

FIRST Championship



A Complete A-Z Team Guide for the 2011 *FIRST* Championship



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Admission There is no fee to attend the 2011 Championship; the event and Pits are open to the public. Be sure to check out not only the FRC event, but the FLL World Festival, FTC World Championship, Jr. FLL World Festival Expo, a Hall of Fame display of previous FRC Chairman's Award-winning teams, Scholarship Row, the Supplier Showcase, and the *FIRST* Robotics Conference to name a few! You will find the competitions and Opening and Closing Ceremonies in the Edward Jones Dome. Appearances by Dean Kamen and Woodie Flowers add to the excitement of awards ceremonies.

Agenda and Team Lists Print and bring the latest Championship Agenda. Also print enough division team lists to help with your team's scouting efforts. Both documents can be found here: <http://www.usfirst.org/roboticsprograms/frc/content.aspx?id=432>

Alliance Scouting, Captains, and Pairing It's a good idea to position a scout team in the audience for each division since the Championship amounts to four (4) large competitions going on at once. Record each team's specialty/strategies and be able to provide your Alliance Captain with a list of preferred team choices if your team advances to final rounds.

Bring a clipboard and pen for the alliance pairing process, and cross out already selected teams as they are chosen. Consider using a highlighter or simply list teams in preferred order. Have a plan in place so your Alliance Captain can distribute Pit Crew Badges to your team in the Pit. They enable the team's crew to move from the Pit to Einstein field. Refer to section 5.6.1 of the FRC Game Manual.

Ambassadors "*FIRST* Ambassadors" will be attending the Championship to learn how the *FIRST* experience impacts participating teams. They will be wearing red shirts with the Ambassador designation. If an Ambassador stops by your Pit, please take a minute to share with her/him how *FIRST* has impacted your team and its individual members. Thank you in advance!

Autodesk Theater **updated 4/7** Autodesk will host daily education sessions on 3D Animation and 3D Design hosted by experts and *FIRST* fans Will Fowler and Phil Dollan. These informative and lively sessions will feature **Autodesk Inventor Professional** and **3ds Max**. Join the sessions to learn, ask questions, and to win some great prizes! As a special bonus, Phil and Will are going to be available to meet with you one on one. This is a great opportunity to bring your work for constructive critiques and in-depth answers to all of your specific questions. And finally, please be sure to check in with us on-site to get details about a very special guest whose project was featured on the ***Dean of Invention*** show. *Please find Autodesk Theater schedule at the end of this document.*

Awards Recipient Seating (SATURDAY) 2 per team **updated 4/20**

Each FRC team should designate two (2) representatives to potentially receive an award. Find the **2 green wristbands** in your Registration Packet. The team representatives should wear them and sit in **Section 126** in the Dome **during the**

Saturday Closing Ceremony. If your team does not have two representatives with green wristbands sitting in **Section 126** for the Saturday Awards Ceremony, your team will not be allowed onto the stage to receive any awards.

Badges

Drive Team Badges: Each team will receive four (4) badges as a part of registration. Wear the badge on the front of your shirt near the left shoulder, so referees, judges, and queuers can see it. Assign someone to keep them in a safe place, such as your toolbox, when not in use. Please do not bring them to your hotel, because teams often forget to bring them back the next day! These badges allow the wearers access to the playing field and designate:

- 2 Drivers
- 1 Human Player
- 1 Coach (this Badge has a dot on it. *The Coach cannot score points or drive the robot.*)

Pit Crew Badges (Alliance Pairings): During the elimination rounds, extra team members are often needed to move the team robot from the pit station to the queuing area and playing field. Each alliance team can have three (3) additional “pit crew” members to help with necessary robot repairs and maintenance. These badges provide access to the field. *FIRST* distributes the badges to Alliance Captains during the pairing selection process on the division fields. All teams should assume they could be chosen for an alliance. Each Alliance Captain must set a logistics plan for badge distribution prior to the pairings to distribute the badges to the Pit Crew members. *Only one (1) adult mentor is permitted on this crew.*

Safety Captain Badge: Each team will receive one (1) Safety Captain Badge for this voluntary position. The wearer should be a responsible student team member or adult mentor. The Safety Captain should help provide a safe area in the Pit; know the EMT’s location; ensure the use of safety glasses, enforce the “no running” and “no sparks” rules; and help keep the aisles clear. They should be gracious in this pursuit of a safe competition, report any accident/illness to a *FIRST* Staff member in the Pit Admin. Station, and report serious safety infractions to a Safety Advisor or the Pit Administration personnel.

Ceremonies and National Anthems

Teams are expected to attend the Opening, Awards, and Closing Ceremonies to show appreciation for speakers, sponsors, and teams. These events enhance the meaning of *FIRST*. Please graciously observe the playing of all anthems by standing and remaining silent. Show respect for all countries in attendance.

Chairman's Award Interviews updated 4/15

Chairman's Award Judges will each be assigned a subset of the Regional Chairman's Award winners to interview. The interview schedule will be posted at the Pit Administration station Thursday morning by 9 AM, and all interviews will be conducted on Thursday. At this time, no Friday interviews are planned. Please come to the Pit table to find out your interview time. **To avoid schedule conflicts, we recommend that the interviewees are not on the Drive Team.**

Swapping interview times is not encouraged, but if you must change your appointment, switch with a team in the same subset and notify the judges through the "Chairman's Runner," who will work with the teams and keep judges apprised of changes. It's best not to use match lists as a determining factor since matches do not always occur on schedule. Interviews are currently scheduled to begin at 10:30 am on Thursday.

Concessions

Besides the pre-order lunch option (see *Pre-Order Lunches*), you can purchase food and drinks at the Dome Concourse area, from 8am to 6pm, and in the America's Center in the pits. There will be tickets distributed at the pits for pre purchased lunch packages.

Directions to the Edward Jones Dome and Parking updated 4/20

Located at <http://www.explorestlouis.com/edwardJonesDome/visiting.asp>. Pay attention to team load in signs for FRC on Wednesday and Thursday.

Team Parking for both large vehicles, trailers, and daily parking will be directly behind the Edward Jones Dome at 6th and Cole St. Busses and trailers can park in the parking lot on 6th and Cole St. for \$35 including overnight (on a 24 hour basis).

