

Xtreme BOTS

DOCUMENTATION GUIDELINES

The Xtreme BOTS program recognizes the importance of documentation and therefore requires documentation for competing robots. All teams are required to bring their documentation to check-in and will be judged by officials at the event for completeness and excellence. There will be an award for the team that provides the best documentation for this event.

Why have a documentation check?

Keeping accurate records of an engineering project is an important goal. Records serve not only as a communication device between group members, but as legal media proving design ideas. In industry, inventions without dated and signed documents (that show the process followed) rarely get patents. In education notebooks, journals, portfolios and presentations are used to validate and assist in student learning. The goal of this program is to create a well educated, technologically skilled workforce. Therefore we are requiring adequate documentation of the team's effort and of the process followed.

What constitutes proper documentation?

Acceptable documentation can come in many forms; however, to be eligible for the award for best documentation you should provide **Personal Robot Journals** and **Robot Project Portfolios**. Each robot project should have its own unique Robot Project Portfolio. Every competitor should maintain a Personal Robot Journal.

What should a Robot Project Portfolio entail?

A portfolio is a collection of materials assembled over a period of time by a learner to provide evidence...of his/her competence, knowledge, skills, abilities, dispositions and improvements toward a project or life goal in the area in which the learner is preparing (i.e. Engineering).

Robot Project Portfolio (should show evidence of)

- Design Motivation
- Team Procedures
- Team Mgmt
- Material Mgmt
- Accounting/Budget
- Time Mgmt
- Data Mgmt
- Promotional/Fundraising
- Design Process
- Research Methods
- CAD models
- Refinement
- Structural Analysis
- Engineering Drawings set
- Material selection
- Manufacturing plans
- Assembly models
- Weapon system details
- Drive system details
- Power system details
- Wiring schematic
- Testing results
- Strategy
- Offensive
- Defensive
- Winning

The Robot Project Portfolio should be a three ring binder that shows evidence of the above information. The judges will spend approximately 15 minutes on each team's portfolios and journals so it is important to take this into consideration when creating the portfolios.

The Personal Robot Journal

A journal or composition will be required to show evidence that all team members were intricately involved with the robot project as specified. Each member of the team is required to submit **one** of these **two** items for this year's event.

The Personal Robot Journal must consist of a composition notebook with entries written by the student that document what the student's individual contribution to the team was including; design, fabrication, promotion, planning etc. The journal should not directly duplicate items in the portfolio. It should record—in writing—the individual effort and the process followed.

Each entry:

- Should include a summary. (Maximum of 50 words)
- Should be signed and dated by the project member
- Should be hand written in pen on the fronts of each page only. Any errors should be crossed out with a single line. Pages may not be removed.
- The backs of each page can be used to add related computer printouts or graphics.

OR

A Robot Project Composition, which describes the student's individual contributions and involvement, and a description of the robot, its strengths, weaknesses and team strategies for driving and competing. This two page composition needs to be put into a duo-tang type folder with the student's and the team's name on it.

How is a documentation check performed at the event?

Competitors are required to arrive with their journal (either the composition notebook or 2 page composition) and turn them in at check-in. Portfolio and journals will be looked at together to verify the work of individual team members as well as the group in whole.

How will these documents be scored?

A rubric will be used to score the Robot Project Portfolio; below you will be given a sample of the criteria for the judging. The Personal Robot Journal will be assessed by means of compliance. Every team member will be required to have either a composition notebook or a 2 page composition. All documents will be required at check-in.

Organization (15%)

- Materials bound in binder, clearly identifying school/club, team, and member names.
- Index of sections, section dividers

Journals or composition (individual & team) (15%)

- TEAM Journal or TEAM Composition
- Individual journals or composition

Engineering Drawing Set (20%)

- Conceptual drawings/sketches, Cad assembly, CAD details, and CAD models

Bill of Material (15%)

- List of items to be purchased, manufactured, fabricated

Design Process (testing, research, refinement) (35%)

- Research Methods
- Refinement
- Structural and material Analysis
- Weapon System Details
- Drive System Details
- Wiring schematic (Power system Details)
- Testing Results