



2016 Awards and Judging Logistics



Section 1 War Eagle vs. South's BEST Awards & Judging

Because hubs operate with a variety of resources, specific requirements will vary between hubs. This document contains specific requirements set forth by your local hub for the BEST Award competition. Should your team advance to the Regional competition and participate in the BEST Award, be aware that there may be differences in notebook, marketing presentation, team exhibit and interview procedures and guidelines, as well as some other optional/additional awards.

Section 2 War Eagle BEST Expectations & Standard Awards

All War Eagle BEST participating teams MUST:

- Build a robot and compete on the game floor.
- Complete a project engineering notebook:
 - ALL participating teams are required to submit a Project Engineering Notebook at both the local competition and the regional championship following the guidelines in Section 3, 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.
 - For competitions having 32 or fewer total teams, the notebook scores of all teams will be used to determine which 4 teams earn a chance to participate in the single "wildcard" match. The winning wildcard teams will be one of eight total teams that advance to the semifinals phase.
- Complete and submit the required 2016 Team Demographics information with your notebook.

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

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.

Section 3 War Eagle BEST Additional Awards

All Teams Eligible (1st – 3rd Place plaques for each unless otherwise noted)

Game Division 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.

Project Engineering Notebook Award

Awarded to the team that scores the highest on the Project 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 who scores the most points in a single match.

T-shirt Design Award

Awarded for the most original game-specific team t-shirt design. In addition, teams should submit a brief explanation of their design (no longer than one page) with their t-shirt. The explanation sheet should clearly identify the team # and school name and be attached to the t-shirt by pin, clothespin, paperclip, or some similar device. T-shirts may be picked up at the Registration Desk at 3:00pm Saturday afternoon. **T-shirts should be submitted to the Registration/Information Desk upon Check-in at the event to be considered for judging.**

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 emailed to Kristen Bond, kristen.bond@auburn.edu **no later than Thursday, September 29th**. **Please make sure web pages are completed and active by Friday, September 30th at 8:00am CDT.**

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. 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 upon check-in on Saturday, October 8th.**

BEST Simulink Design Award

Awarded to one team in each of the 4 BEST regions (Northern Plains, Frontier Trails, South's, Texas) that set applies the 'Simulink Support Package for VEX' based on the specified judging criteria and their robot performance in the competition.

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.

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 Game Division.

Section 4 Team Demographics Information

Minimum Requirements

The required Team Demographics information must be submitted to the hub before the Robot Compliance Check will be considered complete. Teams that do not complete Robot Compliance Check are subject to disqualification.

Section 5 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.

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

Judging Category	Point Value
Project Engineering Notebook	30 points
Marketing Presentation	25 points
Team Exhibit and Interviews	20 points
Spirit and Sportsmanship	10 points
Robot Performance	15 points

Total 100 points

Category I: Project Engineering Notebook (30 points)

Notebook Guidelines & Requirements

- The purpose of the notebook is to document the process the team used to design, build, and test their robot.
- **ALL** Teams (both BEST Award and non-BEST Award competing teams) are required to submit a Project Engineering Notebook.
- Notebooks should be mailed (or hand-delivered) to:
 - COSAM Outreach
 - War Eagle BEST Notebooks
 - 131 Sciences Center Classrooms Building
 - 315 Roosevelt Concourse
 - Auburn University, AL 36849
- Notebooks must be submitted by **Tuesday, October 4th at 5:00pm CDT**. Notebooks received after the deadline will not be judged!

- **With the Project Engineering Notebook, teams should submit an Auburn University Minors on Campus Parent Consent Form for EVERY student on the Robotics Team who is planning to attend the event.**
- During the competition, the notebook scores of all teams will be used to determine which four teams earn a chance for one “wildcard” slot. The wildcard teams will be one of eight 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
 - 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)
 - 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 pages of information. The appendix may include support documentation used 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 game and how the technology is being used at a company/industry/research lab in the team's state or region; 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.

- **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.

