**Fall Test Plan**

**Purpose**

The primary purpose of the Test Plan is for you to apply systems engineering principles to create a detailed set of tests for the verification of your system and Level 1 subsystems, culminating in the Fall Validation Demonstration (FVD).

**Submission**

1. The Test Plan is a team assignment and is therefore a fusion of all team members' inputs. The page limit is 15 pages all-inclusive (i.e., text plus figures of all kinds) for everything other than the prefatory information.
2. In addition to the TeamX\_FallTestPlan.pdf document, ***submit on Canvas with this assignment a TeamX\_FVD.doc(x) one-pager which is an up-to-date version of your FVD***. This can be copied directly from your Test Plan, or may be a tailored version, but it should ***fit into one page*** and retain only the critical information for the conduct of the FVD.

**Examples**

The best Test Plans from last year are posted along with this assignment. As before, remember that these are not perfect models, especially because the content guidelines are typically at least slightly refined from year to year. Use the attached Test Plan Guidelines document as your principal guide.

**General Guidelines**

1. The final test described in your Test Plan document must be your FVD.
2. Note that there is not time at the FVD to show or report the results of every test. However, you can do this in the Progress Reviews progressively leading up to it, in your ILRs, and in the Final Report.

**Content**

The Test Plan is a written document that is a more detailed version of the high-level test plan presented in the Critical Design Review and Critical Design Review Report at the end of last semester. It consists of the following components:

1. Prefatory information
2. Introduction
3. Logistics (optional)
4. Schedule
5. Tests
6. Appendix

Component descriptions

1. Prefatory information. This is a) a title page with the **team name, team members’ names, date, project title**; and b) a **table of contents on a second page of its own**.
2. Introduction. This briefly describes the contents of the document.
3. Logistics. This section is optional, but can be used to present personnel, equipment, location, or other logistics information that is common to most or all of the tests, and therefore can be described once here in order not to have to repeat it in the individual test descriptions.
4. Schedule. This is a table containing the following information for each of the remaining Progress Reviews and the FVD:
5. **Date:** Date of the test
6. **Identifier:** Progress Review Number or FVD
7. **Capability Milestone(s).** Each Capability Milestone should be a short phrase capturing the main capability to be shown at that Progress Review. Reading down the list of Capability Milestones should give a quick overview of how your system capabilities will progress through the semester, culminating in the Fall Validation Demonstration.
8. **Associated Test(s) (by name or number).** These are the tests identified in the following section.
9. **Associated System Requirements.** These are drawn from the requirements you derived during the systems engineering requirements development process last semester.
10. Tests. For each of your planned tests, include the following information:
11. Name and/or Number of Test
12. Objective – What is the purpose of the test?
13. Elements – What elements will be tested – unit, subsystem, system, interface?
14. Location
15. Equipment – What equipment is required to administer the test? This includes measurement equipment, not just components of your system.
16. Personnel
17. Procedure – What are the steps necessary to administer the test? What will be measured, and how will the measurements be made? If applicable, how will ground truth be obtained and how will measurements be compared with ground truth?
18. Verification Criteria – How will you know you have passed/failed the test?

You may include additional information as desired. Make sure to describe your final test, the Fall Validation Demonstration, clearly and completely.

1. Associated System Requirements (Appendix). Include the system requirements referenced in the Schedule as an appendix (this does not count against the 15-page limit).

***Note***: Strongly consider making your last Progress Review a dress rehearsal for the Fall Validation Demonstration. This is a good way to shake out the bugs and identify areas for needed improvement.

The table below gives a loose guideline for the number of pages per element and the exact number of points per element.

| **Test Plan Element** | **Pages** | **Weight** |
| --- | --- | --- |
| 1. Prefatory information | 0 | 0.2 |
| 2. Introduction | 0.5 | 0.4 |
| 3. Logistics (optional – graded with Tests below) | 2 |  |
| 4. Schedule | 1 | 1.5 |
| 5. Tests (~1 page per test) | 11.5 |  |
| 5a. Tests: Objective |  | 0.5 |
| 5b. Tests: Elements |  | 0.3 |
| 5c. Tests: Location |  | 0.3 |
| 5d. Tests: Equipment |  | 0.3 |
| 5e. Tests: Personnel |  | 0.3 |
| 5f. Tests: Procedure |  | 1.4 |
| 5g. Tests: Verification Criteria |  | 1.5 |
| 5h. Tests: FVD clearly described |  | 0.8 |
| **Totals:** | 15 | 7.5 |