FORMAT - Final Fall and Spring Report

updated 190827

Fall - The Project Proposal is expected to be 4-6 pages (or longer) and should including illustrative drawings and images

The Project Proposal and should reflect this format,

FORMAT - Proposal

Each report is an extension of the proposal and then the last report. Each version getting longer and including more detail on the project.

Fall - Mid-term report for the semester is expected to be 8-10 pages (or longer) and should including illustrative drawings and images.

Fall - Final report for the semester is expected to be 10-15 pages (or longer) and should including illustrative drawings and images.

Spring - Final report for the semester is expected to be 25-30 pages (or longer) and should including illustrative drawings and images.

The fall and spring reports should follow this rough format.

FORMAT - Final Fall and Spring Report

updated 171130

the two report sections (realistic design constraints and engineering standards)

- realistic design constraints (e.g. engineering and other constraints)
- **engineering standards (used in project)**, e.g. IEEE 802, ISO, IETF, etc.

are REQUIRED for both Fall and Spring Final Reports

The report will not be accepted or graded without these section.

updated 141028

Page lengths are based on pages being 12 point font (or smaller)

updated 121107

Page lengths are based on pages being "singled spaced"

updated 120430

This is the rough outline of the final report due at the end of the Fall and Spring semesters.

All sections may not apply to your specific effort, but most section will apply to all projects.

~~**Fall - Final report for the semester is expected to be 8-10 pages (or longer) and should including illustrative drawings and images.**~~

~~**Spring - Final report for the semester is expected to be 20-25 pages (or longer) and should including illustrative drawings and images.**~~

The Fall format does not have a strict format template. The Spring final report will need to be formatted into a provided template (.docx, google doc, tex)

Use of section numbering or clear definitive headers is strongly encouraged.

[optional sections]

final report outline

- **title page**
  - title of the project (e.g. "Wall Mapping Robot")
  - one word team name (related to the project, e.g. wall-mapping robot, team name "ROVER")
  - team members
  - executive summary (a summary paragraph(s) with an overview of the entire project to fill the remainder of the title page)
- **problem statement**
  - introduction, background, and other motivations for the problem
    - who is your customer?
  - concise problem definition
- **objectives / goals / requirements**
  - overall
    - overall system goals
      - what are you going to design and build?
      - what is a success (failure)?
  - realistic design constraints (e.g. engineering and other constraints)
    - system requirements
    - assumptions
  - planning by semester
    - Fall goals (experiments, tests, prototypes)
      - plan, schedule, milestones (defined points which demonstrate you are making progress toward your goal)
    - Spring goals (finished system, results)
      - plan, schedule, milestones (defined points which demonstrate you are making progress toward your goal)
  - [prior work]
- **approach**
  - scheme/design, design using ?
  - build this, integrate that, write this software, etc.
  - how to test, debug, etc.
  - challenges
  - what technology issues are going to be hard
  - what will be hard for your team
    - equipment or technology that you don't understand
    - skills you need/have to learn
- **design**
  - overall systems
    - sub-systems
    - interfaces
    - how it works
  - hardware
  - software
  - [simulation]
- **safety issues**
- **results of component and sub-system testing**
- **project results**
  - [lessons learned]
  - [identification of complete common design modules produced that can be used for future projects]
  - [recommended future work]
- **engineering standards (used in the project)**, e.g. IEEE 802, ISO, IETF, etc.
  - references
  - APPENDIX
    - equipment needed/used
      - equipment and components (hardware, software, etc.)
  - budget - detail the $200 (or more) dedicated to the project and also detail additional costs for common equipment/materials that can be used again in future CAPSTONE classes (e.g. Arduino boards, GPS units, etc.) which may have driven your costs above $200.
  - CONSTRAINT time - end of each semester
  - CONSTRAINT $$ - budget