



2016 Awards and Judging Logistics



Section 1 South's BEST Expectations & Standard Awards

All South's BEST participating teams MUST:

- Build a robot and compete on the game floor.
- Complete an Engineering Notebook:
 - ALL participating teams are required to submit an Engineering Notebook at both the local competition and the regional championship following the guidelines in Section 4, Category I of the BEST Award Guidelines section of this document. All notebooks will be evaluated on a 30-point scale, as defined in the BEST Award Guidelines section of this document.
 - The notebook scores of all teams will be used to determine which 8 teams earn a chance to participate in one of two "wildcard" matches. The winning wildcard teams will be two of sixteen total teams that advance to the semifinals rounds.
- Complete and submit the required 2016 Team Demographics information with your notebook.

All Teams Eligible for the following awards (1st – 3rd Place trophies or plaques for each)

Head-to-Head Competition Award

Trophies are awarded to the top teams in the robotics competition. 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.

The highest placing Middle School team in the Head-to-Head division receives a trophy recognizing its accomplishment.

Founders Award for Creative Design

Awarded to the team that makes the 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.

Most Robust Robot

Awarded to the team whose machine requires the least maintenance during and between matches and is generally the sturdiest machine in the competition.

Software Design and Simulation Award

Awarded to the team that developed the most efficient software program for their machine and utilized software simulation for verifying its operation.

Engineering Notebook Award

Awarded to the team that scores the highest on the Engineering Notebook category.

Neptune Technology Group Most Elegant Robot

Awarded to the team whose machine demonstrates the best design and execution of the game...the machine that makes you say "Wow!"

Most Photogenic Robot

Awarded to the team whose machine is the most eye pleasing.

igus TOP GUN Award (First Place Only)

Awarded to the team that scores the most points in a single match.

Best Mascot

Awarded to the team whose mascot inspires the most enthusiasm from the crowd.

Team-Wear Design Award

Awarded for the most original game-specific team-wear design. Team-wear entries should be items worn by all team members and supporters (button down shirts, golf shirt, etc.), not a one-of-a-kind item designed specifically for judging consideration. In addition, teams should submit a brief explanation of their design (no longer than one page) with their shirt. The explanation sheet should clearly identify the team # and school name and be attached to the shirt by pin, clothespin, paperclip, or some similar device. **Entries should be submitted to the Registration/Information Desk before 3PM on Saturday, December 3 to be considered for judging.** Items may be picked up at the Registration Desk on Sunday afternoon.

Web Page Design Award

The website is a marketing tool to be used by the "BEST company" to both market their robot for retail sales and to emphasize that their company is the best company by which to purchase a robot. On a well organized and professionally presented website, teams should showcase their company's team members, development efforts, and community outreach with consideration to the constraints of the game theme. Judging will be based on the following categories: basic information, navigation, functionality, layout/readability, content/game theme, community outreach, and creativity/originality.

The web address should be included on the 2016 Team Information Form (faxed after local hub competitions) or emailed to Kristen Bond, kristen.bond@auburn.edu **no later than Tuesday, November 15th. Please make sure web pages are completed and active by November 17th at 8:00am CDT.**

CAD Award (1st place only)

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. Any CAD software may be used. 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. These documents should be placed in an envelope or a binder labeled with the school name and team # on the outside. **Drawings can be submitted to the Registration Table by Saturday, December 3rd for consideration.**

BEST Simulink Design Award

The “BEST Simulink Design Award” is open to all teams participating in the competition. The award will be presented to one team in each of the 4 BEST regions (Northern Plains, Frontier Trails, South’s, Texas) that best applies the ‘Simulink Support Package for VEX’ based on the specified judging criteria and their robot performance in the competition. Any team using MathWorks MATLAB/Simulink to design their software (i.e. robot program) is eligible.

See the Judging Rubrics and Guidelines category within the Championship Handbook for additional information.

