



2009 Texas BEST  
Regional Robotics  
Championship  
Handbook



December 4 – 5, 2009  
UNT Coliseum  
University of North Texas



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*The City of Denton and the University of North Texas extend their admiration and appreciation to the BEST hubs for their outstanding work in bringing this important program to students throughout the country.*

~

*We also thank the teachers, mentors, parents, and sponsors of BEST hubs who have given generously of their time, effort, and finances in support of the many students involved in BEST 2009.*

***Most of all, we congratulate all BEST 2009 teams for a job well done.  
You're all winners!***



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## Teacher's To-Do List

We recommend you follow this guide of activities that need to be completed before attending Texas BEST.

1. **Complete the Team Information Form** found in the left column on the [www.eng.unt.edu/texasbest/](http://www.eng.unt.edu/texasbest/) web site immediately after your local competition and fax it to the number on the form. The contact person will be emailed their **Team ID** and **Access Code** to enable them to select their team's Presentation, Picture, Display Judging, etc. by using the "Schedule and Registration" left navigation highlight on the Texas BEST web site.
2. **Mail your Project Notebook** to the address on the Team Information Form.
3. **Make your hotel and travel arrangements** using the Hotel Information on the [www.eng.unt.edu/texasbest/](http://www.eng.unt.edu/texasbest/) web site. If you're booking a bus, to check with the company about how long the driver can be on duty without having to take a break. Many states have laws regarding driving-time limitations for bus drivers.
4. College of Engineering and campus tours. Information and sign up will be available on the [www.eng.unt.edu/texasbest/](http://www.eng.unt.edu/texasbest/) web site.
5. A. **Notebook** – download and read the **Championship Notebook** carefully and even make copies for other key people, particularly noting the information found in Pit Protocol and Information and the General Information and Important Notes sections.  
  
B. **Determine one adult who will be responsible** for receiving any emergency phone calls that may occur from home while your team is at Texas BEST. Provide that person's cell number to parents, other school officials, and others. Texas BEST and the University of North Texas cannot be responsible for such calls. In addition, a medical release form signed by parent or guardian, in your possession, in case emergency medical treatment is necessary.  
  
C. **Every Texas BEST Participant** must provide a signed 2009 Texas BEST Championships Release Form at Registration. The form is found in the Championship Notebook (Page 33-34).

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**D. Friday Night boxed meal/mixer/Keynote Speaker** – each team must submit the number of students, teachers, and mentors attending for planning purposes. Please email this information no later than 3:00 p.m. Friday, November 13, 2009. This event will be held in the UNT Coliseum. The evening event will end at 9:00 p.m.

**E. Texas BEST Conclusion** –We have many teams from far away that need to get on-the-road as soon as possible after Texas BEST. We assure you we are conscious of this in putting together the schedule and will do everything possible to stick to it. However, “stuff happens” and that doesn’t always work as planned.

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## Texas BEST 2009 – Preliminary SCHEDULE

### Thursday, December 3

**Discovery Park** - 6:00 pm – 9:30pm Notebook Judging (Judges only)

Coliseum – 2:00 pm – 5:00 pm – Field setup

### Friday, December 4

#### **Discovery Park**

8:00am – 2:00pm Registration for BEST Award Teams

9:00am – 4:00pm Oral Presentations – 3 rooms - sign up on the website

9:30am – 4:00pm Tours of Engineering – sign up on the website

11:30am - 12:30pm Lunch for oral presentation judges

12:30 - Independent lunch – for teams

#### **Coliseum**

8:00 am – 12:00 am Field set up

8:00am – 4:00pm Registration for Game only participants

9:00 am – 5:30 pm Team photos – sign up on the website

10:00am - 4:00pm Pit Open and Practice – sign up at registration

10:00 am -5:00pm Check-in/Compliance

10:00 am – 6:00 pm Display set up

12:00 pm – 4:00pm Concessions available in the Coliseum

1:00pm – 2:30pm Referee and Pit Crew orientation

2:00pm – 5:00pm Campus Tours – Stop at Registration table for directions

2:00pm – 5:00pm Place Team Banners (See Championship Handbook for specifications)

5:30pm - 7:30pm Box meals (pick up at Door B) and mixer in Coliseum for students and coaches/mentors (by Door A)

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6:00pm – 7:30pm	Volunteer and Sponsor Dinner –
8:00pm – 9:00pm	Guest Speaker – mandatory attendance
9:00pm midnight	Coliseum Closed – Security – robots stored overnight 12:00 Curfew

