Kick Off Day Agenda

Raymond B. Jones College of Engineering

9-10:30 am	• Welcome • General Information • Game and Rules • Q & A
10:30-11 am	Experience the playing field
10:30am-12pm	Pick up kits (front of Allen Arena)
11am-1pm	Lunch

Workshops in Fields Engineering Center

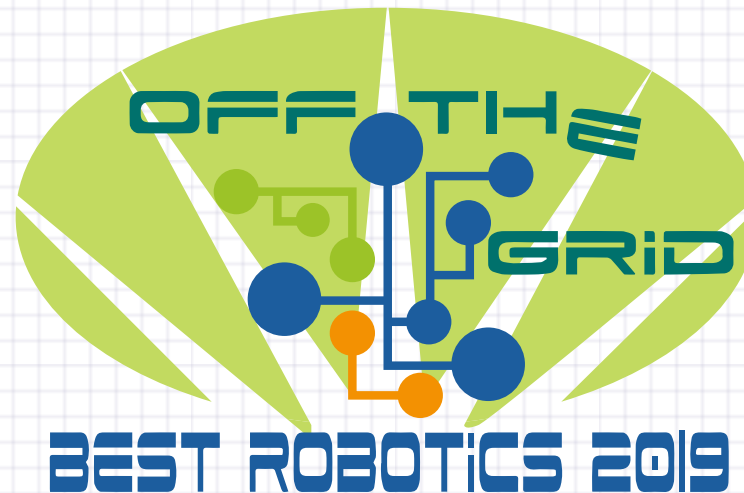|			
1-3 pm	IR Sensor Workshop	Marketing & Notebook Tips	VEX Control System
3-4 pm	Soldering Workshop	Coaches Meeting	

Music City BEST

Nissan and Lipscomb University College of Engineering Welcome You To

Raymond B. Jones College of Engineering

OFF THE GRID

BEST ROBOTICS 2019

Music City BEST Kick Off Day 2019

Welcome Teams

1022	Dickson Area Robotics Team (DART)	1043	Blackman Middle School
1028	Brentwood Middle &High School	1044	Harpeth Hall
1030	Merrol Hyde Magnet School	1045	Rocky Fork Middle School
1032	Smyrna Robotics Team	1046	Christiana
1036	West End Middle School	1047	Hamilton Southeastern High School
1038	Riverside Association of Robotics and Engineering (RARE)	1048	Hendersonville High School
		1049	Rockvale Middle School
1042	Stewarts Creek Middle School	1050	Meigs Academic Magnet Middle School

Music City BEST Kick Off Day 2019

Congratulations

2018 South's BEST Winners

2018 South's BEST

- Three Music City BEST Teams Advanced to South's BEST
  - Stewart Creek Middle School
  - Smyrna Robotics
  - DART
- Merrol Hyde Magnet School was invited to the Regional Invitational Tournament (RIT)
  - Advanced to the South BEST competition

2018 South's BEST

BEST Award
(37 Teams Competed)

- Stewarts Creek Middle School – 11th

Robot Competition
(58 Teams Competed)

- Stewarts Creek Middle School – 6th in seeding round, advanced to semifinals
- Dickson Area Robotics – 15th
- Merrol Hyde Magnet School – 27th
- Smyrna Robotics – 32rd

Music City BEST 2019 Schedule

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- Kick Off – 9/21

- Practice Day – 10/26 from 3:30-5:30 pm (McQuiddy Gym – below Allen Arena)

- Notebooks/Websites Due – 10/29 by 4 pm

- Team Brags Due – 11/1 by 8 am

- Competition – 11/2 from 8 a.m. to 6 p.m.

- South's BEST at Auburn – December 7 & 8

Highest Awards

- Competition Award – 1st, 2nd, 3rd, & 4th

- BEST Award – 1st, 2nd, & 3rd

  - Project Notebook – 30%

  - Marketing Presentation – 25%

  - Team Exhibit & Interviews – 20%

  - Spirit & Sportsmanship – 10%

  - Robot Performance – 15%

- Bonus: Notebook scores determines which 4 teams earn a chance for the "wildcard" slot and go on to semi-final round!