Parking is available in garage and surface lots throughout downtown St. Louis. The closest facilities to America's Center are the garage and lot located on Seventh Street between Washington Avenue and Convention Plaza (limited number of spots, premium pricing).

Division Champions and Special Seating updated 4/19

The FRC Championship has four (4) divisional tournaments going on simultaneously. The division alliance winners are known as Division Champions. These teams compete on Saturday for Alliance Championship Finalist and Alliance Champion titles. When the Division Winners are announced, each team will receive 50 red wristbands to designate special seating at the Saturday Awards Ceremony.

Division Champion alliance teams will be seated in Section 126.

Driver Meeting on Division Fields – THURSDAY & FRIDAY updated 4/20

Drivers/Referees - Two (2) members from each team should report to their assigned Division field **on both Thursday from 8:15-8:45AM and Friday from 7:45-8:00AM** for the Driver Meeting(s). We are going to switch gears this year at CMP during the Driver's Meeting on Thursday morning: there will be no live questions for the Referees as done in

previous years. If you or your team has a question for the Refs, please tweet your rules questions to @FRCrefs by Monday, April 25th (www.twitter.com). The Tweeted questions will be answered during the Driver's Meeting on Thursday morning by the Head Referees. Friday's Driver Meeting will deal with field queuing.

Dress: Appropriate and Safe

Be aware of apparel and hair safety issues while working on your robot. Sandals, open-toed shoes, and Crocs are not allowed in the Pit. Wear relaxed, fun and appropriate clothing; remember, you represent your team and *FIRST*. Body paint in lieu of clothes, bathing suits, and other revealing clothes are not appropriate.

Elimination and Final Rounds

Prior to the Championship, refer to FRC Game Manual Section 5 for information on alliance selection, elimination and final rounds, tournament rules, and the Championship match ladder. Section 5.6 is Championship specific.

FedEx Shipping Document – Treat it like cash

Each team will receive, and can use, only one (1) Bill of Lading or Air Waybill to ship one (1) robot crate home from the event. The appropriate document will be in your registration envelope. **No replacements.** Any team that loses their shipping document will be required to pay for shipment home.

FIRST LEGO League and Jr. FLL

The FLL and Jr. FLL Pits will reside in its own area amongst the rest of the *FIRST* Championship teams in the America's Center. Opening and Closing Ceremonies will be on Thursday evening in the America's Ballroom, second level in the America's Center. New this year is a Tuesday afternoon journey to the St. Louis Science Center for our International teams. Pick up will be at the 7th St. and Convention Plaza at 3:00 PM.

FIRST Tech Challenge (FTC) updated 4/15

The FTC Pits will reside in its own area between FLL and FRC in the America's Center. Welcoming Ceremonies are on the Dome floor Wednesday from 6-7 PM and Closing Ceremonies are on Saturday 11 AM-12 PM in the America's Ballroom, level 2, America's Center

FIRST Sponsored Team Events updated 4/21

There are two team social events tentatively scheduled for the *FIRST* Championship. The first event will be held inside the Edward Jones Dome on Friday evening, April 29 at 8:30PM. The intention is for a staged entertainment performance. There will be no foodservice provided; however there will be concession stands open throughout the show. More details on this will be revealed at a later date.

The second event will be held on Saturday April 30; immediately following Closing Ceremonies. There will be different entertainment options, from music to karaoke to

interactive entertainment, held at various locations in the America's Center. A packaged meal will be provided upon departure from the Closing Ceremonies in the Edward Jones Dome. Wristbands will be given out at Pit administration for the packaged meal on Saturday morning, ending at 4 PM Saturday afternoon. There will be wristbands provided per each FRC, FTC, FLL, and Jr.FLL team. Further details of this event are included on the flier attached at the end of this document (Food & Friends @ *FIRST* Café).

There are no tickets for this event, other than to receive your food.

Inspection

Remember that qualifying matches begin at 1 pm on Thursday this year! You will want to start the inspection process as soon as possible. Weigh and measure your robot early to help the inspection process move faster. The Inspectors often spot problems and provide suggestions for correction. Your robot must pass inspection to compete, but it doesn't have to be completely ready in order to request a preliminary inspection.

Keep in mind that if you have brought a robot from a 'Bag and Tag' event, **you may not unbag your robot until an inspector has signed off on your Robot Lock-Up form.**

Load In/Load Out – Plan Ahead

To maximize the safety and efficiency of the load in process, plan your equipment load-in prior to arrival. Teams will not have access to the loading dock. All load in and load out will be through the 7th St. and Convention Plaza entrance of the Americas Center and the street-side 9th St. entrance (Across from Holiday Inn). As previously mentioned, load in space and timing are tight. Please follow the detailed rules and requests below - be prepared to bring your Gracious Professionalism! **Detailed map coming soon!**

Wednesday night Load-in 5:00pm to 9:15pm (please note that public agenda states pits open until 9:30PM, but the street and plaza area load ins will close at 9:15.

*(Wednesday night Load in is optional, but **recommended** if possible)* **Please read carefully every bullet point below!**

The America's Center and the Edward Jones Dome reside in a city center and require that we quickly and safely move in and out, due to traffic implications and space restrictions. Please remember that there are other teams trying to move in the same time you are. We want you to maximize the opportunity to move things in safely on Wednesday night and Thursday morning and get your robot inspected in preparation of the qualification rounds starting Thursday at 1:00 pm this year! The rules for Wednesday night pit entry at the Championship are as follows:

- Up to five (5) of your team members (at least one must be an adult mentor) are permitted to load-in materials on Wednesday night.
- Team members may only make one trip with load-in materials. There is no set limit to the amount of material teams may load-in, but it must be done in a safe and

manageable way (Safety Advisors and other volunteers will be on site checking for, and helping mitigate, unsafe conditions). We expect your team to off load and move your vehicle as quickly as possible to allow for other teams to load in. The load in area is in the middle of a busy downtown area and we expect your gracious professionalism, coupled with efficiency and safety to help us load in all teams as quickly and safely as possible. Volunteers and security officials will be on hand to point you in the right direction.

