This rubric is designed to help teams prepare the Engineering Journal for the Armstrong Engineering Design Challenge.

An engineer’s journal (or notebook) is a book in which an engineer will formally document, in chronological order, all work that is associated with a specific design project. Typically each engineer has an engineer’s journal. Engineers record all related project work by hand. Each team will have a single journal.

The journal should:
- Include written ideas
- Include sketches (preferably annotated)
- Include work session summaries
- Include research findings
- Include interview information: who was contacted, when, and what was discussed or learned
- Be submitted in a composition book as shown in Fig. 1
- Provide a description of the process the team used to design

Additionally,
- The cover must identify the school, team name, student coach and project mentor.
- Write everything in non-erasable ink.
- Pages should be sequentially numbered in ink on the top outside edge.
- Do not erase, white-out, or otherwise obliterate anything written in your journal. To eliminate something that is unwanted or incorrect, strike it through with a single neatly-drawn horizontal line through the middle of the text.
- If a correction is warranted, strike through the portion in need of correction as described above and insert a small, dated reference to the page containing the corrected entry.
- Start your entries at the top of the first page and leave no significant blank space between adjacent entries.
- Although significant whitespace (more than 1/4 page) should not occur, on those rare occasions when it does, X it out with a neatly drawn X spanning all four corners.
- Clearly and consistently date each entry where it begins and sign it where it ends. Maintain a strict chronological arrangement.
- Use only one side of each page for clarity, be sure you place page numbers only on the side you intend to use and X-out the unused side with a single, neatly drawn X spanning all four corners.
- No pages are removed from the Engineer’s journal for any reason.
- Teams may include support documentation such as photos, organization charts, minutes of team meetings, test results, etc. Photos may be glued to blank pages in the journal. This material should directly support the design process and NOT reflect activities related to community or promotional efforts, spirit development, or team-building.
Examples

Fig. 2 provides examples of sketches in an engineering journal, Fig. 3 shows written journal entries; an internet search of “engineer’s notebook” will yield many more examples.

Figure 2: Journal Drawing Examples

Figure 3: Journal Written Entries
Engineering Journal Evaluation
The engineering journal will be evaluated on the documentation of the team’s implementation of the following:

*Engineering Design Process (15%)*
Evidence that the engineering process was effectively used.

*Brainstorming Approaches (10%)*
How well organized and productive was the brainstorming approach used and documented?

*Evaluation of Design Alternatives (10%)*
Use of research findings in deciding upon and implementing design alternatives

*Safety (10%)*
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 (10%)*
Drawings, photos, organization, team minutes, test results, etc. that support the main document.

*Overall Quality and Completeness of Journal (20%)*
Organization, appearance, adherence to specifications, quality of content.

*Progress Reports (25%)*
Details in the rules.

Last updated on January 21, 2017