4 Technical Guide and Presentation

Essentials

- Guide due: Oct. 26 (rough); Nov. 14 (final)
- Presentation due: Oct. 31 or Nov. 2 (in class)
- Worth 20% of course grade combined.

- 2–3 pages of unaccompanied text typical for most written guides; images complicate this.
- 4 – 6 minutes for presentations.

Assignment Goals

This project asks you to create a short but comprehensive "technical guide." This guide should 1) offer a set of **carefully-written instructions** for completing a particular task of your choosing 2) **teach your audience about scientific or technical principles** involved in the task. This is not all it can do, however. References, visuals, diagrams, tables, lists, and more are all highly encouraged, as these features often make technical tasks easier for non-experts to use. In addition to composing this technical guide, you will also plan and deliver an **oral presentation** that also 1) teaches your audience how to complete the task and 2) educates the audience about the underlying scientific/technical principles at play in the task.

You are free to choose whatever topic you like, provided that it **involves some kind of scientific, technical, and/or engineering-related knowledge that would not be familiar to a member of the general public** (e.g., "How to Tie Your Shoes" would be inappropriately simple). I also recommend choosing something relevant to your field of study or your personal interests if possible. Example topics might include: writing a certain kind of computer program, building a water purification device, or designing a maximally efficient farm. You are deliberately being given a lot of freedom here! However, feel free to run a topic by me if you're not sure whether it's appropriate or not.

You should deal with the same task or process in both the written instructions and the presentation. To reiterate, both the guide and the presentation should **teach your audience about the scientific, technical, and/or engineering principles at play**. For example, if you choose to write a guide to throwing a football in a "perfect spiral," you should aim to teach the audience about the aerodynamic effects that cause the football to fly farther and straighter.

Guidance

While there is likely to be some significant overlap between the two portions of the assignment, the written instructions *should not* simply be a script for the presentation. Both parts should stand on their own. In other words, try to take full advantage of the affordances of each distinct medium. Text allows a high level of detail and information hierarchy. By contrast, presentations allow you to *show rather than tell*—to encapsulate entire paragraphs in single combinations of visuals and speech. Design each "guide" accordingly.

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Text Portion: You should not write this the same way you'd a typical academic essay. To the contrary: traditional paragraph structure is probably a bad choice here, as readers are not reading your document for pleasure, but instead in order to understand a process and accomplish a task.

Instead, consider adopting nontraditional formatting decisions that might make reading the instructions as easy as possible for your reader. List formatting, features like tables, the use of judicious diagrams/reference images, and so on can make your written guide more helpful. You can also add content that you think might supplement your core instructions. For example, a "Frequently Asked Questions" ("FAQ") section can help clarify readers' lingering uncertainties. Or, if your instructions are very long, breaking your steps into several discrete sections may help readers keep their place. In sum: a creative approach to you formatting and content can help your reader.

Presentation: While the presentation should incorporate PowerPoint slides (part of your grade corresponds to slide design, you might think of your slides more as accompaniment to your speech/demonstration than as the main course. Resist the urge to load your slides with detailed lists or dense blocks of text. Instead, try to adopt the minimalist philosophy to presentations espoused by *Presentation Zen*. Use your slides to convey big ideas visually while you convey the details through speech, gestures, and an emotional connection with your audience. Remember: you're the boss (and your slides aren't!).

Rubrics

Component	Poor (0-50%)	Satisfactory (50-69%)	Good (70-89%)	Excellent (90-100%)	Pts.
Technical Guide (150 pts.)					
Usefulness/ Content	Instructions are essentially incomplete; they may not reliably guide a user through even the most common or "best-case" scenario.. Frequently uses jargon in difficult-to-understand ways (i.e., presenting an overwhelming amount of jargon without explanation or comment). Exposes unknowing readers to risks or dangers. Many portions may present unnecessary/exhausting detail.	Instructions border on incomplete; they may account only for the most common or "best-case" user or scenario. Does not always present jargon in easy-to-understand ways (or relies too heavily on jargon overall. Does not anticipate potential risks/dangers to the reader. Several portions may present unnecessary/exhausting detail.	Instructions are essentially complete, but may miss opportunities to address rarer use cases or common user concerns that require going beyond straightforward sets of steps. Usually introduces unfamiliar concepts/jargon in sensible and easy-to-understand ways, with a few exceptions. Anticipates potential risks/dangers to the reader. Some isolated portions may present unnecessary/exhausting detail.	Presents a detailed, complete set of instructions intended for a novice reader. Instructions account for a breadth of user scenarios, rather than only the most common or "best-case" ones. Introduces unfamiliar concepts/jargon in sensible and easy-to-understand ways; avoids jargon altogether when possible. Anticipates potential risks/dangers to the reader and provides Exercises editorial restraint; does not present unnecessary/exhausting detail.	75
Accessibility/ Design	Guide is hostile to easy reading. The document makes no attempt to indicate which information is most important, design decisions lead reader toward incorrect/dangerous actions, and information is presented in a confusing or disordered hierarchy.	Guide contains few instances of "compassionate" formatting, instead usually opting to present information in visually indistinct or hard-to-parse ways. Misses obvious opportunities to use features like lists, tables, diagrams/reference images, or struggles to implement these things successfully. Key information is sometimes hard to find; design decisions sometimes make it hard to interpret content or judge relative importance of two pieces of content. Information in presented according to a misleading order or hierarchy.	Guide contains some instances of "compassionate" formatting, but the approach is not consistent or ambitious as it could be. Features like lists, tables, diagrams/reference images appear, though one or more noticeable issues with their implementation may be present. Key information is usually easy to find; design decisions may sometimes cause minor issues with interpretation of content/relative importance. Information in guide has a legible order or hierarchy.	Guide uses "compassionate," user-first pproach to formatting and content. Features like lists, tables, diagrams/reference images, and so on are used prudently and helpfully. Key information is easy to find; design decisions clearly communicate both the instructions and the relative importance of instructions. Information in guide has a clear, easy-to-interpret order or hierarchy.	50

