



CITY SHAPER



**2019-20
FIRST® LEGO® LEAGUE
WEST TENNESSEE CHAMPIONSHIP
JANUARY 25, 2020**

TOURNAMENT MANUAL

Rev 1.20 - revised 1/16/2020

**CITY
SHAPER**



Welcome to the 2019–20 FIRST® LEGO® League West Tennessee Championship Tournament

Congratulations on making it to the West Tennessee Championship Tournament! 48 teams are invited to our event and we look forward to seeing each of you. It will be an exciting day Saturday as we discover what your team came up with for a project and as we watch your robot overcome the challenges in the robot games!

This manual contains information that will be useful to you as you plan your tournament trip. It is based on the rules and regulations found at <http://www.firstlegoleague.org/challenge>. Tournament specific information is available at <http://www.fll.memphisfirstteams.org/>. Nothing in this manual should conflict with the rules and regulations established by FIRST. Please review this manual carefully to ensure you are fully prepared. If you have any questions, please feel free to contact the tournament director; contact information is provided in the manual.

The schedule is critical. When you get to the competition, please spend a few minutes to find the judging rooms you will be attending. They are all on the third floor of the University Center near the Ballroom (Room 320 A, B, C). Please be sure to be in your pits 10 minutes before your next scheduled robot round. The exception is if you are in a judging room for core values, project presentation, or robot design. After you finish with your judging session, proceed immediately to the table for your next robot run.

Again, welcome to the West Tennessee Championship Tournament and best wishes for an exciting and successful FIRST LEGO League experience.

Frank A. Niedzwiedz
Tournament Director

Daniel Kohn
Operational Partner

Patrick McGinnis
Qualifier Director

Thomas (Tom) Banning
Operational Partner

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2019-20 FIRST® LEGO® League West Tennessee FLL Championship

Sponsors

The West Tennessee FIRST LEGO League Championship Tournament is jointly organized by The Herff College of Engineering, of the University of Memphis, the Memphis Branches of the Institute of Electrical and Electronic Engineers (IEEE) and TN Society of Professional Engineers. These organizations support the development and strengthening of mathematics & science education and have long histories of working with K-12 education programs that utilize hands-on engaged learning activities for students.

The West TN FLL Championship would not be possible without the financial support of The University of Memphis, Society of Information Management, Tennessee Valley Authority, Tennessee Valley Robotics, the Institute of Electrical and Electronic Engineers and the Tennessee Society of Professional Engineers.

Lastly, we would like to thank all the volunteers who make this event possible. Please make sure your team thanks the volunteers throughout the day!

Thank You FLL West TN Sponsors!



Thanks to Our Global Sponsors!



Tournament Contacts

Frank A Niedzwiedz Jr, P.E.

Tournament Director

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Postal Address:

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Room 203 Eng Tech Building

University of Memphis, TN 38152

Thomas (Tom) Banning

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Herff College of Engineering

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Preferred communication is by email at memphisfirstteams@gmail.com

Qualifier Hosts

As you are aware, teams competing in the West TN FLL Championship earn the right to attend by participating in qualifier events. We would like to thank the organizers of these events and recognize the host institutions for their efforts running these wonderful events. Thanks to:

Silas Njoroge – Christian Brothers High School

Karen Harper - Clarksville Qualifier

Chris Rogers – Southwest Community College

Patrick McGinnis – Christian Brothers University

Thank You to our Qualifier Hosts!

SOUTHWEST
TENNESSEE COMMUNITY COLLEGE

BROTHERS
CB


CBU


cmcss
The Defining Difference

Team Sponsors

West TN FLL would also like to recognize Tennessee Valley Authority (TVA) for their sponsorship of all the teams in the region. Each year, TVA sponsors FIRST Teams at all levels within their service area including all of the West TN FLL Region.



About FIRST® LEGO® League (FLL®)

In FIRST® LEGO® League (FLL®), children are immersed in real-world science and technology challenges. Teams design their own solution to a current scientific question or problem and build autonomous LEGO® robots that perform a series of missions. Through their participation, children develop valuable life skills and discover exciting career possibilities while learning that they can make a positive contribution to society.