BEST Software Design and Simulation Award

The Software Design and Simulation Award is presented to the team that is able to best describe and articulate their software design process, techniques, and experiences in their Engineering Notebook. It is intended to recognize teams who understand that “programming” is an essential part of their overall robot design and requires just as much thought as the mechanical/electrical design.

The team scoring the highest in the Software Design and Simulation portion of the Engineering Notebook evaluation at each hub will receive this award and be entered into a nationwide drawing for one of (3) three \$1000 cash awards, to be announced at the conclusion of all local hub competitions. A separate score sheet is provided for evaluating the Software Design and Simulation portion of the Engineering Notebook.

Section 2 BEST Award Categories

Hyundai Motor Manufacturing Alabama Team Exhibit Design and Construction Award (BEST Award teams only)

Awarded to the top three teams with the most creative and innovative Exhibit design.

Team Exhibit and Interview Award (BEST Award teams only)

Awarded to the team that scores the highest on the Team Exhibit and Interview category.

Project Lead the Way Marketing Presentation Award (BEST Award teams only)

Awarded to the team that scores the highest on the Marketing Presentation category.

Spirit and Sportsmanship Award (BEST Award teams only)

Awarded to the team that scores the highest on the Spirit and Sportsmanship category of the BEST award competition.

BEST Award (BEST Award teams only)

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. The teams ranked 1st, 2nd, and 3rd in the BEST Award Division will receive trophies superior to the teams finishing 1st-3rd in the Head-to-Head Robotics Division.

Section 3 Team Demographics Information

Minimum Requirements

The 2016 Team Demographics Form **MUST** be included as part of the Engineering Notebook. Failure to include this form will result in ineligibility to participate in the competition.

Section 4 BEST Award Requirements and Logistics

Teams electing to participate in the BEST Award recognize 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, and/or artists– is encouraged.

Due to space limitations, we will enforce a limit on the number of BEST Award teams that are eligible to compete at South's BEST. Teams that advance due to their BEST Award placing will be expected to compete in the BEST Award at South's. If the team advanced due to their Robotics rankings, they will NOT be invited to compete in the BEST Award at South's UNLESS the same team would have also advanced due to their BEST Award ranking.

All teams competing for the BEST Award must participate in and be judged on the following categories:

Judging Category	Point Value
Engineering Notebook	30 points
Marketing Presentation	25 points
Team Exhibit and Interviews	20 points
Spirit and Sportsmanship	10 points
Robot Performance	15 points
<i>Total 100 points</i>	

Category I: Engineering Notebook (30 points)

Notebook Guidelines & Requirements

- **ALL** Teams (both BEST Award and non-BEST Award competing teams) are required to submit an Engineering Notebook.
- The purpose of the notebook is to document the process the team used to design, build, and test their robot.
- Notebooks (hard copy) must be submitted by the deadline below, which is based upon the date of your local hub competition.
- Electronic submission of the notebook is also required by the deadline below. Submit notebooks via the following link: Dropitto.me/notebook_submissions Password: **notebooks** (this is case sensitive). Submissions should be formatted as such: team#_team_name.pdf. Example: 888_Teddy_High_School.pdf.
- The 2016 Team Demographics Form MUST be included as part of the Engineering Notebook. Failure to include this form will result in ineligibility to participate in the competition.
- Submitted hard copy notebooks must include an Auburn University Minors on Campus Consent Form for every student planning to attend South's BEST.
- Notebooks can be mailed/hand-delivered to:
COSAM Outreach
South's BEST Notebooks
131 Sciences Center Classrooms Building
315 Roosevelt Concourse
Auburn University, AL 36849

Hub Competition Dates	Submission Deadline (this is NOT a postmark deadline)
October 1	5:00pm CDT, Thursday, October 13
October 8	5:00pm CDT, Thursday, October 20
October 21	5:00pm CST, Thursday, November 3
October 29	5:00pm CST, Thursday, November 10
November 4-5	5:00pm CST, Tuesday, November 15

- During the competition, the notebook scores of all teams will be used to determine which eight teams earn a chance to participate in one of two "wildcard" slots. The wildcard teams will be two of sixteen total teams that advance to the semi-final rounds.
- It is recommended that teams competing in the BEST Award print a hard copy of their notebooks and place it in the Team Exhibit.

