

EC464 Senior Design 2019: GitHub Classroom Grading Criteria

The purpose of the GitHub Classroom repos in EC464 Senior Design <https://github.com/bostonuniversityseniordesign> is to ensure technical continuity of your project, alongside other essential documentation including logbooks, User Manual and Test Reports. The EC464 GitHub Classroom repos help preserve code, CAD and other files suited for digital archives.

Item	Points	Description
Engineering README.md	10	Project quick-start info for a future team working on your project.
Hardware Report (README_Hardware.md or GitHub Wiki pages)	15	Collection of schematics, vendor information, pictures, technical specs, etc. Also includes a document highlighting how to setup the project and connect to external systems, sensors, etc.
Software Report (README_Software.md or GitHub Wiki pages)	15	Source code and executables along with the accompanying documentation on how to setup/compile your project and transfer code to a target platform.
Copy of previous reports	5	Include .pdf or .docx of Test Plans, Test Reports, User Manual, etc.
File naming and general Git repo usability	5	all Schematics / PCB documentation must be provided in PDF <u>AND</u> original format. Is it straightforward for new team to start from your Git repo

The material you provide should allow an engineer of similar training to be able to continue your project within two weeks of starting it simply by using the material provided on the EC464 GitHub Classroom repo.

In general, whether you choose to use GitHub Wiki or .md files, the Markdown doc format is quite simple: <https://guides.github.com/features/mastering-markdown/>

Otherwise if you're more comfortable with .docx / .pdf, that is also OK for documentation.

We are less interested in exact character / page count and more interested in how usable your Git repo is. The staff have used 10,000+ Git repos and so are familiar with what works well in general.

Submit this assignment by creating a GitHub Release, with release notes stating this is the intended copy for submission. If you make a later release, simply update the release notes accordingly.

Detailed outline of Grading Criteria

Engineering Addendum (4000-12000 characters) – README.md

The Engineering Addendum is quick-start documentation written to any future team that may continue to work on your project. This is where you outline the gotchas of your project, types of things to look out for, the current state of the project, etc. The purpose of README.md is to save any future team weeks of detective work just to get to where you are today. Think back to what types of things you had wished you knew earlier, doing future teams a favor by passing that knowledge along.

Software Report (10000+ characters) – README_SOFTWARE.md (or GitHub Wiki)

You need to provide clear and concise documentation for all the code that you have written. It simply does not suffice to copy all the code into a folder and rely on comments in your code for documentation. Please provide the following:

- An overview of each software module
- A flow chart indicating the dependencies between these functions. For instance, if you have a main.py and LCD.py, you need to show that LCD.py is a module used by main.py.
- Dev/build tool information: Package name and version info. For example, OpenCV 4.0.3 with Python 3.8.1, using CUDA Toolbox 10.0 and GCC 9.1 and CMake 3.14.2
- How to install the project software stack from scratch (a blank hard drive / cloud instance) Please provide concise documentation on what installation software is needed, and how to build from source to binary as applicable.

Example:

- Debian Linux 9.1 into embedded system, with kernel patch to enable the USB controller
- how to use CMake to cross-compile code, how to transfer binary into the target, how target autoruns binary, etc.
- How to setup/startup cloud instance that collects and processes data from the embedded system

Hardware Report (10000+ characters) – README_HARDWARE.md (or GitHub Wiki)

- Schematic / PCB / CAD diagrams of all components of your project: please include in PDF format AND the actual CAD / CAM files (would you want to redraw them from scratch?)
- Vendor information and Bill of Materials (BOM).
- References to significant data sheets, application notes, design templates, etc.
- Power requirements (voltage, current, power supply model, etc.).
- Clear picture of system inside the enclosure – use multiple angles if necessary.
- Significant data sheets, application notes, design templates, web resources.
- Photographs documenting the assembled system

Copy of Previous Reports: User's Manual, Test Plans, and Test Reports

Please include in the EC464 GitHub Classroom repo a copy (.pdf,or .docx etc.) of the reports you submitted in Senior Design.