## **Texas BEST 2009 – Preliminary Schedule**

### **Saturday, December 5**

#### **Coliseum**

7:00 am	Coliseum Open
7:00 am – 3:00 pm	Volunteer Hospitality – Gymnastics Room (Lower Level)
7:00 am – 8:30 am	Late Registration and check in/compliance
8:00 am	Pit Open
8:00 am – 8:30 am	Judges meeting (Gymnastics Room), Coaches meeting (top seats at South End), Drivers meeting (top seats at North End)
8:45 am	Opening Ceremony
9:00 am – 12 noon	Competition
9:00 am - 3:00 pm	Concessions
9:30 am – 3:00 pm	Display Judging Sportsmanship Judging T-shirt Other
9:30 am – 3:00 pm	Information tables – Denton and UNT
12:00 pm – 1:00pm	Lunch independently – for teams
1:15 pm - 5:15 pm	Competition continues and concludes
3:00 pm – 5:15 pm	Display breakdown and removal from Coliseum
5:30 pm - 6:00 pm	Closing and Awards
6:00 pm – 7:00 pm	Field Removal



## General Information & Important Notes

**NOTE:** an item that is preceded by two asterisks (\*\*) is considered an important note for the team's attention

### **\*\*Access to Non-BEST Areas of the UNT Coliseum and Discovery Park**

The Coliseum is not just an arena, but it also houses athletic administration offices, training rooms, and locker rooms. BEST teams (and everyone associated with the team) are limited to the Upper Concourse, the stairways leading down to the floor of the Coliseum, the Coliseum Game Floor itself and designated areas in and adjacent to the North Tunnel.

Discovery (Research) Park is an active education and research facility. All BEST teams (and everyone associated with the team) are limited to the main corridor areas of the main floor unless directed to a classroom for a presentation or taken on an official tour.

### **\*\*Cheerleaders, Mascots, Music, and Noise-Makers**

Teams are encouraged to bring their cheerleaders, pep squads, mascots, and musicians to rally behind them at the competition in the Coliseum. Noise-makers are allowed; however, whistles, air horns and other similar **high intensity** noise-makers are prohibited inside the UNT Coliseum. In addition, the Head Judge has the right to ban any noise-makers that are deemed as a hearing hazard to those in attendance at Texas BEST.

### **Code of Student Conduct**

Review the "Code of Student Conduct" in the *Championship Handbook* with your students. Make sure they understand they are guests of the University of North Texas. Be advised that policy restrictions at the Discovery (Research) Park and The Coliseum will be monitored by UNT Security Guards and Texas BEST personnel.

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**Concessions** - Concessions are located on the Concourse of the Coliseum. A full range of snack items will be for sale throughout the competition. Hours of operation are shown on the schedule.

## **College of Engineering and Campus tours**

The UNT College of Engineering will conduct tours on Friday morning as shown on the schedule. Main campus tours will be available on Friday afternoon. Team coaches will be receiving an email with contact information to register their team members, sponsors, coaches and mentors.

## **\*\*Emergencies and First Aid**

For incoming family emergency calls for BEST team members, it is recommended that families be given the cell phone number of a single, official team chaperone whom they can call.

The First-Aid station is located on the Upper Concourse near the main entrance.

## **Equipment Tagging**

We recommend that teams label or tag ALL equipment—for table displays, oral presentations, and Pit tables. Texas BEST does not assume responsibility for stolen or lost equipment.

## **Lost and Found**

Lost and Found is located at Room 111, just inside the main entrance of the Coliseum.

## **\*\*Parking**

Parking is restricted **only** on Friday of the Championship weekend. Team coaches will receive an email providing specific parking instructions and maps.

## **Photos – Blanket Release Permission**

Texas BEST assumes blanket permission to photograph BEST team members, teachers, parents, chaperones, mentors, and other guests who are in

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attendance. These photos are used for promotional purposes in printed materials, videos, and on two websites: [www.bestinc.org](http://www.bestinc.org) and [www.eng.unt.edu/texasbest/](http://www.eng.unt.edu/texasbest/).

## **\*\* Meetings**

It is imperative that ALL team members, mentors, and teachers—anyone who needs to be in the Pit during the competition—attend the Pit Meeting scheduled for 5:00 p.m. on Friday in the seating area near the Pit Area of the Coliseum. Procedures, safety issues, and “pit protocol” will be covered to cut down on confusion and stress on Saturday.

## **Pre-Opening Saturday Morning**

Texas BEST starts at 8:00 a.m. and we want to have a full house for the opening. Please encourage everyone associated with the team to be in the stands for the opening.

## **\*\*Registration Check-in**

Before they can begin Texas BEST activities, teams must check in at Registration at the Discovery (Research) park on Friday morning or at the Coliseum on Friday afternoon or Saturday morning at the times shown in the Schedule. Teams arriving for the Championship after 5:00 p.m. Friday must check in Saturday.

## **T-Shirt Award**

Every Texas BEST team is eligible to compete for the best T-shirt Design Award. To be considered for judging, one team t-shirt and a one page explanation should be submitted with the Team Notebook (see guidelines for submission on the website). The one-page explanation should be securely attached to the front of the t-shirt and should clearly state the school name. T-shirts may be picked up at the Registration Desk at the Coliseum AFTER 3:00 p.m. on Saturday.