- **IMPORTANT:** Uncrate your robot and move crate to the aisle so it is accessible to Shepard for removal.
- If you are arriving from a Bag and Tag event, you may take your bagged robot out of your crate, but **DO NOT** unbag the robot until Inspected. Inspectors will be available to review your lock-up form Wednesday night. Once an inspector has signed off on your form, you may unbag your robot.
- Team members are permitted to stow load-in materials safely in their pit and out of the way of aisle traffic.
- Team members should begin charging batteries.
- Teams should encrypt radios
- Pit set up is permitted
- Working on the robot is permitted
- Safety glasses are required while in the pit
- An adult team member (one of the five permitted in the pit) may use this time to check-in/register at Pit Administration early to avoid the rush on Thursday morning.
- Make parking plans in advance of your offloading so you have a destination to go to. Teams will not be allowed to idle or park in front of the building doors.

Thursday Morning Load In:

There will be one point of entrance on Thursday morning, the 7th St. and Convention Plaza Entrance. All of the aforementioned rules and requests apply to Thursday morning. The load in times will be 7:15AM until 9:00AM.

Saturday Noon Load Out:

Load out will begin at Noon on Saturday at the 7th St. and Convention Plaza, and the 9th St. locations- same as Wednesday load in. Once again, due to this event being in a downtown city location, your preparedness and efficiency are expected. Remember that there are other teams trying to load out as well!

- Do not have your vehicle at the curb unless you are there and are completely ready to load into the vehicle. The POLICE WILL ASK YOU TO MOVE.
- Have your load completely packed and ready prior to your exit of the pits. Do not try to organize curbside

Logo Loc – FIRST Merchandise

Logo Loc, LTD., the official supplier for *FIRST* branded merchandise, will be selling *FIRST* products again this year at the Championship! The store is located in the *FIRST*

Pits, and is featuring T-shirts, sweatshirts, hats, and other logo items. Also available will be numerous items offered in their online store. Cash, checks, and major credit cards will be accepted. Store hours will mirror pit hours.

Lost and Found

Bring found items to the Pit Administration area. If you lose something, obtain a “Lost Item” form from Pit Administration staff, fill it out, and turn it in. Each building keeps lost articles at its information desk. Check there also. After the event, items go to the security office of each building for 30 days.

If you cannot locate your lost item before the event is over, email frcteams@usfirst.org about two weeks post Championship with a detailed description of the lost item.

Machine Shop

Refer to the Pit Map for the Machine Shop locations and the Agenda for the machine shop schedule. The NASA machine shops are conveniently located near the pits. Please remember that there is no grinding, braising, or welding in the Pit.

Mascots

Keep safety in mind. Make sure that mascot and team costumes are safe for the wearer as to vision and movement and are comfortable and cool enough to prevent fainting and dehydration. Mascots are not allowed on the playing field.

Media Passes

Each team will receive one (1) non-transferable Media Pass and related instructions/caveats in its registration packet. Media representatives are permitted in designated access areas around the playing field only during their team’s matches. They are not permitted on the playing field surface, areas marked off for human players, on the Dome floor during final rounds or ceremonies, or in any private venues, VIP, volunteer, or judges’ areas. Mascots cannot be the team media person.

Mentor Reception hosted by Autodesk updated 4/15

Please join us for an FRC Mentor Breakfast taking place from 8-9:30AM, Saturday April 30th in America’s Ballroom, level 2, America’s Center. Special Guest Speakers include: Woodie Flowers, Dave Lavery and Joe Astroth.

NASA Web Casts

NASA will be web-casting portions of the event. Find out more information and the link to the NASA page on the Championship event page:

<http://www.usfirst.org/roboticsprograms/frc/content.aspx?id=432>

Non-Engineering Mentor Organization



You Are Invited to Attend Our 6th Annual Meeting

When: Friday, April 29th, 10 am –12:00 noon Feel free to drop in any time.

Where: Room 280 in the second level of the America's Center

What: This will be an opportunity to meet and greet your fellow Non-Engineering Mentors (NEM'S). We will have an open discussion, addressing any immediate concerns brought by the group.

Who: This meeting is open to all current members of NEMO and any adult who would like to join.

About NEMO: Non-Engineering Mentor Organization is a support group and information exchange for those adult mentors who help teams as part of the *FIRST* programs, including Jr.FLL, FLL, FTC and FRC. NEMO has a central clearinghouse for information that will benefit all teams. NEMs help with all the behind-the-scenes glue that hold the teams together including mentor recruitment and retention, travel, hotels, meals, parent involvement, fundraising, business plans, public relations, community service, team building and *FIRST* logistics.

Joining NEMO: visit <http://www.firstnemo.org> to find out how to join NEMO and join the private online forum. There are no dues to join, just a community of supportive people. Visit the "Resources" page to see all the papers written by NEMO members. There is no need to be a member of NEMO in order to attend our meetings

Questions? Kathie Kentfield, NEMO Director, kkentfield@usfirst.org

Pit Announcements

In an effort to keep announcements to a minimum, we will group together any parts requests for announcement every fifteen (15) minutes. If this need arises, please write your division, team number, and needed part on a piece of paper and give it to the Pit Administration staff. Additional announcements will be made at ½ hour intervals.

Pit Stations

Each team has approximately the same Pit space. It is not gracious to expand your Pit station. Aisles must be clear for crate movement, safety, and queuing reasons, so we suggest that team members watch the matches and cheer on the teams instead of overflowing the pit stations into the aisles. There is a ten-foot (10) height limit. Do not build any structure that supports people or stores items above the work area/pit space. Structures, signage, or banners cannot be higher than ten feet above the floor. No advance placement requests are available. Positioning is random. No requests for displays, meeting rooms, or additional space will be considered.

Practice Fields updated 4/15

If you wish to practice running your robot, sign up with the practice field attendant for your division at the attendant's table near your practice field. You will share the field with another team; i.e., you will each have ½ of the field to practice on. You will be able to run your robot wirelessly on the practice field. Remember to review your team's practice and match schedules before you sign-up for your practice field. Keep the

schedule viable by finishing your practice session on time. Please be on time or a little early for your chosen slot. Keep safety in mind during this process. See *Practice Schedule*.

