



2010 National BEST Championship Awards and Judging Guidelines

I. Awards

Each team receives a plaque recognizing its achievement in advancing to the Championship.

All Teams Eligible

Game Division Award

First, second and third place trophies will be awarded to the top scoring teams in the tournament bracket. In addition, the fourth place team will also receive an award recognizing the significant accomplishment of making it to the final Championship Round of play.

Founders Award for Creative Design

Awarded 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 place only)

Most Robust

Awarded to the team whose machine requires the least maintenance during and between matches and is generally the sturdiest machine in the competition. (First place only)

Most Elegant

Awarded to the team whose machine demonstrates the best design and execution of the game. (First place only)

Most Photogenic

Awarded to the team whose machine is the most eye pleasing, fit and trim of external components and aesthetic embellishments. (First place only)

igus TOP GUN Award

Awarded to the first team who creates an iso-octane during the competition.

MathWorks Best Programming Skills Award

Awarded to the team that shows the most interesting use of BRAIN programming. Criteria used to assess this award include 1) creativity, 2) functionality - it must work on a BEST robot, 3) software design practices, and 4) degree of difficulty and mastery. Each team can submit a maximum of 10 pages of programming code, and should include one additional description page (no more than one page typed) of how the team implemented programming as part of their game strategy. Place all of these documents in an envelope or a binder labeled with the school name and team # on the outside. **Submit the packet to the BEST Registration Table by noon on Friday, April 23 for judging.**

SolidWorks CAD Design Award

Awarded to the team that shows the highest mastery and most creative use of CAD software. Criteria used to assess the designs include best use of CAD software, quality of designs, and degree of difficulty and mastery. Note that drawings can be constructed from any CAD software, not just SolidWorks. Each team can submit a maximum of 10 pages of CAD drawings, and should include one additional description page (no more than one page typed) of how the team implemented CAD in their design process and what type of software was used to develop the drawings. Place all of these documents in an envelope or a binder labeled with the school name and team # on the outside. **Submit the drawings to the BEST Registration Table by noon on Friday, April 23 for judging.**

Best Team Video Award

Guidelines

- One submission per team
- 2 minutes maximum in length

- Based on your current BEST team
- Incorporates this year's game theme
- Includes school name, location, and name of participating hub
- Can include music, but no objectionable lyrics

Technical

- Must be able to play in Windows Media Player
- 640 X 480 or 720 X 480 resolution

Judging Criteria

- Creativity and innovation
- Best use of the game theme
- Best combination of narration and video
- Best use of incorporating team members
- Editing (organization, flow)
- Technical quality of audio and video

Submission Process

- The teacher is expected to preview the video to insure it is not objectionable and that it is representative of the team, the school and the BEST program.
- Videos should be submitted on YouTube, and the YouTube URL address should be emailed to bestnationalchampionship@gmail.com .
- **Deadline for submission: Videos should be posted on YouTube and URL submitted to us by Friday, April 9.**

The videos will be featured during the Championship weekend.

Sportsmanship Award

Awarded to the team that receives the most votes from their peer teams at the competition.

BEST Award Teams Eligible Only

BEST Award

- Awarded 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. Trophies recognizing the top 3 overall BEST Award teams will be awarded. In addition, plaques recognizing the top teams in each BEST Award category will be awarded. The BEST Award categories that will be judged are:
 - Project Engineering Notebook
 - Marketing Presentation

- Table Display/Interview
- Spirit and Sportsmanship

Table Display Design and Construction Award

Awarded to the team with the most creative and innovative Table Display design.

II. Project Engineering Notebook

- ALL participating teams will be required to submit a Project Engineering Notebook 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. It is not necessary to submit the Team Demographics form in the notebook.
- Notebooks should be submitted electronically in PDF format by Friday, April 9 to bestnationalchampionship@gmail.com. **Notebooks will be judged in electronic format prior to the competition weekend.**
- During the Championship, the notebook scores of all teams will be used to determine which four teams earn a chance to compete for one “wildcard” slot. The wildcard team will be one of eight total teams that advance to the semi-final rounds.

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.
- All teams competing for the BEST Award must agree to compete in all four judged BEST Award categories at the Championship (Project Engineering Notebook, Marketing Presentation, Table Display and Interview, and Spirit and Sportsmanship)

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 all categories of BEST Award competition:
 1. Project Engineering Notebook submitted in advance of the Championship (30 points)
 2. Marketing Presentation on Friday, April 23rd (25 points)
 3. Table Displays and Interviews on Friday & Saturday, April 23rd & 24th (25 points)
 4. Spirit and Sportsmanship on Saturday, April 24th (10 points)
 5. Robot Performance on Saturday, April 24th (10 points)

Judging Procedure

- A distinguished team of judges from private and public sectors with technical and non-technical expertise will evaluate teams.
- Category scores will be the average of individual scores of the judges reviewing each category.
- 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 (number of team members, financial or technology resources, for example).