## **Table Display Staffing (BEST Award teams only)**

It is the responsibility of each team to make sure the display is staffed from 9:00 a.m. to 3:00 p.m (only during your scheduled judging time) on Saturday for judging/judges interviews (excluding lunch time).

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## **Team Banners**

Teams may post spirit banners on the first-level railing in the Coliseum from 2:30 p.m. to 6:00 p.m. on Friday and before the start of the competition on Saturday. Banner restrictions:

- Maximum size is 2' wide x 8' long
- Tape is allowed. Teams should bring their own tape
- Banners may not have any design or language of a crude nature
- Banners and other team signage are not to be posted at other sites in the UNT Coliseum or elsewhere on campus

All banners need to be taken down and removed from the Coliseum at the conclusion of the event.

## **Team Photos (Mandatory)**

We require each team to have a photo made. Team Photos times will be selected at the Texas BEST web site [www.eng.unt.edu/texasbest/](http://www.eng.unt.edu/texasbest/). A professional photographer will be taking the photos and Texas BEST will make those photos available to each team via an ordering system set-up by the photographer. The team can then incur their own printing cost for as many copies as they wish.

## **Team Seating in Stands**

Teams cannot claim seating sections on Friday. Team seating is on a "first-come, first-served" basis on Saturday; the stands will be open for claiming team seating at 7:00 a.m. Teams are restricted from roping off any reserved seating.

## **\*\*Trash Removal from Stands/Display Areas**

There are events scheduled in the Coliseum for the day after Texas BEST and we need teams' help in cleaning up the stands as much as possible. Please help us out by taking all posters/banners, cups, wrappers, and other trash to the large garbage cans that are located around the Concourse and in each portal.

## **\*\*Unloading Equipment & Materials**

Specific instructions will be provided for both locations.



## Pit Protocol & Information

### Access to Pit (for Load-In/Out and During the Competition)

Friday Load-in/out – The Pit opens at 9:00 a.m. Teams are NOT allowed on the Game Floor any earlier than this time due to the setting up of the playing fields and Pit. **Access to the Pit for loading in/out machines and equipment can only be gained by using the north tunnel of the Coliseum leading down to the Game Floor.** Texas BEST personnel will be posted there to help guide teams to the Pit. The Pit will close promptly at 5:00 p.m.

Saturday Load-in/out – The Pit opens at 7:00 a.m. Access to the Pit for load-in/out is the same as on Friday.

During the Competition – Access is limited via the stairways from the Upper Concourse. The stairways will be identified at the Pit Meeting on Friday. A Texas BEST staff person will be stationed at the bottom of the stairways that lead to the Pit and will be checking for passes. No pass, no access.

### Access to Power

There will be an a/c outlet or power strip near the teams' Pit tables. Each team must provide their own extension cord. Batteries should be charged at your table.

### Cell Phones

Cell phones may be used in the Pit as a means of communicating with team members who cannot access the Pit due to the limited number of passes per team.

### Compliance Check-In 5

Compliance Check-In takes place in the front of the Pit from noon –5:00 p.m. on Friday and from 7:00 a.m. - 8:00 a.m. on Saturday morning. Violations must be remedied immediately or the machine will not be allowed to compete. Teams will select a *Compliance Check-In Time Assignment* via the Texas BEST web site [www.eng.unt.edu/texasbest/](http://www.eng.unt.edu/texasbest/).

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## **\*\*Driver's List**

Each team must turn in a driver's list at the Pit Meeting Friday afternoon at 5:00 p.m. The drivers will be checked throughout the competition – including the semi-final/final rounds – to insure that the driving is spread out among all drivers.

## **Driving Practice on Friday at the Coliseum**

Driving practice runs from 11:00 a.m. – 4:00 p.m; it is an optional activity for teams.

- Only drivers and a (1) team coach may be in the field area during the practice session.
- Each team is allotted 30 minutes to practice. Two fields are available, so eight teams at a time may practice.
- Sign-up for the 30-minute time slots takes place at the Registration Desk.

## **\*\*Driver Rotation**

Drivers must rotate equally throughout the competition on Saturday. Rotation will be checked at the Staging area where teams await the upcoming round. Drivers who are out of rotation will be asked to swap with the appropriate driver. Failure to do so may result in not being allowed to compete in the upcoming round.

## **Equipment & Materials Tagging**

Teams should label and/or tag their battery chargers, batteries, and any other equipment and/or materials that will be used at either the repair station or battery charging station. Likewise, tools used at the team's table should be tagged or marked.

## **Game Boss – Teams' Contact for Problems or Concerns**

The Game Boss, who will be roaming through the Pit during the competition, is THE ONLY designated contact for a team's issues with equipment, personnel, or other teams. Other Texas BEST personnel will not handle such matters. The Game Boss will be introduced at the Pit Meeting Friday afternoon so that teams will be able to recognize them on Saturday.

**Machine & Equipment Storage Overnight** Machines and equipment will be stored in a locked room overnight Friday in the Coliseum.