Please note: Practice fields will NOT be open on Wednesday because we want teams focused solely on getting their robots inspected.

Practice Matches

Schedule: The Practice Rounds will run 9:00am-12:00pm Thursday on the fields. Please pay attention to *FIRST's* Championship website to look for the latest scheduling. The schedule **can change**. Teams **MUST** have visited the WPA table and have a valid inspection sticker on their robot to be allowed on the playing field, even during Practice Day.

Filler Line: Although teams may not switch practice times, there will be a “Filler Line,” limited to six robots at most, at each division field. Teams from the Filler Line will be used on a first come, first served basis to fill empty spots in practice matches left by teams that do not show up for their practice match. Criteria for joining the filler line are:

- **Only teams that have passed full inspection may join the Filler Line**
- Filler lines will be staging next to the division fields
- Teams can only use the filler line for their division
- Teams must join the Filler Line with their robot and drivers, ready to play
- A team may not work on its robot while in the Filler Line
- Teams may not occupy more than one spot in the Filler Line
- If a team is queued up for its practice match, it may not join the Filler Line

Pre-Order Lunches updated 4/15 (extended deadline)

Budget your team lunch costs and save money over the concession stand prices. No food or drink is to be brought into the building. The advance-ordering deadline is April 19. For the order form and voucher pickup information, go to

<http://www.usfirst.org/roboticsprograms/frc/content.aspx?id=432> and click on “Team Pre-order Lunch Option.”

PTC updated 4/19

PTC, The Product Development Company has an exhibit located in the pit area, and is designed to Excite and Educate the *FIRST* community on the importance of using industry Product Development software. You will learn more about their free product development software offered to all *FIRST* teams!

The PTC showcase is a great way to learn more about PTC products and how your team can use the same software used by leading companies around the world to quickly build a more competitive robot and communicate more effectively with your team. Demonstrations will be offered in the Conference Workshops and in the PTC booth Wednesday, Thursday and Friday. *See schedule on page 21.*

PTC is excited to announce **The PTC Student Design Competition** that will be held during the *FIRST* Championship this year. This is an exciting event where individuals from FRC and FTC teams will be able to develop concepts for a rescue robot and then demonstrate their skills at modeling some aspect of their design in a **15-minute action packed session** competing against others for a grand prize of an **Apple iPad**, second prize an **Apple iPod**, and third prize an **Apple iTouch**. The attached file (see pages 22-24) provides all the information for this exciting competition. You will need to contact us before championship by emailing an **RSVP** to get a chance at these prizes. We look forward to seeing you at our booth demonstrating your design prowess.

Queuing updated 4/15

Teams are responsible for knowing when their matches are and will have to queue up a half hour prior to their matches without the help of an announcer.

For Qualification matches, we will run “dynamic scheduling.” *FIRST* will make every effort to keep close to the published schedules. Keep close watch of the pit display for any moment-to-moment changes. If your team is one of the first three (3) matches of the day, queue early enough to be on the field before the Opening Ceremony. Please do not expect audio queuing to prompt you—you are responsible for your own schedule.

Registration and Uncrating updated 4/15

Wednesday Early Uncrating/Registration: 5:00pm – 9:30pm

Crate Weight Complaint Resolution Times: Wednesday, 5:00pm – 9:30 pm, Thursday, 7:15am - 9:00am. Disputes over the weight of your crate will only be

accepted during these times, **before the crate is opened**. Visit the Shipping/Drayage desk located in the Pit.

Uncrating: Each person must bring safety glasses to enter the Pit. We recommend that you also wear gloves. When your crate is empty, notify Shepard Exposition Services that your crate is ready for storage.

Teams can also register Thursday, 7:30am to noon. Form odd and even-numbered team lines for each division. You will be asked to provide a **cell phone number, hotel name, and at display least 4 pairs of safety glasses at registration** as a part of the team safety process.

Release Forms and Members and Mentors Roster: If team members and mentors have attended a Regional Event and handed in a Consent and Release Form this season, they do not have to do it again. (Kickoff does not count.) Team persons attending this as their initial 2011 competition event must provide an updated roster and Consent and Release Form. If under 18, forms require a parent/legal guardian's signature.

Robotics Conferences updated 4/15

The 2011 sessions for April 27 and 28, will be held in the America's Center, Rooms 260, 264.

<http://www.usfirst.org/roboticsprograms/firstplace/content.aspx?id=19359> For those who didn't register in advance, \$10 single-session passes will be available at the door, space permitting. The \$35/\$140 "All Presentations Access" registration is available only for individuals and teams that pre-register by the April 22 deadline. For more information please contact firstplace@usfirst.org.

Safety

City Safety: *FIRST* works closely with local officials to secure the safety of all event participants. We encourage team leaders to help keep everyone safe by asking their teams to adhere to a *buddy system* when moving about downtown St. Louis and at the America's Center and Edward Jones Dome. Please do not venture out into the city on your own. Look to your hotel personnel, and the info booth located outside of the Pits for assistance in locating a destination in the city. If you are commuting in via the subway or bus transportation system, allow yourself extra time to get to the event.

Provide your team with key contact information for your designated Team Leader(s) or Safety Captain: personal contact cell phone numbers, hotel and room number(s). Provide a cell phone number and your team's hotel name at event registration. Provide *pre-determined meeting points* in case anyone gets lost, and have a *daily meeting* with your team to emphasize the importance of all-around safety while at the event. In an emergency, the Event Office phone number is 314-342-5500.

Event Safety: Be mindful of the nearest exits while in the America's Center and the Edward Jones Dome so you and your team members know where to go/how to exit in

case of an emergency. Review safety procedures and cautions with your team prior to traveling to the event, and designate an emergency meeting spot.

Incident Reporting: Report injuries and illness to the Pit Administration Station when they occur so a *FIRST* staff member can meet with the injured/ill party and document the incident or problem. This is an extremely important part of the event and we appreciate the cooperation of those involved. If anyone witnesses the accident, that input will be helpful also and may be useful in preventing future problems.

Non-Medical Incident Reporting: Report incidents relating to safety or *Gracious Professionalism™* to any program's Pit Administration station.