Category I: Project Engineering Notebook (30 Points)

Notebook Guidelines

- The purpose of the notebook is to document the process the team used to design, build, and test their robot.
- Deadline: Notebooks should be submitted electronically in PDF format by Friday, April 9 to bestnationalchampionship@gmail.com.
- The notebook must meet the following specifications:
 - 30 typed **single-sided** pages or less
 - 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)
 - A cover sheet must identify the school 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" format, 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.**

Notebook 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**
 - 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, quality of content and submission of required Team Demographics Form

Category II: Marketing Presentation (25 Points)

- The sign-up for Marketing Presentation time slots will be available at <http://www.bestinc.org> after March 1. Presentations will take place on Friday, April 23rd from 10:00am to 4:00pm.

Marketing Presentation Time Slot	Team
10:00am – 10:25am	Team 1
10:30am – 10:55am	Team 2
11:00am – 11:15am	Judges Break
11:15am – 11:40am	Team 3
11:45am – 12:15pm	Team 4
12:15pm – 1:00pm	Lunch Break
1:15pm – 1:40pm	Team 5
1:45 pm – 2:10pm	Team 6
2:15pm – 2:30pm	Judges Break
2:30pm – 2:55pm	Team 7
3:00pm – 3:25pm	Team 8

- For the Marketing 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:
 - 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)

Marketing Presentation Guidelines

- A minimum of 4 students must actively participate in the presentation. A maximum of 8 team members may participate in the presentation.
- Other team members and adult supporters may attend the presentation but should not interact with the team members or judges during the presentation.
- If an adult assistant is needed to aid a physically disabled student, please contact the judging coordinator, Mary Lou Ewald (ewaldml@auburn.edu), prior to arriving at the Championship to report the need for an adult assistant.
- 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 or supporters will be allowed during the presentation but should not interfere with the presentation.
- The presentation format is the prerogative of the team.

- **The following equipment is available to all teams: computer and LCD projector with screen.**

Oral Presentation Time Breakdown

- **There will be a check-in station located near the Presentation room.**
- Teams should check in 15 minutes prior to their time slot.
- The order and breakdown for the 25-minute presentation time period is as follows:
 - *5 minutes* Set-up
 - *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).

- **Please bring a copy of team's presentation on a CD or jump drive.**
- **Teams are allowed to use their own equipment, however, they should account for the extra time needed to set up their equipment.**

Marketing Presentation Evaluation

- Presentations will be evaluated with consideration of:
 - ***Company Information***
 - Well-defined roles as company employees/owners/managers; organization of company departments for product development
 - ***Design and Manufacturing Process (Engineering Design 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)

- Table Display set-up can begin at 8:00am on Thursday, April 22 and continue through 1:45pm on Friday, April 23. Students should be prepared for judges to visit their Display between 2:00pm and 5:00pm on Friday, April 23. Interviews in the Pit and seating area will occur on Saturday morning before the lunch break.
- Teams should be sure that their display is clearly marked with school name and team number. Teams will receive a team identifier sheet in their registration packets that can be used for this purpose.
- Teams may begin to dismantle Table Displays starting at 2:00pm on Saturday.
- Teams should not leave valuable equipment at the display overnight.
- 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

Display and Interview Guidelines

- Each team will have the opportunity to request a standard 6-foot long table (approximately 29 inches wide).

- 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.
- 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 starting at 2:00 p.m. on Saturday.
- All material should be clearly marked with the appropriate identification and contact information.
- Candy and other food or drink items ARE permitted at table displays as complimentary handouts.
- Teams should expect to be visited by three to four different judges over the entire judging period.
- Judges may also interview team members in the pit area and in the seating area on Saturday.

Display and Interview 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, team budget information available for review)
- Use of technology, display models or boards, or multi-media at display in promotion of BEST
- 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 and multi-grade levels)
 - Level of student participation (students were the primary designers and builders of the team's robot)

Category IV: Spirit and Sportsmanship (10 Points)

Spirit and Sportsmanship Guidelines

- Judges will evaluate this category on Saturday.
- 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 may also consider the teams' conduct at the entire competition (Friday, Friday evening, hotels, etc.)

Spirit and Sportsmanship Evaluation

- Spirit includes the vigor and enthusiasm 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
- Banned noise-makers: airhorns, whistles (and similar high frequency items), bass drums (and similar low frequency items), amplified sound or amplified instruments

- The Head Judge has the right to ban any noise-makers that are deemed to potentially cause hearing damage by those in attendance, or that may interfere with event production
- Judges take into account the variety and geographic distances of teams attending the Championship, 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. The easier a team is to identify, the happier the judges are!
- Please do not attach spirit sticks to the seating in the arena.

Category V: Robot Performance (10 Points)

- *Robot Performance* during the competition will determine the final 10% of possible BEST Award points. These 10 points will be based on the total game points earned throughout the seeding competition (prior to the semi-final and championship rounds) according to the following scale:
 - Team finishes in top 20% of all teams competing 10 Points
 - Team finishes in top 40% of all teams competing 8 Points
 - Team finishes in top 60% of all teams competing 6 Points
 - Team finishes in top 80% of all teams competing 4 Points
 - Team finishes in top 100% of all teams competing 2 Points
 - Team is unable to score any points during the competition 0 Points

- Up to 10 Robot Performance points will be added to the total BEST Award points.

QUESTIONS?

For questions related to Awards and Judging at the Championship, please contact Mary Lou Ewald at 334-844-5745 or email at ewaldml@auburn.edu.