Example of Table of Contents for Research Projects

Senior Design

Design History File (DHF) Table of Contents

Note: The DHF documents your work on your senior project. It must be kept organized and up to date.

Format: The DHF must be kept in a 3-ring binder. The following sections and their contents are mandatory. You must use dividers with labeled section tabs to separate these sections.

1. **DHF Review Signature Page**: must be the first thing in your DHF. No section tab is needed.
2. **Title Page** (No section tab is needed).
3. **Project Problem Statement**
    a. Customer Problem Statement and Preliminary Description
    b. Detailed Problem Description
4. **Team Description including**:
    a. Team Members' Names, Majors, Expertise, etc.
    b. Technical Advisor Name and Contact Information
5. **Evidence Supporting Design Activity**. Include ALL of the following as appropriate:
    a. **List of attributes** [of device, system or product]: describes desired quality measures
    b. **Objective Tree**: a hierarchical tree of relevant objectives that the design is to satisfy
    c. **Pairwise Comparison Charts**: consider which research design criteria are most important such as cost, expected product quality, experimental complexity, safety, yield, etc. Compare alternative designs to find best one with respect to all these criteria.
    d. **Research Design Requirements Table with Specifications**: should consider

    Instrumentation aspects: specify physical equipment capabilities, environmental requirements

    Characterization issues: analytical equipment sensitivities, size and scale
    e. **Functional Description:** Master block diagram [black box level]

    Functional block diagram [transparent box level]:
    f. **Tasks with task assignments**: block diagrams, experiment designs, procedures
    g. **Ghantt Chart:** show evolution
    h. Detailed Budget
6. **Material or Device Fabrication and Testing**
    a. **Fabrication Methods:** Examples
    b. **Test Instruments, Methods and Procedures at fabrication level**: Examples:
    c. **Test Methods and Procedures at device level**: Examples:

d. Standards

d.i. Executive Summary for Appropriate Standards Document(s)

d.ii. Summary of How Standard Influenced the Design

e. Cascade Matrix

e.i. Signed Off by Tester(s) for Verification and Validation

e.ii. Test Documentation: Examples: test data, operational screen captures, photos, video, etc.

7. Project Management

a. Team Charter

b. Team Calendar and/or Gantt Chart [final version]—at least week-by-week—*this is your PLAN*

c. Team Hourly Budget (number of hours each member will expect to work per week)

d. Work Breakout Structure with time effort estimations consistent with the person-hour estimates provided in the Team Hourly Budget

e. Marking to Estimate % Completion: Update Graph Regularly to show Progress; Annotate to Explain Difference from Original Calendar / Gantt Chart—*this is what actually happened*

f. Copies of Team Effectiveness Surveys

g. Hard Copies of Weekly Team Progress Reports (Dated), Signed by Technical Advisor

8. Bibliography

a. List in alphabetical order all sources of information used for the project. This includes: books, journal papers, websites, etc.