Pit Closing: EMTs leave the premises at Pit closing time. For your team members' safety, please be respectful of the Pit closing time each day. For the Saturday closing, we request that **only essential team members should be in the pit to handle the pack up, the rest must wait outside the pits at a designated location to keep aisles clear for freight movement and team load out.**

Pit Safety and Age Stipulation: Children aged twelve (12) and under must have an adult, aged eighteen (18) or older, with them at all times.

Pit EMERGENCY Phone Number: **updated 4/15** These are the phone and fax numbers in the Pit for emergency situations **ONLY** and are operative only during Pit hours. Provide your families with your team contact information, and give this number as an alternative emergency number in case of a death, hospitalization, or other such dire emergency only. The Pit Emergency phone number is (314) 342-5501.

Robots/Crates: **You must ship your robot and any additional crate home through Shepard Exposition Services.** You cannot take your robot or crate from the event unless you have received written permission from FRC. See Section 5.5.2 of the Manual for instructions on requesting a shipping exception.

Safety Captains: Each Safety Captain should continue to encourage teams to work and promote safe activity in the Pit, while transporting robots, and traveling to/from and competing on the competition fields.

Safety Glasses: Teams must bring ANSI-approved safety glasses for every team member and guest. Every person in the FRC Pit area must wear them. Rose, blue, and amber tints are OK, but reflective lenses are not. Whenever persons are on the playing field, are repairing a robot or observing robot repair, they must wear them. To qualify as safety glasses, regular corrective vision glasses must be polycarbonate/plastic material with attached safety side shields. You must wear safety goggles over all other corrective glasses.

Safety Recognition Program: Using input from event participants, Safety Advisors will be presenting awards for the top three safe teams, Best Pit, and Star of the Day. Teams will be judged on community outreach, safety initiatives at the events, safety program presentation, safety culture, and pit presence. Teams are expected to maintain

safe behaviors as the tournament progresses and the competitive pressures increase. Safety Advisors will choose the top safety-oriented team based on the team members' consistent actions and safety drive. Underwriters Laboratories (UL) sponsors the "UL Industrial Safety Award" trophy for the Awards Ceremony on Saturday. The Safety Advisors also choose a "Star of the Day" on Thursday and Friday. This award is given to a mentor, student, or volunteer. Teams will see the winners' names on a special poster board in the Pit on Friday and Saturday.

Scholarship Row

All team members - especially sophomores, juniors, seniors and parents:

Visit the Scholarship Row display booths in the Pit, near the main entrance from the Lobby. Stop by to meet representatives from many of the colleges and universities that offer scholarships through our FRC and FTC programs. It's a great way to start planning for college and find out about *FIRST* Scholarship opportunities. Seniors may find out about scholarships that are still available for use next fall. It is also vital that these scholarship providers know that students and their parents are interested in learning more about what their individual schools have to offer. Visiting this area is a wonderful way of showing appreciation for the scholarship opportunities.

Scoring Disputes

If a team needs clarification on a ruling or score, a pre-college student from that team should address the Head Referee after a field reset has been signaled. Depending on the timing, the Head Referee may postpone any requested discussion until the end of the subsequent match. Head Referees will only discuss calls, scores, penalties, or match outcomes with pre-college students. The Head Referee's ruling is *final*, and there is no recourse. There is no review of tape or digital media.

Secure Your Pit Space

All teams should plan on having a lockable compartment in their Pit stations where they can store valuable items throughout the event. Unfortunately, items such as cameras and laptops are stolen each year. Please take proper security measures to protect any valuable items, as *FIRST* cannot be held responsible for anything that is lost or stolen at the event.

Security

Be sure to keep valuable items with you. *FIRST* or the America's Center, Edward Jones Dome does not guarantee security of personal items. We strongly recommend that you do not leave behind valuable items in your pits at any time, such as personal computers, cell phones, cameras, etc. You can report any lost items to Pit Administration (see *Lost and Found* and *Secure Your Pit Space*).

Shipping Crew – Team Instructions

Load-out is difficult and crowded. **The Pit closes at 5:00pm on Saturday, and all teams must have shipping preparations complete before then.** So the process is

not left to the last minute, appoint a crew to this task prior to the event. This will help clear the Pit on time and will help ensure that your team gets to the *FIRST*–sponsored Event.

One of this crew must be a post-high school adult. **Begin packing your crate as soon as you know your team is no longer competing.** You must ship your robot/crate(s) through Shepard Exposition Services. Only teams who have received prior approval from *FIRST* will be allowed to remove their robots from the event. The **adult** shipping crewmember must:

- Visit the Shepard Exposition Services desk to let them know that your team needs its crate. (Refer to the Pit Map for the Shepard location). Pick up a Shepard Payment Authorization form.
- Once the Crate is packed, sealed, and labeled, return to the Shepard desk and turn in the completed Shepard Payment Authorization form and the appropriate, completed FedEx Bill of Lading (BOL) which all teams received in their registration packets. Your shipment will require a lift gate if your destination does not have a loading dock. Make a note on the FedEx BOL if the delivery truck needs a lift gate.
- **Tool crates (any non-robot crates) must ship with the Shepard Logistics carrier.** Make a note on the BOL if the delivery truck needs a lift gate.

You will receive copies of the FedEx and Shepard documents for future tracking and reference. At this time, Shepard will sign off that they have taken possession of the crate.

Teams approved to remove your robot from the event will not have access to the loading dock, and must dismantle and remove your crate completely.

Site Restrictions

Please read the following restrictions and adhere to them in order to promote an orderly, safe, pleasant, and exciting competition. As a group, we all should honor agreements with the venue and help promote the spirit of good partnership.

Please:

- **Do not bring food** on the site. If you bring food, do not bring it onto the property.
- **Do not use noisy devices**, such as whistles or air horns.
- **Do not save seats.** It is not fair to other teams or to the public guests we hope to interest as team sponsors or volunteers.
- **Do not ship robots directly to the site.** All shipments go through the Drayage Company. Your crate will not be accepted.
- **Do not try to arrange for Internet access** on the site or bring free phone lines for same.

