both will open up cages for testing in November. If these two locations are far away, we can pair you with a team that has a cage close to you or your team may purchase one. Contact Juliana Petti Juliana@Thinkmfg.com to set up testing time

- Provide t-shirts with your company logo for your RoboBots team for competition day

- Stress attendance, completion of projects/work assigned to the students. **Remember, an industry sponsor can "fire" a team at any time during the build process, because this program is supposed to simulate the real-world workforce**

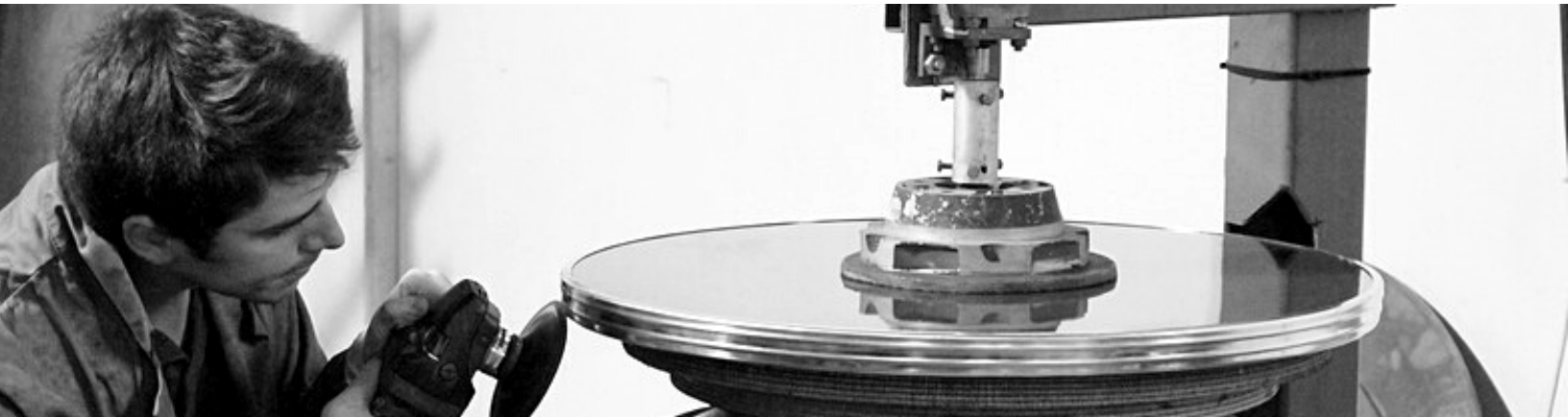
- **Designate one or two individuals to be the Industry Advisor(s) for the RoboBots team**

INDUSTRY ADVISOR RESPONSIBILITIES

The Industry Advisor is responsible for technical support, project timelines, and safety practices of the RoboBots team. **The ideal Industry Advisor has electrical knowledge, machining knowledge, and some experience working with students.**

INDUSTRY ADVISOR RESPONSIBILITIES

- **Sharing the safety practices of your company with the RoboBots students and parents, especially if students will be using your facility for their meetings**
- **Complete any adult waivers, school background checks, etc. to work with students**
- Train students on personal protective equipment (PPE) and the proper use of tools
- Help students design and build their 15lb combat robot with all safety practices in mind
- Help students choose and design a combat robot weapon
- Provide technical support and technical learning experiences for students
- Simulate real-world workplace situations and build timelines for students (with holiday breaks in mind). Provide any "homework" assignments for students to complete
- Attend all team meetings
- Stress attendance, completion of projects/work assigned to the students. **Remember, an industry sponsor can “fire” a team at any time during the build process, because this program is supposed to simulate the real-world workforce**



SAFETY

Safety is our first priority. All RoboBots teams must abide by the following safety rules:

1.Wear safety glasses and gloves when working on the robot

2. Always charge batteries outside of the robot

3. Always charge batteries in a Battery Safe bag

4. Only use tools as they are intended

5. When in doubt, ask someone

6. Don't work alone

7.Do not allow students to carry robot by the weapon

8. If a battery starts to puff up or get hot immediately remove connections and move away

9. Do not use LiPo batteries

10. Ensure all wiring insulated properly and not exposed outside of robot

11. Ensure robot has a kill switch

12. Ensure robot is 15lbs or less

13. When transporting the robot, use a plastic bin

14. Ensure weapon system is reliably controlled

ROBOBOT AWARDS

MOST INNOVATIVE

During safety check, an AWT volunteer will be rating your robot in terms of unique design, creative builds, and how much your robot stands out from the rest

BEST ENGINEERED

During safety check, an AWT volunteer will be rating your robot in terms of engineering integrity, efficiency, and practicality

BEST DOCUMENTATION

During Interview, Documentation, & Interview day, our group of industry experts will rate teams on best documentation and best presentation based on the guidelines in your google folder

BEST PRESENTATION

During Interview, Documentation, & Interview day, our group of industry experts will rate teams on best documentation and best presentation based on the guidelines in your google folder

IST, 2ND & 3RD PLACE COMBAT WINNERS

Throughout the day, RoboBot teams will compete against one another in three-minute battles. RoboBot Combat Judges will determine the winner of the battle based on competitor damage, robot aggression, and total competitor hits

ROBOBOT

RESOURCES

Your team Google Folder

AWT will provide your team with your very own google folder. All requirements, due dates, and templates are inside of this folder for your reference. E-mail Juliana Petti (Juliana@Thinkmfg.com) to set-up your folder

3-D Printing

AWT Company member, Reynolds machinery has offered to 3-D print parts for RoboBots & JuniorBots. You can contact John Corrigan (JCorrigan@reynoldsmachinery.com) of Reynolds Machinery to ask if your part would be a good candidate for 3-D printing.