Game Day Information

- Competition matches in 3 minute segments with 4 teams per match

- Marketing Presentation
  - We will offer Marketing presentation slots on Friday evening between 6 - 9 pm
  - Presentations on game day will also be available between 10 – 11:30 am
    - Out of town teams get preference for slots

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Team Exhibits

- Team exhibits will be located on the south concourse as was done last year
- Friday night setup for team exhibits will begin at 5:00 pm and run until 11 pm
- Arena doors will open early on Saturday
- Booth size restrictions 8'x8'x8'(height)
- South's BEST is same size restrictions
- Judges will visit exhibit throughout the game day

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Music City BEST Website

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musiccitybest.org

- Public site, **NO REGISTRATION** necessary
- Helpful game information wiki
- Competition item submissions

Team Submission Schedule

All uploads to musiccitybest.org

Practice Day Intention Form – October 21 by 4 pm

Tuesday – October 29 by 4 pm
- Project Notebook
- Team Website
- BEST Mentor and/or Teacher Nomination(s)
- Team Demographics Form

Wednesday – October 10/30 by 4 pm
- Team Booth RSVP
- Marketing Presentation RSVP

Saturday – November 2 by noon
- Team Brags for Spirit and Sportsmanship judging

Music City BEST Kick Off Day 2019

Important Message for Students

- Music City BEST believes it is very important for students to acknowledge and appreciate the help and work provided by your teachers and mentors. Therefore, you will have the opportunity to nominate them for the BEST Teacher and BEST Mentor Awards.

- Music City BEST has decided to require each team to submit AT **LEAST ONE nomination** this year. It can be for either the BEST Teacher or BEST Mentor Award. We certainly encourage you to submit nominations for both awards, but we are requiring at least one.

- If a team does not submit at least one nomination, Music City BEST will deduct five (5) points from the Spirit and Sportsmanship component of the BEST Award.

- Your nominations will be submitted on musiccitybest.org.

Student Run / Student Work

- The teams are to be student run and the robots are to be the students' work

- BEST expects that the students will
  - Fabricate & build EVERY PART on the robot
  - Write the entire notebook
  - Develop the entire marketing presentation
  - Build & construct the team exhibit

- If you do not know the answer to a judge's question, find a team member who does

Noise Level on Game Day

- Yelling, clapping, coordinated cheers, commercially recognized musical instruments, and shaker type noise makers (commercially available or made by the team) are highly encouraged

- Air or electrically powered horns and noise makers, vuvuzelas, whistles, and simply loudly banging on objects will not be allowed during the competition

- Audio in the team exhibits must a reasonable level

- The judges are NOT giving points based on volume, they are judging based on the quality of the noise and how well it demonstrates team spirit

Wireless Devices

- No wireless devices will be allowed inside the playing field boundary

- Use of wireless devices outside the playing field boundary can interfere with the VEX controls

- **MOBILE HOT SPOTS WILL INTERFERE AND CAUSE ROBOTS TO DROP SIGNAL**

- **Make sure to TURN HOT SPOTS OFF on Game Day!!!**

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National BEST Website Moved

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- National BEST has changed website address – https://www.bestrobotics.org/site/

- Annual bESTology educational series - http://bestology.bestrobotics.org

- BEST Forum - https://forums.bestinc.org
  - Will move to https://forums.bestrobotics.org soon

- Game Q&A (revised) - http://game.bestrobotics.org/qna/

Game Documents

Game documents and the official Question & Answer site on the BEST web site are the FINAL authority for this competition

- Links available on

  - https://www.bestrobotics.org/site/b_game_rules.php

  - http://game.bestrobotics.org/qna/

  - https://cps-vo.org/group/MCBEST/wiki

National BEST Registry

- **ALL** team members (students, teachers, mentors) must individually register in the BEST National Registry **prior to competing on Game Day** http://bestnationalregistry.eventbrite.com

- Team members will need their hub name and assigned 4-digit team number in order to register

- At least one teacher from a team must register before the team members can see their school available under the hub

- Students should have parents/guardian do the registration (**NOT Teachers**) - can register multiple students at once

- Includes Liability and Photo consent steps for each individual

- Teams will receive points on their Engineering Notebook when proof of registrations is shown for their team members

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National BEST Registry

- Teachers will be asked to selection a Team Ticker Symbol
  - Unique identifier for teams
  - 6 digit alphanumeric mixed-case symbol
- Set/owned by Registered Team (guaranteed unique)
- Can keep or change each season (i.e. game themed)
- Does not replace Team Number
- Multiple uses (Leaderboard, # Social, Marketing, …)
- Registry is mobile friendly

Game Leaderboard

- Real-time Game Scores (for those with web access)
- Leaderboard for Final National standings in all judged categories
- Public API available for Mobile App development

Hub Head-To-Head Competition Results

There are currently **34** hubs reporting.

