Project Notebook Guidelines and Recommendations

Project Notebooks:

Over the course of the semester, all students are expected to maintain an electronic notebook detailing their progress and contributions towards their senior design projects. Notebooks are captured daily over the semester, and evaluated by the 477 course staff near the beginning, middle, and end of the semester. Your notebook is worth 12% of your overall grade outright, and can additionally be quite valuable in proving the work you have done in situations where this is contested.

Project notebooks are the primary means of documenting your work on a day-to-day basis, and are one of the primary means by which individuals will reproduce your work down the road. In addition, project notebooks are a course outcome, and have a considerable impact on your grade. Therefore, doing well on your project notebook will go a long way towards ensuring that you pass this class.

How are Project Notebooks Graded?

As referenced in the notebook evaluation rubrics in the homework section of the ECE477 course website, there are 5 categories used for grading project notebooks. These categories are:

1. Level of Technical Detail
2. Pictures, Drawings, and Diagrams
3. Update Record
4. Weekly Summaries
5. Technical Writing Style and Clarity

Level of Technical Detail

This is the “meat” of your notebook, and as such is weighted the most heavily of the different criteria for your project notebook. With a thorough, detailed notebook, your work can be reproduced by others, and help result in a project you can be proud of. A sloppy, poorly written notebook is not worth the paper that it’s printed on, and is of no help to the user who is trying to reproduce your work from what you have written.

In order for your notebook to have a high level of technical detail, it is important to focus on problems, issues, and solutions related to the project. A bad habit that people get into when it comes to technical detail in their notebooks is writing about what they did, rather than the problems they encountered, what they tried, and what ultimately ended up working. Saying “I worked on the code for the microcontroller” is virtually meaningless, while describing what the code that you wrote does, whether or not it worked, and what the problem ultimately was if it didn’t work right away is much more valuable. In addition, providing citations or hyperlinks to external sources that you used for your work is a very valuable way to add additional technical detail to your notebook.

Pictures, Drawings, and Diagrams

Large endless blocks of text can be very formidable to a reader, and sometimes the content of your notebook can be improved considerably by the addition of pictures. This is where the pictures, drawings, and diagrams portion of the notebook comes into play. Getting a good score on this is as simple as including a number (one or more per entry, or at least a few each week) of relevant pictures or diagrams related to your project. Pictures could include schematics and PCB layouts generated in software, photographs of your project and/or prototyping setups you have created to test features of your project, MATLAB graphs, oscilloscope screenshots. Even people working on software can have relevant pictures of their project in the form of screenshots of code or pseudocode, GUI screenshots, flowcharts, graphical representations of algorithms, or useful graphical output produced by one's code.

It is important that the pictures you choose to include in your project notebook be relevant to the work YOU (not your team members) are performing. If your notebook entries detail the software used in your project and your pictures are pictures of the hardware being assembled, this could reflect poorly on your pictures score. For taking pictures, it is also important that the pictures be small thumbnail pictures embedded in your notebook. Not full size images, which can result in slow page load times for your project notebook, and not hyperlinks to the images. Use JPEG and PNG formats for images whenever possible, and try not to use bitmap or tiff images, which have caused problems with notebook capture software in the past. Gimp and ImageMagick's convert utility are both excellent utilities for resizing images and converting images from one format to another.

One final important note regarding images is that it is important that your project notebook contain at least one image for each of the notebook evaluations periods. Notebooks containing zero images in a given evaluation period will receive a score of 0 for the Pictures, Drawings, and Diagrams section of the notebook.

Update Record

The update record portion of your notebook evaluation scores is to make sure you are writing about project developments as they happen (rather than weeks or months after the fact) and that you are making steady, consistent progress towards the completion of your project.

Your update record is evaluated in two ways. Nightly captures are made of project notebooks, to prevent a student from writing several weeks worth of progress in a single night. In addition, the dates used on your notebook entries are checked during grading, to ensure that you are making steady progress on your project.

To receive a high score on the update record portion of your notebook, have a notepad or text file on a computer open while you are performing work, where you can take a few very brief notes on what you are doing while you are doing the work. Then once you have finished your work (within 3 days of your doing the work), write up a more detailed project notebook

entry describing the work that you did. For maximum points, write a new project notebook entry at least once every 3 days (dated as well as actually written).

One common pitfall for many students is a failure to update the ONLINE version of their project notebook on a regular basis. It is common for students to have an offline version of their project notebook, such as a Word file, and then not update the online version of their notebook until just prior to the notebook submission deadline. Doing so hurts the update record score, because it appears to the course staff that the project notebook was all written at the last minute. Additionally, be sure to carefully check the dates in your notebook entries, and that they reflect the actual dates that work was performed. A common practice is to take a single "template" notebook entry and copy/paste it a bunch of times. If this is done, but the date is not updated for each notebook entry, all notebook entries will have the same (incorrect) date, and project progress will be impossible to determine from the perspective of the course staff.

Weekly Summaries:

At the end of each week of work in your project notebook, it is expected that students will write a weekly summary briefly describing the major project accomplishments for the previous week. In order to receive maximum points on this portion of your evaluation score, it is important that weekly summaries be 2 to 3 complete sentences. Additionally, these summaries should detail progress made on the project. It is common for students to describe presentations done or homework assignments written, but these should be avoided in the weekly summaries.

Technical Writing Style and Clarity:

Along with technical detail, this section of your project notebook forms the "core" of your notebook, and is weighted heavily in your evaluation grade. To receive a good score in this section, a student must write professionally. Additionally, spelling and good grammar are a must. A good method to help improve your score in this section would be to copy/paste the contents of your project notebook into Microsoft Word or some other text editor containing spell check, identifying possible spelling and grammar errors, and correcting these in your notebook before the notebook is due.