Online Suppliers for Parts

- Gears-Ed/Depco
- HobbyPartZ.com
- BaneBots
- Servo City
- Robot Shop
- McMaster-Carr
- Hobbytown USA
- American Science & Surplus
- HGR
- Lynxmotion
- The Robot Marketplace
- eHobbies
- Hobby King
- RC4WD

Lake Erie College Graduate Credit

Did you know that you can receive up to 6 credits of graduate course credit for serving as a JuniorBots Coach? E-mail Mary Balmford for more information: mbalmford@lec.edu

Experienced Teams & Coaches

If you feel lost, don't worry, we have many experienced RoboBot teams and coaches to help. Reach out to Juliana Petti, AWT Executive Director (Juliana@Thinkmfg.com) and she'll connect you via email with an experience coach to share best practices, ideas, etc.

Robot Build Videos & Guides

Robot Design (Part 1):
https://www.youtube.com./watch?v=CuYxehRA_oo

Robot Protoype (Part 2)
https://www.youtube.com./watch?v=m1ZwkoOqPKI

Unique Robot Design: https://www.youtube.com./watch?v=FVXfuBgicdU

Step-By-Step Video Collection:
https://www.youtube.com/watch?v=MVGpd4TH54A

Cheaper Robotic Build Option:
https://www.youtube.com/watch?v=nVQ9RpVh9cU\

Step-by-Step Guide for Beginners:
https://www.instructables.com/id/How-to-design-and-build-a-combat-robot/

Cage Testing

Fredon Corporation (8990 Tyler Blvd Mentor, OH) will provide cage time for testing starting in November. A-tech (1565 State Route 167, Jefferson, OH 44047) will also provide cage time. If these locations are too far away, we can pair you with a team that has a cage or your company sponsor may purchase one. Contact Juliana Petti Juliana@Thinkmfg.com to set up testing time

ROBOBOT COMBAT RULES

NO REPLACEMENT ROBOTS

While teams are allowed to create replacement parts to use throughout competition day, teams are not allowed to prepare complete replacement robot to use in battle

NO UNSPORTSMANLIKE CONDUCT

All RoboBot teams must conduct themselves in sportmanslike manner throughout the competition. Any team who is deemed unsportsmanlike will be disqualified. Please note that team family members should be held accountable for sportsmanlike behavior as well. ***Please no use of horns, noise-makers, etc. while teams are competing***

NO INTERFERENCE FROM COACHES OR ADVISORS

While RoboBots advisors and coaches can support their team, they must not touch the controller or robot during the battle or in the pit. The students must be the ones competing, ***not advisors or coaches***

ROBOBOT

FAQ

How do I know when my child will be competing?

The competition schedule is determined by random seeding for teams the day of. The brackets will update in real-time via our website and Facebook page. The battles will be live streamed from our Facebook page and website.

How long are battles?

The battles are three minutes long. We will have video cameras broadcasting the battles on a big screen in the gym.

Who decides the winner of each battle?

Our battle winners are determined by our RoboBot Combat Judges who are normally former AWT RoboBots participants.

If our robot is pinned or stuck during battle, what do we do?

Our combat referees will flip over or unpin each RoboBot team once during each battle.

What is the best team size?

The ideal RoboBots team is about 8-12 students.

How much time will we have to repair our robot between battles?

In the beginning of the competition, you may have an hour or two to fit your RoboBot. However, towards the end of the competition, you may only have 20 minutes to fix your RoboBot

Will tools be provided for repair on competition day?

No, tools will not be provided for repair except for a grind station in the back of the main gym where battles take place. Please make sure to bring a tool box to fix your robot. Remember, anything can happen in battle, so please be prepared to fix any of your parts. AWT will provide you with your own team table or work station.

Are there any other activities taking place throughout competition day?

Yes, we have many activities to do during down-time. Normally, we have Skipper from the Lake County Captains to take pictures with, fun activities for a small fee at the HIVE (Makerspace) at Lakeland, t-shirts to buy, raffles to take part in, and hands-on activities for families.

ENOUGH TALK, ARE YOU READY TO COMBAT THE SKILLS GAP WITH US?

AWT FOUNDATION ROBOBOTS

READY TO START A TEAM?

CONTACT JULIANA PETTI
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JULIANA@THINKMFG.COM

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www.awtrobobots.com