RANK	TEAM	HUB	SEEDING SCORE	WILDCARD SCORE	SEMIFINAL SCORE	FINAL SCORE
1	(358) Silver HS	New Mexico BEST	180		3780	3080
2	(63) Texoma Home Educators	Collin County Co Co BEST	2740		1645	3040
3	(202) Cornerstone Christian Academy	Dallas BEST	4490		2250	2670
4	(381) Holy Cross St. Mary's HS	New Mexico BEST	340		340	2420

Consumable Kit Changes

- New Item
  - 12" x 24" x 3/16" Corrugated Plastic Sheet
- Returning Items
  - 3/4" Rigid Foam Sheet
  - 1/4" Diameter Shock Cord
  - 0.063" Piano Wire
- Now permanent item
  - ½" metal conduit
- Eliminated Items
  - 3/8" Plywood Sheet
  - 1.5" Small Hinge

Returnable Kit Changes

- Allow alternate HiTec servos (equivalent to the Futaba)
- Generic call-out for servo horns/arms (radius 1.0" max)
  - To accommodate the alternate servos
- (3) BEST IR Sensors – donated by Texas Instruments
- (3) Short Servo Extension cables (for IR Sensors)
- (3) Long Servo Extension cables (for IR Sensors)
- (2) Wheel Hubs

New IR Sensor Kit

7555 Timer

- Multi-Use IR Transmitter/Receiver
  - Line Follower
  - Beam Breaker/Encoder
  - Communications
- Gain electronics and soldering skills
- Each team will receive 1 assembled sensor and 2 unassembled sensor kits
- Documentation/details at http://www.bestinc.org/IR_Kit/

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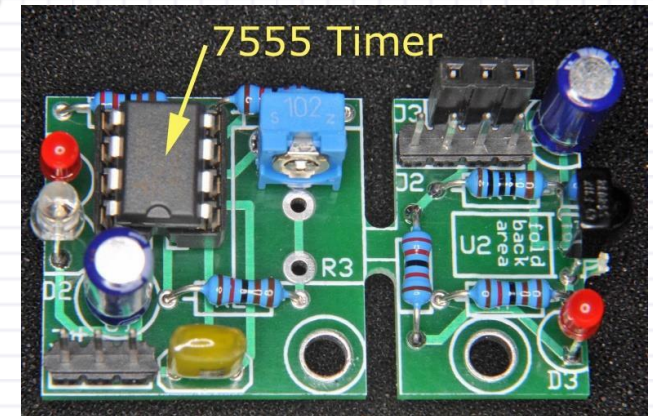
Returnable Kits

- In 2016, Music City BEST changed the way returnable kits are handled

- Each team now keeps the returnable kit and reuses it each year

- Music City BEST will supply replacements for broken and failed parts as needed

- Each year, teams will be provided new parts as they are added to the kit

- Teams may purchase an extra returnable kit from Music City BEST (at VEX retail prices)

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Team Kit Pickup

- Pickup Kit after morning session in front of Allen Arena from 10:30 am to noon
    - Can pull car around for easy loading
- Will include returnable kit refresh requests made recently, earlier this year and after last year's game completion

- For replacement parts during the game season, submit a request at https://cps-vo.org/group/MCBEST/

Music City BEST Kick Off Day 2019

Design & Programming Software Tools

- Sketching software – 2D sketching
- Computer-Aided Design (CAD) software
  - 2D & 3D Solid Modeling
- Computer-Aided Manufacturing (CAM) software
  - 2-axis and 3-axis tooling
- Software Development (programming) and Simulation Environments
- Mathematics, Computational and Research software
- 3D Printer Driver software
- Technical Documentation Tools

Design & Programming Software Tools

- 2018_Software_Access_Instructions defines steps for acquiring licenses and downloading/ installing complimentary software provided by our sponsors
  - Provided to coaches today

- All software and software licenses should only be used by BEST participants for the purpose of competing in the BEST program

BEST Simulink Design Award

- Any team using MathWorks MATLAB/Simulink to design their software is eligible

  - http://www.bestrobotics.org/simulink_award/form.php

  - Submit Simulink model and link to a short video describing their program design

- Award presented to one team in 3 BEST regions that best applies the 'Simulink Support Package for VEX'

  - South, Texas, Denver

- Entries due by November 23rd, 11 pm EST

Marketing Presentations Scoresheet Updates

Purpose: for students to learn how to address the needs of a potential client, share product and brand information and navigate the business environment

- Reduced to 3 sections
  - Introduction, Problem Solving for Clients and Closing the Sale
  - Brand Promise
  - Business Processes and Professionalism
- Removed promotion and outreach
  - Still a part of Team Exhibit judging