- The notebook must meet the following specifications:
 - Submitted in a *standard* 3-ring binder with a maximum 2" ring size
 - 32 typed **single-sided** pages or less (note that title page and Table of Contents page will not be counted as part of the 32 pages)
 - Research paper: Within the 32 pages, include a description of how the current year's game theme is related to current technological practices or scientific research with an emphasis on robotics and its relation to said theme (minimum of 2 pages, maximum of 5 pages out of the 32 allotted)
 - Binder cover must identify the school name, teacher contact, and team #
 - Provide description of the process the team used to design and complete its robot
 - Standard, 8½" x 11" paper, double-spaced, 1" margins, and Times New Roman (preferred) or similar business-style font no smaller than 12 point. Single-spacing is acceptable in tables and outlines.
 - Teams may include a supplemental appendix of no more than 20 double-sided sheets (40 pages total) of information. The appendix may include 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 team's documentation of the following:
 - **Implementation of the Engineering Design Process**
 - Evidence that the engineering process was effectively used.
 - **Research Paper**
 - Correlation between the current year's game and how related technological practices or scientific research is being used at a company/industry/research lab in the team's state or region; any information related to the 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, citations of sources used to gather information for the paper.
 - The research paper must be a minimum of 2 pages and maximum of 5 pages (of the allotted 32 pages).

- **Brainstorming Approaches**
 - How well organized and productive was the brainstorming approach used? How well was the brainstorming approach 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.
- **Software Design & Simulation**
 - Evidence of custom software design vs. using the default robot program.
 - Evidence that a software design process was followed.
 - Demonstration of design and functionality applicable to the defined task.
 - Evidence of use of software simulation (e.g., Simulink, virtual worlds, etc.) to verify the correct operation of the robot program.
 - Evidence that good software design practices, testing/debugging techniques and efficiency and portability were all considered.
 - Award given for this component. See Section 1 for more information.
- **Safety**
 - Evidence that safety training occurred and safe practices were followed to prevent students' misuse of tools and other devices/equipment that may result in personal injury or damage to property.
- **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.
 - Teams must submit the required Minors on Campus Parent Consent form for every student on the robotics team planning to attend the event.

Category II: Marketing Presentation (25 points)

Marketing presentations will take place on Saturday, December 3 from 9:00am – 12:15 pm in the Science Center Classrooms. The sign-up form for Marketing Presentation time slots will be emailed to all teams by November 10 with teams emailing their top two time slot choices to kristen.bond@auburn.edu by **Monday, November 14th**. Teams that have not requested a time slot by that time will be assigned a time slot. Information about Marketing Presentation time

slots, maps, and room locations can be found in each team's Registration Packet (picked up at Registration).

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 buyers/investors will assess the following:

- The company's demographics, budget, and operations (e.g. company structure and operations, evidence of diversity of employees, evidence of budget that includes sponsorship and expenditures, etc.)
- 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)
- Marketing strategies to promote the product (e.g. school and community involvement, promotional efforts, etc.)
- The company's use of technological resources to accomplish the task (e.g. CAD, programming tools, computer simulations, diagnostic tools, web page development, presentation software, etc.)
- Overall quality of presentation, including adherence to guidelines for this category.

Marketing Presentation Guidelines

- A minimum of 4 and a maximum of 8 students should actively participate in the presentation.
- An audience will be allowed to quietly observe the presentations. The size of the allowed audience is space-dependent.
 - Each presentation room will have an official Room Monitor (not a judge) to ensure that the presentation team is not being disturbed or coached by audience members.
 - Audience members are not allowed to ask questions during the Q&A session.
- Adults are not allowed to participate, including setting up or taking down equipment for the presentation.
- 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.
- Videography/photography 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.

