



TCRL Documentation Details

While taking time to put together a documentation book is not nearly as exciting as building the robot itself, the documentation process is an important part of manufacturing and today's marketplace.

Keeping accurate records of an engineering project is a necessary skill. Records serve not only as a communication device between group members, but as a visual media proving ones design ideas. In industry, inventions without dated and signed documents that show the process followed rarely get patents. Poor documentation can lead to critical mistakes on jobs, potentially costing companies great expense in repairs on the job. TCRL's goal is to create a well-educated and technologically skilled workforce.

Each documentation portfolio has the potential to earn a total of 56 points. Here are some items that will help your documentation book receive high marks.

- Professionally presented in a neat and orderly fashion.
- Followed the rubric and addressed each industry skill/category.
- Provided supporting documentation (i.e. spreadsheets, drawings, specs, etc.).
- Used correct and specific technical terms as found in industry.
- All documentation labeled clearly.
- All drawings, specs and diagrams labeled clearly.
- Used original writing specific to the team's current robot.
- Included team members' names throughout documentation to show individual contributions.

The reason you want to take your time to do this is to learn and prepare yourself for the position you will be hired for in today's job market. Learning to be clear, concise and specific in your communication is a necessary skill to be successful in the work place.

TCRL recognizes the importance of documentation and has instituted the mandatory presentation of team documentation for all competitions. Each robot project should have its own unique Robot Project Portfolio. There will be an award for the team that provides the best documentation at the Regional Competition.



What should a Robot Project Portfolio include?

A portfolio is a collection of material 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, Manufacturing, etc.).

The Robot Project Portfolio should show evidence of:

- Design Motivation
- Team Procedures
 - Team Management
 - Material Management
 - Accounting/Budget
 - Time Management
 - Data Management
 - Promotional Fundraising
- Strategy
 - Offensive
 - Defensive
 - Winning
- Design Process
 - Research Methods
 - CAD Models
 - Refinement
 - Structural Analysis
 - Engineering Drawing Set
 - Material Selection
 - Manufacturing Plans
 - Assembly Models
 - Weapon System Details
 - Drive System Details
 - Power System Details
 - Wiring Schematic
 - Testing Results

The Robot Project Portfolio should be a 3-ring binder (or similar) that shows evidence of the above information. The judges will spend approximately 15 minutes with each team's portfolio so it is important to take this into consideration when creating the portfolios.



Robot Project Portfolio Documentation Rubric

Criteria	All/Excellent	Some/Good	None/Poor
Design Motivation			
-Influences			
Team Procedures			
-Team Management			
-Material Management			
-Accounting/Budget			
-Time Management			
-Data Management			
-Promotional/Fundraising			
Design Process			
-Research Methods			
-CAD Models			
-Refinement/Re-Engineering			
-Structural Analysis			
-Engineering Drawing Set			
-Material Selection			
-Manufacturing Plans			
-Assembly Models			
-Weapon System Details			
-Drive System Details			
-Power System Details			
-Wiring Schematic			
-Testing Results			
Strategy			
-Offensive Approach Explained			
-Defensive Approach Explained			
-Winning Strategy Documented			
Professionalism			
-Neat & Labeled			
-Clearly Structured			
-Includes Teammate Contributions			
-Includes Photo's			
-Overall Appeal			