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## **Photo of Robot**

We will be taking photos of all robots during Compliance Check-In at the Coliseum Friday. The photos are used in judging. A Texas BEST staff member will be on hand to coordinate this in the Pit.

## **Pit Meeting Friday at 5:00 p.m.**

There is a mandatory meeting for ALL team members, mentors, and teachers that expect to be in the Pit during the competition. The meeting will cover information provided in this document as well as other logistical issues.

## **Pit Passes on Saturday**

Due to the limited size of the Pit, our goal is to cut down on the large number of “peripheral people” in the area. Therefore, each team will receive five (5) Pit Passes in their registration materials for use on Saturday. Access to the Pit will be closely checked and only those individuals with Pit Passes will be allowed access. It is up to each team to determine who needs to be in the Pit and how passes will be swapped.

## **Repair Station**

For teams that need access to a/c for repairs, there is a designated Repair Station located at the rear of the Pit.

## **“Team Rep” Lanyard**

Each team will have a lanyard in their registration packet that is to be worn by a single team member (adult or student) who wishes to voice a complaint or concern to the Game Boss. This is done so that one person per team addresses the concern and not the entire team, which is both unproductive and chaotic.

## **Team Member vs. “Adult” Machine Work**

Each team must self-regulate members’ behavior in the Pit. The “Pit Police” will be looking to see if adults are working on the machines. If identified, the adults will be asked to either leave the Pit or substitute for a student. The emphasis is on student-led repairs.

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## **Team Numbers**

Each team's machine is required to have its team number on its machine in an easily visible location. The number must be a minimum 2" in size; otherwise the judges have a difficult time distinguishing machines.



## 2009 Texas BEST Awards and Judging Policies

### I. Awards

A. BEST Award teams only are eligible for the following awards:

#### **BEST Award**

This award is given to the team that best embodies the concept of ***Boosting Engineering, Science and Technology***. Winning the BEST Award is considered the highest achievement any team in the competition can accomplish. First, second, and third place trophies will be awarded.

#### **BEST Award Category Awards**

Trophies will be awarded to the highest score in the following BEST Award categories:

- Best Project Summary Notebook
- Best Oral Presentation
- Best Table Display/Interview
- Best Team Spirit and Sportsmanship

B. All teams are eligible to receive the following awards:

#### **Game Division Award**

Trophies will be awarded to the teams whose machines finish first, second, and third in the tournament bracket. In addition, fourth place “finalist” will also be awarded.

#### **Founders Award for Creative Design**

This award is given to the team that makes best use of the engineering process in consideration of offensive and defensive capabilities in machine design; awarded in recognition of BEST founders Steve Marum and Ted Mahler. First, second, and third place plaques will be awarded.

#### **Most Robust**

This award is given to the team whose machine requires the least maintenance during and between matches and is generally the sturdiest

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machine in the competition. First, second, and third place plaques will be awarded.

## **Most Elegant**

This award is given to the team whose machine demonstrates the best design and execution of the game - the machine that makes you say "Wow!" First, second, and third place plaques will be awarded.

## **Most Photogenic**

This award is given to the team whose machine is the most eye-pleasing. First, second, and third place plaques will be awarded.

## **TOP GUN Award**

This award goes to the team that scores the most points in a single round of competition.

## **T-Shirt Award**

This award is given to the team with the most original game specific team t-shirt design. First, second, and third place plaques will be awarded. (T-shirt should be submitted with Team Notebook.)

## **Web Page Award**

This award is given to the team with the best team web site; based on page functionality, creative use of the game theme, information about team members and community efforts. First, second, and third place plaques will be awarded. (Web address should be included on the *Team Information* form available on-line at [www.eng.unt.edu/texasbest/](http://www.eng.unt.edu/texasbest/)) or sent via email to [Miguel.garcia-rubio@unt.edu](mailto:Miguel.garcia-rubio@unt.edu) by Wednesday November 11, 2009 to be considered for this award.

## **II. Project Summary Notebook**

- ALL participating teams will be required to submit a Project Summary Notebook at Texas BEST following the guidelines in Category I of the BEST Award Guidelines below. All notebooks will be graded on a 30-point scale, as defined in the BEST Award Guidelines. The team demographics form is not required.

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- During the Regional competition, the notebook scores of all teams will be used to determine which 4 teams earn a chance for one “wildcard” slot. The wildcard team will be one of eight teams that advance to the semi-final rounds. Check the Game Rules for further details.

### **III. BEST Award Guidelines**

The BEST Award is presented to the team that best embodies the concept of *Boosting Engineering, Science, and Technology*. This concept recognizes that inclusiveness, diversity of participation, exposure to and use of the engineering process, sportsmanship, teamwork, creativity, positive attitude and enthusiasm, and school and community involvement play significant roles in a team’s competitive experience and contribute to student success in the competition beyond winning an award.