About the LEGO Group

The LEGO® Group, a privately-held, family-owned company based in Billund, Denmark, is one of the world's leading manufacturer of high quality, creatively educational play materials for children. The company is committed to the development of children's creative and imaginative abilities, and its employees are guided by the motto adopted in the 1930s by founder Ole Kirk Christiansen: "Only the best is good enough." For more information, visit <http://www.LEGO.com>.



About FIRST®

Accomplished inventor Dean Kamen founded FIRST® (For Inspiration and Recognition of Science and Technology) in 1989 to inspire an appreciation of science and technology in young people. Based in Manchester, N.H., FIRST® designs accessible, innovative programs to build self-confidence, knowledge, and life skills while motivating young people to pursue opportunities in science, technology, and engineering. With support from over 200 of the Fortune 500 companies and more than \$16 million in college scholarships, the not-for-profit organization hosts the FIRST® Robotics Competition (FRC®) for students in Grades 9-12; FIRST® Tech Challenge (FTC®) for Grades 7-12; FIRST® LEGO® League (FLL®) for Grades 4-8; and Junior FIRST® LEGO® League (Jr.FLL®) for Grades K-3. Gracious Professionalism® is a way of doing things that encourages high-quality work, emphasizes the value of others, and respects individuals and the community. To learn more about FIRST®, go to <http://www.firstinspires.org/>.

Tournament Date and Schedule

Saturday, January 25, 2020

NOTE: All times shown are in Central Time. The opening ceremony time is fixed. All other times are subject to change and depend upon the total number of participating teams. A final schedule will be provided on tournament day to each team coach.

8:00 AM	Check-in, Team Setup, Practice (Ballroom 320A,B,C)
8:20 AM	Mandatory Judges Only Meeting (Fountain Room 350 west)
8:45 AM	Mandatory Coaches Only Meeting (East Ballroom Lounge Room 398G)
9:15 AM	Opening Ceremony (Ballroom 320A, B, C)
9:30 AM	Robot Competition Round 1 begins (Ballroom 320A,B,C) Judging Begins
11:42 AM	Robot Competition Round 2 begins
12:05 PM	Lunch Break
12:45 PM	Robot Competition Round 2 Resumes
1:45 PM	Jr FLL set up (Assigned at registration)
1:57 PM	Robot Competition Round 3 begins (Ballroom 320A,B,C)
2:15 PM	Jr FLL judging begins
3:30 PM	Jr FLL Awards Ceremony (Ballroom 320A,B,C)
3:40 PM	Infotainment (Ballroom 320A,B,C)
4:15 PM	FLL Awards Ceremony (Ballroom 320A,B,C)
5:00 PM	Tournament ends

Location and Directions

University Center
University of Memphis
499 University
Memphis, TN 38152

The competition arena, pit area, practice tables, will be located on the third floor of the University Center in the Ballroom. Research presentation, robot and core values judging rooms will be located in adjacent rooms. A campus map is available at: <https://umwa.memphis.edu/campusmap/assets/1819-MKTG-1042%202019%20Campus%20Map%20Update%20v3.pdf>.

The University Center is at the intersection of gridlines 11 and G. Parking in the Zach Curlin Garage (PG2) next to the UC. We have made arrangements for the parking to be FREE for the event. Detailed driving directions and a detailed map are provided in the Appendix.

Winter Weather Situations

If severe winter weather conditions are forecasted for the scheduled tournament day, listen to local media as well as check fill.memphisfirstteams.org for the University of Memphis closings. The tournament cannot be held if the University is closed due to inclement weather.

Parking

Parking is available in the Zach Curlin Parking Garage located next to the University Center. Parking will be free (see driving directions and map in appendices). Buses cannot be accommodated in this garage but can be accommodated in the open air lot directly across from the entryway. The entry gate arms will be raised at 7:30 am and you can drive in. There is a covered connector to the UC on the third level of the garage.

If you have any questions, please contact the Parking Office at (901) 678-2212 in advance.

Hotel Information

For teams that may be staying overnight, there is a wide range of hotels in Memphis. Information on hotels in Memphis is available at <http://www.memphistravel.com/>.