- **Do not sell any products.** This includes food, hats, shirts, or any promotional products.
- **Do not give out any free food products,** such as candy, water, soft drinks, or fruit. You may trade team pins, however.
- **Do not bring any type of gas tanks, including helium**
- **Do not bring live bands** to play in the audience. This dilutes the presentation on the playing field and is too loud and confusing for the audience.
- **Do not play loud music in the Pit** because it interferes with important announcements. If a team receives more than a warning or two, the power to the team's Pit Station will be shut off and/or the music confiscated.
- **Do not use excessively loud cheering devices** such as whistles, air horns, or anything that may cause hearing damage, or interfere with other participants' event experience.
- **Do not run in the venue.**
- **Open-toed shoes or Crocs are not allowed.**
- **Do not form "tunnels"** during the Awards Ceremony or at any time since this can cause discomfort to those traveling through them. It also creates safety issues.
- **Do bring your Gracious Professionalism!** Please remember that there are thousands of other students, mentors and event attendees that are all just as anxious as you and your team. The event experience is an overall experience, not just a robot competition. Take the time to recognize what a great opportunity this is for you and for the future of our society as a whole. Praise others and offer assistance when you can. The *FIRST* community is a better community with you in it engaging in Gracious Professionalism!

Spare Parts

The Pit Map shows the Spare Parts location. Parts are available on a limited basis. The attendant will be able to contact a Field Tech Advisor or Lead Inspector if you need approval for any of the applicable components.

Supplier Showcase

Please take some time during the Championship to visit the Supplier Showcase, located in the Pits. *FIRST's* suppliers will display materials and parts, and be able to answer any questions you have about their products. More importantly, they look forward to feedback from you!

The suppliers will be available on Thursday, April 28 from 10am to 5pm and on Friday, April 29 from 10am to 4pm. Please come by and personally thank them for their continued support of *FIRST*!

Transportation updated 4/15

MetroLink and MetroBus provide easy access to the neighborhoods, attractions and shopping districts throughout the bi-state region. The newly expanded MetroLink light rail, which has been called one of the best mass transit systems in the country, provides access to many area attractions. Beginning at Lambert St. Louis International Airport, MetroLink stretches 48 miles through Missouri and Illinois and includes stops at 37 stations. Trains usually run every seven minutes during peak hours, and every 10 minutes throughout the rest of the day, and every 15 minutes or so on weeknights. MetroBus serves the many municipalities in St. Louis County, and visitors can access a special MetroBus route that connects downtown to a variety of popular attractions. Complete information on fares, stations and timetables can be found at www.metrostlouis.org.

Metro Map:

http://www.metrostlouis.org/Libraries/System_Map_PDFs/Map_DownTown_STL_083010.pdf

If self-commuting either by car or walking, please note the St. Louis Hotel Map linked under "Site Info" here: <http://origin-www.usfirst.org/roboticsprograms/frc/content.aspx?id=432>.

Updates and Changes

Refer to the white board in the Pit Administration area for new/updated information.

Video Recording Hookups

Each field, including Einstein & Da Vinci, will have a "Recording Table" located near the dasher (the wall between the seats & the dome floor). The tables will have:

- numerous AC power outlets
- numerous audio feeds from that field with RCA & mini connectors. The box is called a "Press Mult."
- numerous video feeds from that field with RCA & BNC connectors. The box is called a "Video DA."
- one (1) video monitor to view the feed & to use to tune recording device

Use common courtesy when recording so everyone has a chance to record matches. Team members may plug in whenever they like. Occasionally we have run out of feeds and teams have looped from deck to deck to share feeds, or unplugged their deck during matches of no interest. Teams must bring short cables to go from the Press Mult or Video DA box to their device.

Wireless Networks updated 4/15

Free wireless internet access is now available in the common areas of the America's Center. This access is **not available** on the pit floor. Due to the wireless nature of *FIRST* control systems, wireless availability will be evaluated during the course of the

event. Teams will not be allowed to set up their own wireless networks at the Championship. While we certainly appreciate the positive potential team-created wireless networks could represent, there is a chance such wireless networks could interfere with planned activities during the event.

Wristbands updated 4/15

Wristbands are not replaceable. There will be at least 3 occasions when teams will use wristbands:

A. Robot Load-In

B. FRC Closing Ceremony:

1. Every team - There will be 2 for each team. See above-“Awards Recipient Seating (2 per team)”
2. Winning Division teams – These teams will receive 50 wristbands when the winners are announced. They wear and show them to enjoy the special seating set aside for them.

C. Saturday Post Ceremony Meal

2011 Autodesk Theater Schedule

Thursday April 28

10:00 – 10:30 a.m.	Phil Dollan	Getting Started with Autodesk Inventor
10:35 – 11:05 a.m.	Will Fowler	The End is <i>NOT</i> the Beginning with Autodesk 3ds Max
11:00 – 1:30 p.m.	<i>Dance Center</i>	
2:00 – 2:30 p.m.	Phil Dollan	Re-Use and Analyze with Autodesk Inventor
2:30 – 3:00 p.m.	Will Fowler	Letting a CAT out of the Bag – Intro to 3ds Max Character Rigs
3:00 – 4:00 p.m.	Phil & Will	“The Doctors Will See You Now” – Drop in for consultations, constructive critique, one-one demonstrations with Phil & Will
6:00 – 7:00 p.m.	The Show	The Annual Show – with the Phillies & Wilbur awards, tons of info & lots of laughs with Phil & Will

Friday April 29

10:00 – 10:30 a.m.	Will Fowler	I go Crazy for liko – A Basic Approach to 3ds Max Characters
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10:30 – 11:00 a.m.	Phil Dollan	Getting Started with Autodesk Inventor
11:00 – 1:00 p.m.	<i>Dance Center</i>	
1:00 – 1:30 p.m. 3ds Max	Will Fowler	The End is <i>NOT</i> the Beginning with Autodesk
1:30 – 2:00 p.m.	Phil Dollan	The Professional Side of Autodesk Inventor
2:30 – 3:00 p.m. Character Rigs	Will Fowler	Letting a CAT out of the Bag – Intro to 3ds Max
3:30 – 4:00 p.m.	Phil & Will	“The Doctors Will See You Now” – Drop in for consultations, constructive critique, one-on-one demonstrations with Phil & Will