Readability/ Style/ Mechanics	Many errors in grammar, spelling, formatting. Mechanical issues distract from the content of the instructions or make reading difficult. Prose is frequently inappropriate for the audience. Frequent errors in citation/reference format or wrong format used.	More than a few errors in usage or mechanics appear. In some isolated portions of the document, errors distract from the instructions or make reading difficult. Prose is noticeably inappropriate for the audience in some spots. Frequent errors in citation/reference format.	Prose is clear and generally follows standard conventions of style, grammar, and mechanics. Occasional sentence-level errors can be observed. Prose is generally audience-appropriate, with some minor exceptions. Occasional errors in citation/reference format.	Line-level writing is error-free, polished, professional, and appropriate for the situation and audience. ==Cites sources and formats references (e.g., for reference images) in accordance with APA style.==	25

Presentation (50 pts.)

Content	At least four of the "excellent" qualities is false or absent.	**At least two of the "Excellent" qualities is false or** absent.	**At least one of the "Excellent" qualities is false or** absent.	- Begins with a quick but effective introduction (perhaps including who you are, your relationship to the task, and a compelling hook that conveys why this task matters). - Presents clear value statements (directly connects the subject to the audience). - Relates processes and instructions in compelling and easy-to-understand ways. May use features like mnemonic devices/metaphors effectively. - Considers novice users' worries and/ or potential dangers. - Conveys enough detail to establish credibility without crossing into information inundation. - Uses good closing moves (summarizes key points, thanks the audience, leaves a sense of where we can go from here, and ends with confidence).	25
Slide Design	- Illegible, overly complex, or garish. - Form does not follow function; aesthetic elements inappropriate for presentation's practical goals. - Includes obvious technical errors or poor-quality images. - Content generally inappropriate for audience and situation.	- Design not always simple and clear; some slides may contain excessive detail (or design features that make it difficult to absorb content). - Several exceptions to "form follows function" rule;, aesthetic decisions and informational visuals are not always used to enhance the content of the presentation. - At least one major error error or multiple minor errors may be apparent. - At least one piece of content inappropriate for the audience and situation.	- Design generally clear and simple; some individual slides may suffer in this regard. - Form typically follows function; with a few exceptions, aesthetic decisions and informational visuals are used to enhance the content of the presentation. - Is generally professional and free of errors; a few minor errors may be apparent, most content appropriate for the audience and situation.	- Is clear and simple, cohesive, and modern. - Aesthetic decisions and informational visuals are used to enhance the content of the presentation. - Is professional, free of errors, and appropriate for the audience and situation. - Uses high-quality images. - Includes a "References" slide.	15
Delivery	- Generally appears unprofessional or unprepared. - Speaks in a difficult to understand way. Volume, speed, and/or emphasis may be inappropriate. - Consistently appears distant or unengaging.	- Sometimes appears professional. However, frequently neglects to face the audience, exhibit good posture, model enthusiasm, and/or exude confidence. - Speech occasionally lacks a sense of dynamics. Volume, speed, and/or emphasis may be inappropriate. - Connects emotionally with the audience only during certain portions of the presentation; otherwise, appears distant or unengaging.	- Generally appears professional. May occasionally not face the audience, exhibit good posture, model enthusiasm, and/or exude confidence. - Speaks dynamically. Either volume, speed, or emphasis may occasionally become problematic, but not all three. - Connects emotionally with the audience during the majority of the presentation; some lapses may occur.	- Consistently appears professional. Faces the audience, exhibits good posture, models enthusiasm, and exudes confidence. - Speaks dynamically with appropriate volume, speed, and emphasis. - Connects emotionally with the audience throughout the presentation.	10

Note: speeches that run significantly under or over time (< 3:30 or > 6:30) are assessed a 10–point penalty (20%).