Equipment Guidelines

- The following equipment is available to all teams: Macbook Pro equipped with MS Office 2011, projector, and a screen. More information to be e-mailed.

Marketing Presentation Time Breakdown

- **Check-In station: Saturday, December 3 – Science Center Classroom #115**
- Teams should check in 20 minutes prior to their time slot.
- The order and breakdown for the 20-minute presentation time period is as follows:
 - *15 minutes* Presentation
 - *5 minutes* Q&A with judges
 - *3 minutes* Break-down and clear room

Note: Teams will have a maximum time of 15 minutes for their presentation, including any necessary set-up or breakdown.

- **Please bring a copy of team's presentation on a jump drive.**
- **Teams are allowed to use their own equipment, however, they should account for the extra time needed to set up their equipment. Any time needed to set-up/break down equipment will count against the 15-minute presentation time.**

Marketing Presentation Evaluation

- Presentations will be evaluated with consideration of:
 - **Company Demographics, Budget & Operations**
 - Well-defined roles as company employees/owners/managers; methods of company decision-making; organization of company departments for product development; company demographics; evidence of budget including sponsorship and expenditures
 - **Design and Manufacturing Process (Engineering Design Process)**
 - Brainstorming approaches; game strategy evaluation; analytical evaluation of design alternatives; effective implementation of the engineering process

- **Marketing Strategies**
 - Publicity efforts to inform school and community of company's product (e.g. school newsletters, presentations to community and/or school groups, fliers/brochures, posters, press releases, commercials, etc.)
- **Use of Available Technology**
 - CAD or other drawings; software programming and simulation; Web page development, computer simulations, use of presentation software
- **Quality of Presentation**
 - Well organized and prepared; met required specifications; communication skills and professionalism; achieved goal of marketing company's robot; creativity of format; quality of question and answer session with judges

Category III: Team Exhibit and Interviews (20 points)

- The purpose of the exhibit and interviews category is to creatively:
 - a. Communicate an understanding of the game theme
 - b. Demonstrate how the team has promoted BEST in the school and community
- Team Exhibits will be located on the 3rd floor concourse of the Beard Eaves Memorial Coliseum. The South's BEST office will assign team locations for displays. Teams will be directed to their assigned location upon registration.
- Team Exhibit set-up can begin after team check-in at the Registration desk in the Beard Eaves Memorial Coliseum. Exhibits should be completely set up by 7:00pm on Saturday and students should be prepared for judges to begin visiting their tables starting at 9:30am on Sunday. Note that judging will NOT occur during the lunch break (12-1) on Sunday.
- 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 exhibit. 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.
- It is anticipated that judging of Exhibits will be finished no later than 3:30pm. Note that judging will NOT occur during the lunch break (anticipated 12 noon to 1:00pm).
- Teams should be sure that their Exhibit is clearly marked with school name and team #.
- We anticipate that teams will be able to dismantle Team Exhibits starting at 3:30pm on Sunday. Please wait until the official announcement before any breakdown begins.
- Teams should not leave valuable equipment in the Exhibit booth overnight.

Exhibit and Interview Guidelines

- Tables will not be provided at South's BEST. Teams wishing to have a table in their booth should supply their own.
- Each team should bring one extension cord and one power strip IF the display requires electricity.
- Other exhibit items may be used but must not exceed an 8' X 8' X 8' 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 South's BEST staff to monitor the concourse area, each team is responsible for security of its own material.
- Each team is also responsible for breakdown of its team materials and cleanup of its exhibit area starting at 3:30 p.m. on Sunday.
- Fog machines and strobe lighting are not allowed in booths.
- Heat generating devices are not allowed in booths (e.g., blow dryers, soldering irons, utility lamps, 3D printers, etc.). Standard string/Christmas lights are fine.
- All material should be clearly marked with the appropriate identification and contact information.
- **Candy and other food or drink items are not permitted at Team Exhibits as complimentary handouts.**
- **No live animals may be distributed as part of a team's give-aways.**
- 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 Sunday.