In accordance with the BEST philosophy, **materials submitted by teams must be the work of students**. The involvement of student peers in auxiliary roles to support a school’s official BEST team with the documentation – i.e., journalists, photographers, artists, musicians – is encouraged.

Any advancing team that competed for the BEST Award at the local hub competition is eligible to compete for the Texas BEST Award, but must indicate their intent to compete in the Texas BEST Award on the “Team Information Form”. All teams competing for the Texas BEST Award must agree to compete in all five of the BEST Award categories at the regional competition.

### **IV. Evaluation and Judging Procedures**

#### *Criteria*

- Evaluation of competitors will be based on the criteria outlined in these guidelines. An evaluation score of a total possible 100 points will be composed of the following:

#### **Categories of Competition**

The team must commit to active participation in five categories of BEST Award competition:

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1. Project Summary Notebook submitted in advance of Texas BEST (30 points)
2. Presentation on Friday of Texas BEST (25 points)
3. Table Displays and Interviews on Friday of Texas BEST (25 points)
4. Spirit and Sportsmanship review on Saturday (15 points)
5. Robot Performance on Saturday (5 points)

Any team that fails to participate in all categories will be disqualified and recommended to the hub for ineligibility to advance as a Texas BEST Award team the following year.

## **Judging Procedure**

- A distinguished team of judges from private and public sectors with technical and non-technical expertise will evaluate teams. Judges will serve on a rotation schedule.
- As each team completes a category, it will receive a category score that is the average of individual scores of the judges reviewing it.
- Teams should know in advance that scores among many teams frequently differ by only fractions of a point.
- Throughout the judging process, the judges may take into consideration the resources available to teams to conduct their BEST programs (financial or technology resources, for example).

### ***Category I: Project Summary Notebook (30 Points)***

## **Guidelines**

- The purpose of the notebook is to document the process the team used to design, build, and test their robot.

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- Deadline:

<u>Local competition weekend</u>	<u>Notebooks due to:</u>
Weekend of October 17	5:00 p.m., Friday, October 30
Weekend of October 24	5:00 p.m., Friday, November 6
Weekend of October 31	5:00 p.m., Friday, November 13
Weekend of November 7	5:00 p.m. Friday, November 20

*Mail notebook to:* Dr. Miguel Garcia-Rubio

UNT College of Engineering

UNT Discovery Park  
1155 Union Circle # 310440  
Denton, Texas 76203-5017

Telephone 940- 565 -2524

Terry.tehan@unt.edu

- Notebooks received after the deadline will not be judged. Texas BEST cannot be responsible for failure on delivery of material due to incomplete or incorrect address information. The notebook will be returned to the team following its presentation session on Friday. **The notebooks will available at the Presentation Check-In or Registration Desk.**

- **The notebook must meet the following specifications:**

- Submitted in a *standard* 3-ring binder with a maximum 2” ring size
  - 30 typed **single-sided** pages or less (note that title page and Table of Contents page will not be counted as part of the 30 pages)
  - Research Paper: Within the 30 pages, include a description of how the current year’s game theme is related to current technological practices or scientific research (minimum of 2 pages, maximum of 5 pages out of the 30 allotted)

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- Binder cover must identify the school, team name, teacher contact, and team number
- Provide description of the process the team used to design and complete its robot
- Standard, 8 ½” x 11” paper, double-spaced, 1” margins, and Times New Roman (preferred) or similar business-style font no smaller than 12 pt. Single-spacing is acceptable in tables and outlines.
- In supplemental appendices of up to 20 pages in length (20 pages front and back will be accepted), teams may provide additional material as support documentation, such as drawings, photos, organization charts, minutes of team meetings, test results, etc. *This material should directly support the process described in the primary document and NOT reflect activities related to community or promotional efforts, spirit development, or team-building.*

## Evaluation

- The notebook will be judged on the documentation of the team’s:
  - Implementation of the engineering design process
    - ♣ Evidence that the engineering process was effectively used.
  - Research paper
    - ♣ Correlation between game and current and future use of similar technology; Any related information of game theme, such as history, famous inventor(s), or major milestones; Creativity in linking game theme to appropriately related science/technology content; Proper use of grammar and composition throughout paper, staying within 2-5 page limit.
  - Brainstorming approaches
    - ♣ How well organized and productive was the brainstorming approach used and documented?
  - Analytical evaluation of design alternatives

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- ♣ Use of analytical and mathematical skills in deciding upon and implementing design alternatives
- Offensive and defensive evaluation
  - ♣ Analysis of gaming strategies and design elements to achieve goals.
- Design creativity
  - ♣ Overall use of design creativity to solve the problem presented in the game.
- Support documentation
  - ♣ CAD /other drawings, photos, organization, team minutes, test results, etc. that support the main document.
- Overall quality and completeness of notebook
  - ♣ Organization, appearance, adherence to specifications and quality of content.

