

Engineering Notebook Rubric (Page 1 of 2)

Team # _____ Grade ☐ ES | ☐ MS | ☐ HS Judge Name _____

Directions: Determine the point value that best characterizes the content of the engineering notebook for that criterion. Write that value in the column to the right. This rubric is to be used for all engineering notebooks regardless of format (physical or digital). Please refer to Section 5 of the Guide to Judging for information on how to use this rubric.

Note: Any student-centered or academic honesty concerns, such as plagiarism, should be brought to the attention of the judge advisor and/or event partner.

CRITERIA	CRITERIA DESCRIPTION			POINTS
	PROFICIENCY LEVEL			
ENGINEERING DESIGN PROCESS	EXPERT (4-5 POINTS)	PROFICIENT (2-3 POINTS)	EMERGING (0-1 POINTS)	
IDENTIFY THE PROBLEM / DESIGN GOAL(S)	Clearly identifies the problem/design goal(s) at the start of each design process cycle. This can include elements of game strategy, robot design, or programming, and should include a clear definition and justification of the design problem(s), goal(s), criteria, and constraints.			_____
	Great detail	lacking details or justification	Few or no details	
BRAINSTORM SOLUTIONS	Explores different solutions with explanation. Citations are provided for ideas that came from outside sources such as online videos or other teams.			_____
	Several solutions with explanation and citations	Few solutions with minimal explanation and citations	one or no solution with little/no explanation and no citations	
SELECT BEST SOLUTION	Explains the “why” behind design decisions in each step of the design process for all significant aspects of a team’s design.			_____
	Fully explains	Inconsistently explains	Minimally explains	
BUILD AND PROGRAM THE SOLUTION	Records the steps the team took to build and program the solution so that the reader can follow the logic used by the team to develop their robot design, as well as recreate the robot design process from the documentation.			_____
	Full detail	Lacks sufficient detail	No detail	
ORIGINAL TESTING OF SOLUTIONS	Records the steps to test the solution, including test results. Testing methodology is explained. Testing results are original to the team and explained, and conclusions are drawn from that data.			_____
	All steps recorded, clearly explained. Results original to the team.	Key steps recorded. Methodology/results/ conclusions incomplete.	No steps recorded. Results borrowed from others.	
REPEAT DESIGN PROCESS	Shows that the design process is repeated to work towards a design goal. This process can be repeated in full iterations or for specific parts of the overall design. The notebook shows setbacks that the team learned from, and shows design alternatives that were considered but not pursued.			_____
	Repeated multiple times. Shows setbacks and/or alternatives	Not often repeated. No setbacks, alternatives, or learning shown.	Not repeated. No setbacks shown or curated to craft a narrative.	
NOTES / GENERAL IMPRESSIONS: 				

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FORMAT AND CONTENT	EXPERT (4-5 POINTS)	PROFICIENT (2-3 POINTS)	EMERGING (0-1 POINTS)	POINTS
INDEPENDENT INQUIRY	Team shows evidence of independent inquiry of their design process. Notebook documents whether the implemented ideas have their origin with students on the team, or if students found inspiration elsewhere.			_____
	Through whole process Idea sources documented	Some elements of process Most idea sources documented	Little to no evidence Source not documented	
USABILITY & COMPLETENESS	Records the design and development process with enough clarity and detail that the reader could recreate the project's history. Notebook has recent entries that align with the robot the team has brought to the event.			_____
	Records entire design, consistent, and current	Lacks sufficient detail, is inconsistent with possible gaps	Missing significant detail and has large gaps of time or not current	
ORIGINALITY & QUALITY	Content is kept to relevant information and all content not original to the team longer than a paragraph is located in appendices to the engineering notebook. Information originating from outside the team is always properly cited in the notebook with the source and date accessed. Engineering notebook content is original to the submitting team members.			_____
	Content is relevant, appropriately placed, properly cited, and original to the team.	Content is mostly relevant/properly placed/cited/original	Non-original content is excessive, is not kept in appendices, and/or not cited. Plagiarised content should be noted to the JA pursuant to the RECF Code of Conduct process.	
ORGANIZATION / READABILITY	Entries are logged in a table of contents (ToC). Organization makes it easy to reference, such as color coded entries, tabs for key sections, or other markers. Notebook contains little to no extraneous content that does not further the engineering design process.			_____
	Well organized with ToC. Little to no extraneous content	Somewhat organized with ToC. Contains some extraneous content.	No ToC. Missing organization. Excessive content.	
RECORD OF TEAM & PROJECT MANAGEMENT	Provides a complete record of team and project assignments: – Contains team meeting notes including goals, decisions, and building/coding accomplishments. – Design cycles are easily identified. – Resource constraints including time and materials are noted throughout. – Notebook has evidence that documentation was done in sequence with the design process. – Entries include dates and names of contributing students.			_____
	Records all information listed	Records most of the information listed	Missing key information listed. Unable to understand progress. Significant gaps in key design aspects. Little evidence of date entries and student contributions.	
INNOVATE AWARD NOTES (optional): 				_____
TOTAL POINTS:				

All judging materials are strictly confidential. They are not shared beyond the judges and judge advisor and shall be destroyed at the end of the event.