Tournament Day Check-in

The University Center Ballroom will be open at 8:00 AM on Tournament Day. Coaches should report to the registration table with team rosters and/or signed consent and release forms in the Ballroom Lobby and teams should proceed directly to the pit area in the Ballroom. To avoid congestion at the entrance, volunteers will be stationed near the entrance to direct teams to their pit locations. Please find your table number and set up there. DO NOT change numbers or relocate tables. Please check your schedule and find the rooms for your judging sessions.

Team Size

Teams are limited to a maximum of ten (10) members, excluding coaches and mentors. Teams are expected to observe this limit as set by FIRST. Teams will receive one medallion for each team member, up to a maximum of ten.

Adult Supervision Requirements

All teams must be accompanied at all times by at least one adult coach or assistant coach, and the coach must remain at the tournament site throughout the day. Unsupervised teams will not be allowed to compete. All siblings must be supervised at all times by an adult. Please note this is an active college campus and visitors are expected to act accordingly.

Emergency Situations

In the event of an emergency, team members may contact Police Services at the emergency number (901) 678-HELP (4357). For non-emergency calls, the number is (901) 678-3848.

Security of Team Equipment and Personal Items

The sponsors cannot accept liability for lost or damaged items. Please make sure that someone on your team monitors your team equipment and personal items.

Pit Area and Practice Tables

Pit areas will be located in the University Center Ballroom (320 A, B, & C), see the Tournament Pit Layout (Available at Registration). Each team will be assigned a pit table during the check-in process. To facilitate locating teams by event volunteers and judges, teams should occupy the pit tables that are assigned and should not relocate themselves. We will try to assign associated teams together within the pit area. Each pit will have a table and a shared electrical outlet. Practice tables, identical to the competition tables, will be available throughout the day.

Team Banners, Posters and Stickers

Teams are encouraged to bring a tri-fold poster to display at their pit table area and use in their Core Values presentation. This is an excellent way to display team spirit and identify your team for the judges and spectators. Please refer to "Core Values Judging and Poster". No additional posters, flyers, or signs should be posted outside of the pit area by any team. To prevent damage, stickers are prohibited.

Tournament Schedule of Events

A final schedule of tournament events will be provided to each team coach during check-in. Times on the schedule are approximate. During the tournament each team will participate in three (3) Robot Performance rounds, make their Research Project Presentation, be interviewed for Robot Design, and Core Values. To accomplish all this, the event is scheduled in the following way:

Robot Performance Rounds

The Robot Performance area is located on the main Ballroom floor. There will be four pairs of tables set back-to-back - a total of eight fields and each pair will be identified with the name of one of our local sponsors. The four pairs of tables will operate in groupings: two pairs of tables will have teams competing and the other two pairs of tables will be reset with teams getting into position.

Team schedules will be available the day of the competition.

The announcer will call the teams to Robot Queuing / Robot Inspection Area where the robot will be sized (R19) and you will be asked to show BlueTooth and WiFi are disabled. The team will be given a card indicating the robot size (for scoring). Loosing the robot inspection card will result in the robot being considered "Large". This procedure will take place each and every round.

After a round, the referees will present the record sheet of the round for acceptance by a team member at the table. Signing the sheet signifies agreement. Any questions or concerns about the scoring should be brought up to the referee BEFORE signing.

A team's best score out of the three competition rounds will be used for robot performance award determinations. Performance rounds will be conducted in accordance with the rules and standards published on the Official FIRST® LEGO® League web site.

Team Research Project Presentation

A schedule will be provided to coaches in their coach packet which they will receive at registration the morning of the event. Maps of the judging areas will also be provided with the schedules.

Note: Video presentations are discouraged due to the excessive setup time required. If a team wants to use video presentation materials, such as PowerPoint, they must provide the screen, computer, projector, cart, and extension cord. No additional setup time will be allowed.

Technical Interview and Core Values Interview

A schedule will be provided to coaches in their coach packet which they will receive at registration the morning of the event. Maps of the judging areas will also be provided with the schedules.

Judges and Referees

We have assembled an impressive team of judges and referees for the tournament, including engineers and scientists from Mid-South universities, technical associations, and industry. Many of our judges and referees are returning from previous tournaments and bring valuable experience with them. The judges are looking forward to meeting the teams, hearing team research presentations, and watching robots perform. Each member of each team should be prepared to share their experiences with the judges and discuss the design of their robot.