## **Category II: Oral Presentation (25 Points)**

Each team will select the time slot for their team's Oral Presentation via the Texas BEST web site [www.eng.unt.edu/texasbest](http://www.eng.unt.edu/texasbest). Room locations will be at the UNT Discovery (Research) Park and will be included in the packet given to each team at the Registration Desk. Presentations will take place on Friday from 9:00am to 2:00pm.

- For the oral presentation, the team should view themselves as employees of a "company" that is marketing their "product" (robot) to a potential buyer (judges). This marketing team is an integral part of the engineering team that has designed a specialized robot. The marketing presentation should provide information about their company, the engineering team involved in the design and construction of the product, and why their product is the best one on the market that can complete the assigned task. The potential buyer will be assessing the following:

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- The company's design and manufacturing process (engineering process of "design to market", including a discussion on the advantages of your company's robot design)
- Discuss the technological resources your company used to design and construct the robot
- Marketing strategies to promote product (e.g., school and community involvement, promotional efforts, etc)
- The company's demographics and operations (e.g., diversity of team members involved, team building experiences, displays of sportsmanship, etc)

## Guidelines

- A minimum of 4 students must actively participate in the presentation. A maximum of 8 representatives for the team may be in the presentation room, including the presenters.
- Adults are not allowed to participate, but may be present in the room (counting as one of the 8 representatives).
- Representation by student presenters from more than one grade level is encouraged and will be considered in the evaluation as part of the team's recruitment efforts.
- Videotaping/photographing by team representatives will be allowed during the presentation, however, the person(s) handling videotaping will be counted in the 8 maximum number allowed.
- The presentation format is the prerogative of the team.

## Time Breakdown

- There will be a check-in station in the general area of the presentation rooms.
- Teams should check in 20 minutes prior to their time slot.
- The order and breakdown for the 25-minute presentation time period is as follows:
  - 5 minutes*: Set-up

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- 12 minutes: Presentation
- 5 minutes: Q&A with judges
- 3 minutes: Break-down and clear room

Note: Teams not requiring set-up or break-down time may utilize that time for their presentation (for a total presentation time of up to 20 minutes).

- Five minutes will be scheduled between presentation sessions to allow judges time to confer without the team present.

## Evaluation

- Presentations will be evaluated with consideration of:

- Company information
  - ♣ Well-defined roles (employees/owners/managers); organization of company departments to succeed at product development
- Design and Manufacturing Process (Engineering Process)
  - ♣ Brainstorming approaches; analytical evaluation of design alternatives; offensive and defensive strategy evaluation; effective implementation of the process
- Use of Available Technology
  - ♣ CAD or other drawings; Web page development and computer simulations
- Marketing Strategies
  - ♣ Publicity efforts to inform school and community of their product (e.g. school newsletters, presentations to community and/or school groups, fliers/brochures, posters, press releases, commercials, etc.)
- Team demographics and operations



♣ Company Team-building (team building activities, representation and percentage of team involved in robot development, methods of team decision-making, etc.); Company team demographics (evidence of team diversity – male, female, variety of grades represented, minority involvement)

Quality of Presentation

♣ Well organized and prepared; met required specifications; communication skills and professionalism; creativity of format; quality of question and answer session with judges

## Category III: Table Displays and Interviews (25 Points)

Teams can select a judging time for their display via the Texas BEST web site [www.eng.unt.edu/texasbest](http://www.eng.unt.edu/texasbest). Table Displays will be located on the Coliseum Concourse. Team locations for displays will be randomly assigned by the Texas BEST office. Teams will be directed to their assigned table upon registration at the Coliseum on Friday.

Table Display set-up starts at 2:30 p.m. on Friday and ends at 6:00 p.m.. Displays should be completely set up by 6:00 p.m. on Friday.

- The purpose of the table display and interviews category is to:
  - Communicate through a display, and through discussion with judges, information about the team's efforts **to promote BEST in the community and schools**
  - Foster BEST spirit, camaraderie, and participation
  - Give evidence of sportsmanship

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## Guidelines

- Each team will be provided a standard 8-foot long table (approximately 29 inches wide). Use of the table is optional.
- Skirting for the table will not be provided.
- Each team should bring one extension cord and one power strip IF the display requires electricity.
- Other display items may be used but must not exceed a 10' X 10' X 10' space allocation.
- Teams are encouraged to avoid using expensive store-bought display boards and structures and opt for more creative and hand-made display props.
- Any audio-visual equipment needs and extra extension cords will be the responsibility of the team.
- Although reasonable effort will be made by Texas BEST staff to monitor the Coliseum area, each team is responsible for security of its own material.
- Each team is also responsible for breakdown of its team materials and clean-up of its display area. Teams must dismantle their displays at 3:00pm on Saturday.
- All material should be clearly marked with the appropriate identification and contact information.
- Candy and other food items are not permitted at table exhibits as complimentary handouts.
- On Saturday, teams must have their displays open and staffed with at least one student from 8:00am to 3:00pm (with exception of the lunch break). During the designated interview time, at least one student representative from the team must be present who is able to respond to informal questions asked about the display. In addition, student representatives should be aware that judges may ask questions concerning robot design and construction. These questions will be part of the interview evaluation of the team.
- Teams should expect to be visited by three different judges during this period.