Saturday, April 30

10:00 – 10:30 a.m. 3ds Max Characters	Will Fowler	I go Crazy for Iko – A Basic Approach to
10:30 – 11:00 a.m.	Phil Dollan	Re-Use and Analyze with Autodesk Inventor
11:30 – 12:00 p.m. Max	Will Fowler	The End is <i>NOT</i> the Beginning with Autodesk 3ds
12:00 – 12:30 p.m.	Phil Dollan	The Professional Side of Autodesk Inventor

Schedule of *FIRST* Robotics Conference Sessions

Tentative schedule available:

http://usfirst.org/uploadedFiles/Robotics_Programs/FIRST_Place/Workshops_and_Conferences/2010_Assets/2011_Robotics_Conference_Schedule.pdf

Practice Field Schedule

Times are subject to modification. Listen for Pit Announcements/postings for any changes

Thursday: 8:30am to 5:30pm

Friday: 9:15am to 5:30pm

Saturday: 8:00am to 11am


PTC.com/go/first

Participate in the PTC Student Design Competition

First prize: iPad® 16 GB

Second prize: iPod touch® 8 GB

Third prize: iPod nano® 8 GB

PTC is a Crown Supplier to the FIRST® Robotics Competition and the Official CAD and Collaboration Sponsor to the FIRST Tech Challenge.

What does this mean to you?

- Use the software that some of the world's finest companies use—FREE
- Creo™ Elements/Pro™ (formerly named Pro/ENGINEER®) for CAD design
- Mathcad® for engineering calculations
- Windchill® for team collaboration and project management
- Curriculum to help you get started
- Online and Live workshops
- PTC mentors for FRC and FTC teams
- Scholarship opportunities to the University of Minnesota and the University of Massachusetts Amherst

SCHEDULE OF PRESENTATIONS

THURSDAY: April 28 th	FRIDAY: April 29 th
GAIN A COMPETITIVE ADVANTAGE— Learn how to get started using PTC software	
THURSDAY: 8am, 11:30am, 1pm, 4:30pm	FRIDAY: 9:30am, 1:15pm
CONCEPTUALIZE YOUR ROBOT FASTER USING CREO ELEMENTS/PRO	
THURSDAY: 8:15am, 11:45am, 1:15pm, 4:45pm	FRIDAY: 9:45am, 1:30pm, 2:45pm
ANALYZE YOUR ROBOT'S MOTION WITH CREO ELEMENTS/PRO	
THURSDAY: 8:30am, 12pm, 1:30pm, 5:15pm	FRIDAY: 10:15am, 2pm, 5pm
OPTIMIZE YOUR ROBOT DESIGN WITH MATHCAD	
THURSDAY: 8:45am, 1:45pm, 5:45pm	FRIDAY: 10:30am, 2:15pm, 5:15pm
ENHANCE YOUR FIRST TEAM COLLABORATION WITH WINDCHILL	
THURSDAY: 9am, 12:15pm, 5:30pm	FRIDAY: 10:45am, 2:30pm, 5:30pm
LEARN WHAT'S NEW WITH CREO (formerly Pro/ENGINEER)	
THURSDAY: 2:15pm, 5pm	FRIDAY: 10am, 1:45pm
SEE A PTC SOFTWARE DEMO FROM A FIRST TEAM	
THURSDAY: 12:30–1pm	All PTC booth presentations are 15 minutes long, unless noted otherwise.
FIRST ROBOTICS CONFERENCE WORKSHOPS	
PTC STUDENT DESIGN COMPETITION	
THURSDAY: Room 264	THURSDAY
10–10:45am: Optimize your robot design using PTC's Creo Elements/Pro	9:15–11:15am, 2:30–4:30pm
11–11:45am: Enhance your FIRST team collaboration with PTC's Windchill	FRIDAY
12–12:45pm: Optimize your robot design using PTC's Mathcad	11am–1pm, 3–5pm
	The winner will be announced at 5:45pm on Friday, April 29th

The PTC booth is open on Saturday, April 30th from 8am–12pm.

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PTC Student Design Competition

PTC*

Competition

PTC is sponsoring a student design competition at the FIRST Championship in St. Louis this year. The competition consists of (3) main components: Design Concept, CAD Execution Plan and a Model. The first two can be done before the event, but the model must be created live at the PTC booth.

Pick a scenario out of the three given and then begin to brainstorm like crazy. Come up with a design and prepare some documentation about it that can be used to present the concept and document the plan for designing it. Then practice, practice, practice on a part of it or the whole package or whatever you think would be best. You can build parts from scratch or use the kit of parts from FRC or FTC competitions.

But you will have to start from scratch at World championship when you get your 15 minute design session. Make sure to come by our booth to sign up for your session or email us at jocox@ptc.com and put "PTC Design Competition" in the subject line. We will assign you a time for your 15 minute session.

Judging Criteria

Design Concept

A paper sketch, CAD model, Drawings, whatever will convey the idea best. You can bring these to the world championship. Your concept will be judged on its novelty and overall potential

CAD Execution Plan

Written plan and sketch of how you will create the detailed CAD model in Creo Elements/Pro. Your plan will be evaluated on plan thoroughness and on plan effectiveness.

Model

You will be given a 15 minute session at the world championship to show your PTC skills by modeling some part of your proposed robot. It can be the overall package or one part of it. Your model will be judged on its technical merit and completeness


 The logo for Creo Elements/Pro 5.0 is displayed in white text on a blue rectangular background.

Design Challenge Scenarios

Scenario 1: Critical situations arise in skiing accidents where skiers must be evacuated off the slopes due to immobilizing injuries. Design a robot that can maneuver on snow and ice, tow a sled with the victim in it and move both down hill and up hill. It should be able to provide warmth, medicines and relay communications between the patient and medical staff back at the lodge or hospital.