The referees are looking forward to providing teams with the best possible opportunity to demonstrate their robots during the competition rounds. Please give the judges and referees your complete attention and cooperation.

Also, please keep in mind that the decisions of the referees and judges are final and there are no provisions for protest or appeal.

Allowable Parts and Software

At any time during the tournament, the judges and referees may inspect robots to determine if they comply with the allowable parts and software rules as stated on the Official FLL® website.

Awards

Numerous team awards will be presented at the West Tennessee Championship Tournament.

- Champion's Award
- Robot Awards
 - Mechanical Design Award
 - Programming Award
 - Strategy & Innovation
- Project Awards
 - Research
 - Innovative Solution
 - Presentation
- Robot Performance Award
- Core Values Awards
 - Inspiration
 - Teamwork
 - Gracious Professionalism™

It is the aim of the West Tennessee FLL® Tournament and a requirement of FIRST® to distribute awards as equitably as possible among the teams, with the goal of no team winning more than two awards of the required FLL® core awards at a Championship tournament. A team can only win a second award if one of the awards they win is for Robot Performance.

The Champion's Award winner is the team that will be invited to the next level of competition. The Champion's Award is not just the high robot performance score; it is the team that, in the opinion of the judges, best exemplifies all aspects of FIRST® LEGO® League. The decision of the judges is final!

Food

Breakfast

Grind City (UC First Floor) will be opened from 7:00am to 10:30am for your morning coffee, breakfast sandwiches, donuts etc.

Lunch

Teams are on their own for lunch. The University Center has several dining options:

- 1) Teams can preorder / prepay by going to Tiger Dining at:

<https://memphismain.catertrax.com/menuGrid.asp?mode=p&cg=4&c=36&intCustomerID=&intOrderID=>

It is recommended that you order Box entrees from the link above. The box lunches will be delivered to the Ballroom for your team. Note: box lunches do not include drinks.

When submitting your order, please put the following information in the "Special Instructions" box,

FLL West TN Championship
your team #
Team Name
Contact/Pickup Person
Cell phone number for contact

- 2) The teams can go to the food court and purchase meals individually. Please keep in mind that time will be limited and to have your team back in time for the afternoon events.

The following food locations are available:

Panda Express
Chick Fil A
The Market*
The Grind

* - Convenience Store w/ Drinks, Sandwiches, Salads

Menus and more information can be found at <https://dineoncampus.com/UofM/>.

Internet Access

You will be able to access the Internet by selecting *um-guest* from the list of available Wi-Fi access points. Once selected and connected, open your browser. You will be taken to a registration page and will have to supply an email address and accept the user agreement. Please note the *um-guest* network is open and unencrypted.

Having internet access does not insure that you will be able to access the FLL website(s) during the event.

Accommodations for Persons with Special Needs

An elevator is located in the center of the University Center for easy access to the third floor Ballroom. Please contact the tournament director as soon as possible if anyone attending the tournament with your team requires other special accommodations. Budget constraints do not allow us to pay for interpreters and other special services. However, if you will inform us of your specific needs, we will work with you to engineer solutions to these challenges and provide the best possible experience for all who attend.

Requirement for Release and Consent Forms

Team members need to complete EITHER the online Consent and Release or a paper Consent and Release, but not both. Coaches should bring a roster printed from their team dashboard, which will state next to each team member's name whether or not the consent and release has been completed electronically. If it has been completed electronically, then they are all set and you don't have to collect any paper work from those team members. If there is a team member who has not completed it electronically, then it will need to be handed in at registration. Teams are encouraged to complete this online so it will streamline the check-in process. All forms are to be turned in at the registration table.

Fees and Cancellations

There is no charge for the West Tennessee FLL Championship. All teams that have been accepted to the tournament are encouraged to attend. Teams that decide to withdraw from participation should notify us via email at memphisfirstteams@gmail.com at least one week prior to the event. This will provide the tournament organizers with an accurate team roster from which to prepare a schedule and program for distribution on tournament day.

Safety and Security

Child safety is paramount to all of us involved with young people. Due to the age of the participants in the FLL program, you, the parents and guardians, are essential to their safety. Please educate your child how to recognize situations that may put them at risk, as well as what things they can do to protect themselves such as always having a companion.