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- Judges may also interview team members in the pit area and in the seating area on Saturday.

## Evaluation

- Displays (17 points) will be evaluated on:

- Recruitment of new schools
- Sharing information and/or technology resources, and mentoring other schools, including other BEST teams
- Presentations and robot demonstrations to other schools and community groups
- Publicity (materials, media/press) in school and community efforts to other schools and community groups
- Fund raising and/or sponsorship efforts (strategies used to recruit sponsors, team fund raisers, description of how funds were allocated to support team)
- Creativity in design and presentation of this exhibit
- Compliance with specifications (did not exceed space allocation)

- Interviews (8 points) will be evaluated on:

- Enthusiasm and learning experience from BEST
- Team recruiting (cross section of student population with multi-grade levels)
- Level of student participation (students were the primary designers and builders of the team's robot)

## Category IV: Spirit and Sportsmanship (15 Points)

### Guidelines

- Judges will evaluate this category on Saturday of the Championship.
- They will observe the spirit promoted by the team during the competition rounds as well as the team's conduct throughout the day in the seating area, table display area, game floor, and pit area. Judges will also receive input

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from Texas BEST officials concerning observations about team members' conduct on Friday.

## Evaluation

- Spirit includes the vigor, enthusiasm, and animation displayed by team representatives
- Teams can use posters, props, t-shirts, cheerleaders, musicians, mascots, costumes, and **lower-frequency, lower-intensity** noise-makers to increase the level of spirit
- Whistles and other similar high intensity noise-makers are prohibited inside the UNT Coliseum. In addition, the Head Judge has the right to ban any noise-makers that are deemed to potentially cause hearing damage by those in attendance at Texas BEST.
- Judges take into account the variety and geographic distances of teams attending Texas BEST, and the differing capacities to bring large numbers of supporters to cheer them in the stands
- Sportsmanship includes outward displays of sportsmanship, grace in winning and losing, and conduct and attitude considered befitting participation in sports
- Overall team sportsmanship is also demonstrated by students (not mentors) making the majority of robot adjustments and repairs during the competition

*Spirit Stick:* To facilitate judging on Saturday, each candidate team is asked to bring a "spirit stick" for identification in the seating area. Specifications include:

- school name and/or team number prominently displayed and visible by judges from a distance
- maximum of 5 spirit sticks per team
- pole constructed of PVC pipe or similar material (should not be pointed or sharp on either end)
- maximum height of 8 feet



Spirit sticks are meant solely as a means of team identification by the judges during the competition. Excessive, non-functional, decoration will not be considered in the judging evaluation. Please do not attach spirit sticks to the seating in the UNT Coliseum

## **Category V: Robot Performance (5 Points)**

- The fifth category, *Robot Performance*, will determine the final 5% of possible BEST Award points. These 5 points will be based on the total game points earned throughout the seeding competition (prior to the semi-final/final rounds) according to the following scale:

- Team finishes in top 20% of all teams competing at hub 5 Points
- Team finishes in top 40% of all teams competing at hub 4 Points
- Team finishes in top 60% of all teams competing at hub 3 Points
- Team finishes in top 80% of all teams competing at hub 2 Points
- Team finishes in top 100% of all teams competing at hub 1 Point
- Team is unable to score any points during the competition 0 Points

- Up to 5 Robot Performance points will be added to the total BEST Award points.

## **BEST Award Recognition**

- The teams ranked first, second, and third in the BEST Award Division will receive trophies superior to the teams finishing first through third in the Game Division.

- *BEST Award Category Awards*

Trophies will be awarded to the highest score in the following BEST Award categories:

- Best Project Summary Notebook
- Best Oral Presentation

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- Best Table Display/Interview
- Best Team Spirit and Sportsmanship

- Ties will be allowed only after detailed review by the judges.
- Presentation of the BEST Award trophies will be made during the awards ceremony on Game Day.

## ***IV. Additional Information about competing at Texas BEST***

### **Seating at Texas BEST**

As with all teams at the Championship, Texas BEST Award candidate teams may not rope off reserved seating for their teams before Saturday. Review the seating map included in this packet for allowed seating areas.

### ***Results***

Each team will be mailed a copy of its score sheets by December 18, 2009. Top rankings will be posted on the Web.