Exhibit and Interview Evaluation

- **Exhibits** (13 points) will be evaluated on:

- 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 (print materials, media/press) generated within the school and within the community about BEST
- Fundraising 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 exhibit in promotion of BEST
- Creativity in incorporating game theme into design and presentation of this exhibit
- Compliance with specifications (did not exceed space allocation)
- **Interviews** (7 points) will be evaluated on:
 - Evidence of students' enthusiasm, learning experience, and understanding of the game theme
 - Evidence that recruitment efforts for the team included multiple grade levels and students from a cross-section of the school population
 - Evidence that students were the primary designers and builders of the robot, team exhibits, and all related materials.

Category IV: Spirit and Sportsmanship (10 Points)

Spirit and Sportsmanship Guidelines

- Judges will evaluate this category on Game Weekend.
- Judges will observe the spirit promoted by the team during the head-to-head competition matches as well as the team's conduct throughout the weekend in the seating area, team exhibit area, game floor, and pit area.
- Judges may also consider the teams' conduct at the entire competition (Saturday, Saturday evening, hotel locations, 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.
- No tape of any kind can be used on any Beard Eaves Memorial Coliseum surface to secure posters, banners, spirit signage, etc. Teams should plan to use rope, cable ties, string, etc. when securing spirit stick items to Coliseum surfaces. Tape may be used inside Team Exhibits on surfaces provided by the team.
- The following noise-makers are banned at the event: air-horns, whistles (and similar high frequency items), bass drums (and similar low frequency items), amplified sound or amplified instruments.
- Instruments, including bass drums, will only be allowed during specified spirit breaks and should not be played unless invited by the emcee.
- The Head Judge has the right to ban any noise-makers that are deemed to potentially cause hearing damage by those in attendance at South's BEST.
- Community involvement: number of team supporters present at competition (other than team members).
- Sportsmanship includes outward displays of sportsmanship (i.e. helping other teams in need), 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 all of the robot adjustments and repairs during the competition.
- **Spirit Stick:** To facilitate judging, each competing team may 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
 - Pole constructed of PVC pipe or similar material (should not be pointed or sharp on either end)
 - Maximum height of 8 feet
 - Maximum of 5 spirit sticks per team

- Spirit sticks are meant solely as a means of team identification by the judges during the competition. Please do not attach spirit sticks to the seating area.
- Note that the Coliseum may not be well-lighted during the competition so teams may wish to take this into account when designing their spirit stick. The easier a team is to identify, the happier the judges are!

Category V: Robot Performance (15 Points)

- The fifth category, *Robot Performance*, will determine the final 15% of possible BEST Award points. These 15 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	15 Points
○ Team finishes in top 40% of all teams competing	12 Points
○ Team finishes in top 60% of all teams competing	9 Points
○ Team finishes in top 80% of all teams competing	6 Points
○ Team finishes in top 100% of all teams competing	3 Points
○ Team is unable to score any points during the competition	0 Points
- Up to 15 Robot Performance points will be added to the total BEST Award points.

Section 5 Additional Information

Seating at South's BEST

Teams may establish seating blocks upon check-in. We ask that teams only reserve the number of seats they need so that all teams can sit together in blocks.

Results

- A distinguished team of judges from both private and public sectors with technical and non-technical expertise will evaluate teams with all judges serving on a rotation schedule.
- Category scores will be the average of each judges' individual scores. Teams should know in advance that scores among many teams frequently differ by only fractions of a point.
- Each team will be mailed a copy of its score sheets following the competition. Top rankings will be posted on the South's BEST website at www.southsbest.org