Exhibit and Interview Purpose

- Exhibit:
  - for students to display a visual story of the team's outcomes and impact
  - depicts the team's work in three realms: Robot/Product Features, Marketing/Branding, and Community Outreach/Advocacy

- Interview:
  - to strengthen students' communication skills - (as listeners and speakers)
  - validate their knowledge and understanding of the work done by the entire team
  - spotlight unique design features, activities, or learnings

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Exhibit and Interview Scoresheet Updates

- **Rewritten** to improve clarity for students and judges

Sections
- Social Responsibility
- Product and Brand
- Electricity and Specification for the Exhibit
- Company Elevator Speech
- Testimonials and Sharing the Brand
- Game Theme and Learning Experience

Scoresheet With No Change

- Engineering Notebook
- Spirit and Sportsmanship
- Robust design
- Founder's Award

BEST Social Media

- All social media posts during or about your team's outreach activities should include the hashtag: #BESTRobotics and tag @BESTRobotics.

- Facebook - http://www.facebook.com/BESTRobotics
- YouTube - http://www.youtube.com/bestrobotics
- Twitter - http://twitter.com/BESTRobotics
- Flickr Photostream - http://www.flickr.com/photos/79555444@N04/galleries/

BEST Robotics National Logo Usage

- Include on all printed material, websites, tee shirts

- Link to http://bestrobotics.org on websites

- In order to count as a metric, all social media posts during or about your team's outreach activities should include

  - hashtag: #BESTRobotics

    and/or

  - tag @BESTRobotics

Music City BEST Social Media

- Plans are in the works to create a social media presence for Music City BEST Hub
  - Facebook
  - Twitter
  - Instagram
- Plan to roll out middle of October
- Will communicate with teams leaders when platforms are ready
- When available, will provide announcements of activities on appropriate platforms

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3-4 pm	Soldering Workshop	Coaches Meeting	

COACHES MEETING NOTES

Music City BEST Kick Off Day 2019

Coaches Meeting

- TVA Funds ($100/team) distributed on game day with Regional assistance funds
- Next year's team registration will be on BEST National Registry
- Increased training material
    - Online – links on MC Game Wiki
    - Summer workshops – anyone interested?
- Seeding round information provided at game
    - Will still determine team exhibit time
- Alternate communication from 10/22-10/27
    - Email: XXXXXX and Copy me
- Lipscomb University Engineering department has offered use of mechanical/3D printing tools for teams
- Attire consideration for Game Day – Raised stage used again
- National Anthem Singers/Groups

Music City BEST Kick Off Day 2019

Coaches Meeting

- Leaderboard - http://game.bestrobotics.org
  - All scores will be available directly after game day (by Tuesday, 11/5)
  - Real-time updates at Regionals (will try to have it at local trial)
  - Virtual National Championship
  - Public API available upon request for access
    - Teams can create mobile app with this API
- National Registry
  - Everyone Registers (teachers, mentors, students)
  - Demographics requested, still need separate submission this year to prove out new system (gone next year)
  - Teacher Team Information
  - Driver's Order (due by Wed, 10/30) – will send email as reminder
  - Game Day Team Roster – for insurance purposes
    - Check off students present

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Coaches Meeting
National Registry (cont.)

- **Teacher Registration & School Profiles:**
  - A teacher **must register first** and complete the school profile BEFORE that school/team will become visible to other participants trying to register for the team
  - If team has no teacher but is sled by mentor (rare), mentor should register as Teacher
  - Teachers CANNOT register students (the system won't allow it)
  - If a Teacher has sons/daughters that are participating students it is advised to use an alternate email address (e.g. personal email)

- **NCES School ID (optional, but desired information):**
  - NCES ID is applicable for Public Schools only; a lookup link available
  - If team has combined MS/HS, use the High School NCES ID

- **Guardian/Student Registration:**
  - Parents registering their students as Guardian/Student are required to register at least one (1) student. They cannot create an account without at least 1 student (the system will not allow it).
  - If a Guardian/Student is registering and their Team#/SchoolName does not appear in the "Team#" pulldown menu, this means that the Teacher has not yet registered. They must wait for the Teacher to register for their school to show up in the list.

Music City BEST Kick Off Day 2019

Coaches Meeting

- What would be helpful in bring on new teams?

- What do existing teams need that is not currently available?

- Any issues submitting information/notebooks last year?

- Seasoned coach tips for new teams

- New coach questions