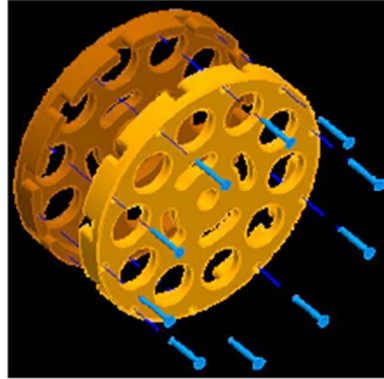
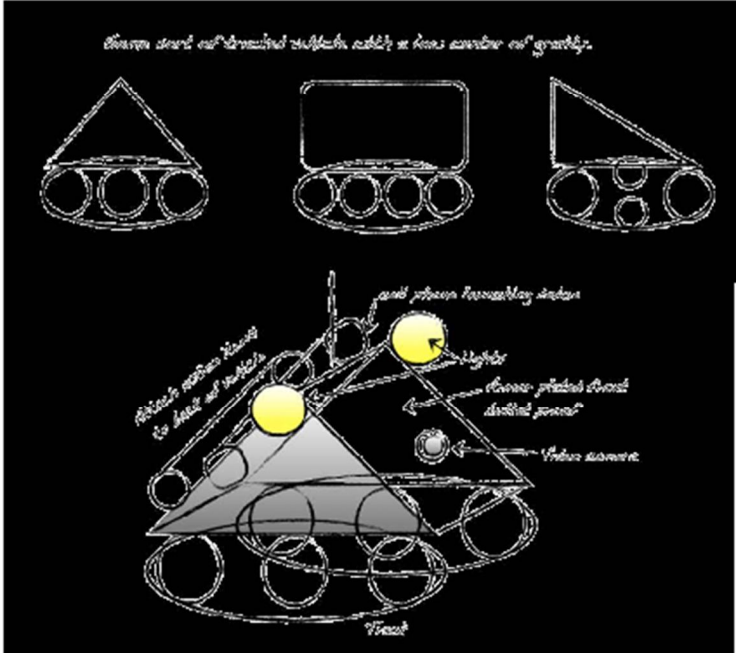
Scenario 2: Lifeguard rescue efforts on ocean beaches can be difficult and dangerous. Design a robot that can aid lifeguards by moving quickly along the beach and deploy ropes, life vests, and other types of safety equipment at least 50 yards into the ocean. The robot should be able to withstand waves that might crash over it, but it should not be expected to be submersed.

Scenario 3: Firemen can often get trapped in dangerous situations while fighting a fire. Design a robot that can be deployed on the ground and sent into buildings to directly confront flames and apply fire retardant materials. The robot should be able to carry a sufficient load of fire retardant and detect the hottest regions of the building to apply the material.

Example



Design Concept, CAD Execution Plan, Model



NO.	DESCRIPTION	2 FACE DIMS	UNITS
1	2D DRAWING OF THE PART		
2	3D MODEL OF THE PART		
3	EXTRUDE (H) HOLE		
4	ANGLE (H) HOLE		
5	NO. OF HOLE(S)		
6	EXTRUDE (H) HOLE		
7	EXTRUDE (H) HOLE		
8	EXTRUDE (H) HOLE		
9	EXTRUDE (H) HOLE		
10	EXTRUDE (H) HOLE		
11	EXTRUDE (H) HOLE		
12	EXTRUDE (H) HOLE		
13	EXTRUDE (H) HOLE		
14	EXTRUDE (H) HOLE		
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17	EXTRUDE (H) HOLE		
18	EXTRUDE (H) HOLE		
19	EXTRUDE (H) HOLE		
20	EXTRUDE (H) HOLE		
21	EXTRUDE (H) HOLE		
22	EXTRUDE (H) HOLE		

NO.	DESCRIPTION
1	3D MODEL OF THE PART
2	EXTRUDE (H) HOLE
3	ANGLE (H) HOLE
4	NO. OF HOLE(S)
5	EXTRUDE (H) HOLE
6	EXTRUDE (H) HOLE
7	EXTRUDE (H) HOLE
8	EXTRUDE (H) HOLE
9	EXTRUDE (H) HOLE
10	EXTRUDE (H) HOLE
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21	EXTRUDE (H) HOLE
22	EXTRUDE (H) HOLE

Inspiration & Awards

PTC®

The Pink Team – FRC Team 233

Recently, a PTC Sponsored FRC team in Florida was approached by their local Police department and asked to design and build a robot that could be used in rescue crisis situations.



You can read more about this story by Kenneth Wong on Desktop Engineering: http://www.deskeng.com/virtual_desktop/?p=3469

Team Pink worked with their local police department and created a robot that can climb stairs, pull a human body over rough terrain and shoot a cell phone to hostages.



This was a wonderful opportunity for team pink to show their design skills gained in FIRST Robotics competitions. To learn more about this, visit www.roccorobotics.com

PTC is challenging any team who would like to compete to essentially do the same thing. Use your design skills to conceive of a design and model it in Creo Elements/Pro.

You can learn more about the The Pink Team – FRC Team 233 on their website: <http://www.thepinkteam.org/>

Awards

- **First prize:** iPad®16 GB



- **Second prize:** iPod touch®8 GB



- **Third prize:** iPod nano® 8 GB





6:30 to 9:00 p.m.

Saturday Night

Food & Friends

@ *FIRST*® CAFÉ

Karaoke

First floor, America's Center*

The first floor vibe will be directed by you! DJ-led karaoke stations will be throughout the space where you can join your friends and your competition and sing the evening away. You may sing with a group, solo, or just sit back and enjoy the scene and sounds.

GalaxyRed

Second floor, America's Center*

The second floor concert hall will highlight one of St. Louis' most popular bands, GalaxyRed. Consisting of a seven-piece band coupled with DJ Crucial, you are sure to hang around the hall to hear what they will mix up next... as every song is a mash up like no other.

Game On!

Second floor, America's Center*

The second floor atrium is where you can try your luck at carnival games, air hockey, or kick it in the arcade with games like *Pac-Man* and *Donkey Kong*. Wii and XBOX stations will be loaded up with *Rock Band* and *Guitar Hero* for the rock stars in training.



In addition, AndyMark is sponsoring a talent show in the Ferrara Theater that will have some of the finest home grown *FIRST* talent ever assembled on stage! Think "American Idol" meets "The Gong Show," and you are in the ballpark. **Just grab your boxed dinner and head out toward the fun immediately after the Closing Ceremonies!**