- **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)

The sign-up form for Marketing Presentation time slots will be emailed to all teams. Teams should email their top two time slot choices to kristen.bond@auburn.edu by **Friday, September 16th**. Teams that have not requested a time slot by that time will be assigned a time slot. Information about Marketing Presentation time slots and room locations can be found in each team's Registration Packet (pick up at the Registration). Presentations will take place on Thursday, October 6 from 1:00pm to 5:00pm in the AU Student Center (next door to the football stadium).

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.

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: Thursday, October 6th – AU Student Center (Room 2310)**
- 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
 - *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 maximum 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 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; computer programming (e.g., easyC or RobotC); Web page development, computer simulations, use of PowerPoint
- **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 in courts 3 & 4 of AU Student Activities Center. The War Eagle BEST office will assign team locations for displays. Teams will be directed to their assigned location upon registration on Saturday morning.
- Team Exhibit set-up can begin at 7:30am on Saturday, October 8th after team check-in at the Registration desk. Exhibits should be completely set up by 10:30am on Saturday and students should be prepared for judges to begin visiting their tables starting at 11:00am.
- 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 (12:30 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. Please wait until the official announcement before any breakdown begins.

Exhibit and Interview Guidelines

- Tables will not be provided at War Eagle 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 War Eagle BEST staff to monitor the court 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 Saturday.
- 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 give-aways.**
- Teams should expect to be visited by three to four different judges over the entire judging period.
- Add bullet circled on pg 11 of 16 (at least one student rep should be present)
- Judges may also interview team members in the pit area and in the seating area on Saturday.

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

Category IV: Spirit and Sportsmanship (10 Points)

Spirit and Sportsmanship Guidelines

- Judges will evaluate this category on Game Day.
- 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, team exhibit area, game floor, and pit area.
- Judges may also consider the teams' conduct at the entire competition.

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 AU Student Activities Center surface to secure posters, banners, spirit signage, etc. 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 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 War Eagle BEST.
- Community involvement: number of team supporters present at competition (other than team members).
- 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 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
 - 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.

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 6 Advancement to Regional Championship Competition

Space constraints at each regional championship site will determine the number of teams that can compete for the BEST Award at the championship (check with the specific guidelines published by each regional championship). In order for a team to be eligible to compete for the BEST Award at any of the regional championships, the team: (1) must have placed in the top 3 teams in the BEST Award judging at their local hub competition and (2) must agree to compete in all five of the BEST categories at the regional championship.

- The total number of teams a hub will be allowed to send to a regional championship is determined by the regional championship. Traditionally this number is related to the number of teams competing at the hub, the total number of teams in the region, and the maximum number of teams that the regional championship venue at a regional can hold.
- The sequence of advancing teams will be as follows:
 1. BEST Award 1st Place
 2. Game 1st Place
 3. BEST Award 2nd Place
 4. Game 2nd Place
 5. BEST Award 3rd Place
 6. Game 3rd Place
 7. BEST Award 4th Place
 8. BEST Award 5th Place
 9. BEST Award 6th Place
 10. etc.....

The list above is intended to illustrate the qualification order, not necessarily the exact number of teams advancing from each hub.

Exception to above qualification order:

- A hub has the option to advance a Game winner OR a BEST Award winner at their discretion IF the hub is limited in the number of advancing teams that can participate in the BEST Award at the regional championship, and IF a BEST winner also places as a Game winner.
- For example, if a regional championship allows four advancing teams per hub, BUT only two advancing teams can participate in the BEST Award, AND a Game winner is also a BEST Award winner at the hub level, a hub could be forced to advance a 3rd place BEST Award team that cannot actually compete in the BEST Award at the Regional level. In such a case, the hub can opt to send the 3rd place Game winner instead of the 3rd place BEST Award winner.

Section 7 Additional Information

Seating at War Eagle BEST

Teams may reserve seating blocks beginning at 7:30am on Saturday morning following 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 War Eagle BEST website.