### ***Questions***

Inquiries about the Texas BEST Award guidelines must be submitted to the BEST Inc. web site Q&A board (at [www.bestinc.org](http://www.bestinc.org)) for posting and response to all teams. **Please do not contact the Texas BEST office (e-mail or phone) with these questions.**



## Code of Student Conduct

Texas BEST expects teams and supporters accompanying them to conduct themselves in an appropriate manner while participating in the Championship. **This includes all activities associated with their participation in the event.**

- Appropriate conduct of teams and supporters is the sole responsibility of school officials and other adult chaperones that have legal responsibility as supervisors.
- Students should be under the supervision of school officials or chaperones during all excursions and competition activities, and in hotels and restaurants.
- Students who violate the conduct code at any point during Texas BEST are subject to suspension from remaining competition activities.
- **Texas BEST reserves the right to refuse participation in future competitions, to any team whose behavior has been disruptive.**

Inappropriate conduct includes, but is not limited to, the following:

- Property damage, vandalism, or theft.
- Appropriation of University of North Texas or Texas BEST memorabilia.
- Use of alcohol or illegal drugs.
- Use of water pistols, water balloons, or other creative missiles.

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- Fighting or loud/foul language or other disruptive/rude behavior.
- Disruptive and excessive noise during activities other than the actual competition.
- Dress that includes shirts/t-shirts and shoes are expected of all students during the competition.
- Distractive apparel that displays design or language of a crude nature.

**Financial liability for all damages or losses incurred by actions of team members and supporters shall be the sole responsibility of the team/school.**

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## 2009 Texas BEST Championship Events

### Release Form

I, \_\_\_\_\_, understand and agree that the officially-sponsored

(Print Texas BEST participant name here)

activities of University of North Texas and/or Texas BEST involve certain known risks, including but not limited to, transportation accidents, personal injuries, and loss or destruction of my property. I understand and agree that University of North Texas and/or Texas BEST cannot be expected to control all of said risks. In consideration of the benefits I will receive through my participation in the activities of University of North Texas and/or Texas BEST, I hereby expressly and knowingly **RELEASE UNIVERSITY OF NORTH TEXAS and/or TEXAS BEST, THEIR OFFICERS, AGENTS, VOLUNTEERS, AND EMPLOYEES FROM ANY AND ALL CLAIMS AND CAUSES OF ACTION I MAY HAVE FOR PROPERTY DAMAGE, PERSONAL INJURY OR DEATH SUSTAINED BY ME ARISING OUT OF ANY TRAVEL OR ACTIVITY CONDUCTED BY, OR UNDER THE AUSPICES OF UNIVERSITY OF NORTH TEXAS and/or TEXAS BEST, WHETHER CAUSED BY MY OWN NEGLIGENCE OR THE NEGLIGENCE OF UNIVERSITY OF NORTH TEXAS and/or TEXAS BEST, THEIR OFFICERS, AGENTS, VOLUNTEERS, OR EMPLOYEES.**

I hereby give my consent for any medical treatment that may be required during my participation with the understanding that the cost of any such treatment will be my responsibility.

**Further, I voluntarily and knowingly agree to HOLD HARMLESS, PROTECT, AND INDEMNIFY UNIVERSITY OF NORTH TEXAS and/or TEXAS BEST, their officers, agents, volunteers, and employees, against and from any and all claims, demands, or causes of action for property damage, personal injury or death, including defense costs and attorney's fees, arising out of my participation in the activities of UNIVERSITY OF NORTH TEXAS and/or TEXAS BEST, REGARDLESS OF WHETHER SUCH DAMAGES, INJURY, OR DEATH ARE CAUSED BY MY OWN NEGLIGENCE, OR BY THE NEGLIGENCE OF UNIVERSITY OF NORTH TEXAS and/or TEXAS BEST, THEIR OFFICERS, AGENTS, VOLUNTEERS, OR EMPLOYEES.**

University of North Texas and/or Texas BEST shall notify me promptly in writing of any claim or action brought against it in connection with my participation in these activities. Upon such notification, I or my representative shall promptly take over and defend any such claim or action.

University of North Texas and/or Texas BEST may take, or authorize a third party to take, photographs, videos, and other media recordings of events and activities associated with Texas BEST events held on the UNT campus. From time to time University of North Texas and/or Texas BEST may use these media

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recordings on their web pages, in news articles, promotional materials, public relations materials, and other legitimate non-commercial purposes. By virtue of their attendance at the Texas BEST championship event and associated events, all attendees agree to the use of their likenesses in such materials, unless permission is expressly revoked, no later than November 13, 2009, in writing to Texas BEST at TexasBEST@UNT.edu.

*If participant is under the age of 18:*

As the parent/legal guardian of the above named minor participant, I HAVE READ AND UNDERSTOOD THIS DOCUMENT, AND MY SIGNATURE EVIDENCES MY INTENT TO BE BOUND BY ITS TERMS.

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Signature of Parent/Legal Guardian

Print or Type Name

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Date

*If participant is 18 years of age or older (Adults who will access the game floor should complete a release):*

I HAVE READ AND UNDERSTOOD THIS DOCUMENT, AND MY SIGNATURE EVIDENCES MY INTENT TO BE BOUND BY ITS TERMS.

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Signature of Participant

Print or Type Name

---

Date



## CONTACT INFORMATION

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