First (FLL) is committed to your child's protection by implementing a Youth Protection Program. This program is intended to screen all volunteers (team and event) through a background check as well as training.

Due to safety, liability and other issues THE FOLLOWING ARE PROHIBITED AT THE EVENT:

- **SKATE SHOES**
- **HOVERBOARDS**
- **ANIMALS (other than service animals)**
- **Chewing Gum (and other candy that can get stuck in carpeting)**

Appendix

Detailed Driving Directions to the University of Memphis

From the East on I-40

Follow the Sam Cooper Blvd. signs (it will split off of I-40 to the left)
Take the Highland St. exit and go left/south onto Highland
After four lights, turn left/east on Central
After four lights turn right/south on Zach Curlin
Continue south looking for the 3-story garage and turn right into the garage
The elevated walkway into the 2nd floor UC is accessible from the 3rd floor of the garage
Take the central elevators to the UC 3rd floor

From the West on I-40

Take the Riverside Dr. exit and go right/south onto Riverside Dr.
Turn left/east on Union Ave. (Union will change names to Walnut Grove)
Turn right/south on Highland
Turn left/east on Central
After four lights turn right/south on Zach Curlin
Continue south looking for the 3-story garage and turn right into the garage
The elevated walkway into the 2nd floor UC is accessible from the 3rd floor of the garage
Take the central elevators to the UC 3rd floor

From the North on I-55

Follow I-40 signs
Go east on I-40
Take the Riverside Dr. exit and go right/south onto Riverside Dr.
Turn left/east on Union Ave. (Union will change names to Walnut Grove)
Turn right/south on Highland
Turn left/east on Central
After four lights turn right/south on Zach Curlin
Continue south looking for the 3-story garage and turn right into the garage
The elevated walkway into the 2nd floor UC is accessible from the 3rd floor of the garage
Take the central elevators to the UC 3rd floor

From the South on I-55

Take the I-240 exit to Nashville (keep right)
Take the Getwell North exit (exit 20B)
Follow Getwell north until it ends at Park Ave.
Turn right/east onto Park Ave.
Drive one block and turn left/north onto Goodlett St.
Cross the railroad tracks to Central Ave.
Turn left/west on Central
Turn left/south on Zach Curlin
Continue south looking for the 3-story garage and turn right into the garage
The elevated walkway into the 2nd floor UC is accessible from the 3rd floor of the garage
Take the central elevators to the UC 3rd floor

From the airport (rental car dealerships)

Turn right onto Democrat Rd.
Take the Plough Blvd./Airways North exit
Take the I-240 exit to Nashville (keep right)
Take the Getwell North exit (exit 20B)
Follow Getwell north until it ends at Park Avenue
Turn right/east onto Park Avenue
Drive one block and turn left/north onto Goodlett Street
Cross the railroad tracks to Central Avenue
Turn left/west on Central Avenue
Turn left/south on Zach Curlin Street
Continue south looking for the 3-story garage and turn right into the garage
The elevated walkway into the 2nd floor UC is accessible from the 3rd floor of the garage
Take the central elevators to the UC 3rd floor

From the North on Hwy. 51

Just south of Millington, turn left/east onto Paul Barret Pkwy. (also TN 385)
Turn right/west onto I-40
Follow the Sam Cooper Blvd. signs (it will split off of I-40 to the left)
Take the Highland St. exit and go left/south onto Highland Street
After four lights, turn left/east on Central Avenue
After four lights turn right/south on Zach Curlin Street
Continue south looking for the 3-story garage and turn right into the garage
The elevated walkway into the 2nd floor UC is accessible from the 3rd floor of the garage
Take the central elevators to the UC 3rd floor

From the South on Hwy. 78

Take the Perkins Street exit and go right/north onto Perkins Street
Turn left/west on Park Avenue
Turn right/north on Goodlett Street
Turn left/west on Central Avenue
Turn left/south on Zach Curlin Street
Continue south looking for the 3-story garage and turn right into the garage
The elevated walkway into the 2nd floor UC is accessible from the 3rd floor of the garage
Take the central elevators to the UC 3rd floor

Zach Curlin – 3 Story Garage (PG2) – University Center (UC)

