

ME349

Engineering Design Projects

Preliminary Design Report

Title Page (1 page)

Project title, data, name of document, team members, and subject.

Task Description and Scope (2 – 5 pages)

What was attempted and why
Background documents
Include more detail than proposal

Requirement Analysis (length as required)

Customer Requirements
Customer list
Rated requirement list including “needs”
Functional (engineering) Requirement
Performance Requirements
Target values and competitive benchmarks
Constraints
Technical, legal, environmental, market, financial, other?
Statement of validation
Do requirements meet the proposal?

Functional Analysis (length as required)

List of functions with corresponding requirements
Flow of material / information / energy through functions

Concept Development (length as required)

Candidate concepts for performing functions
Candidate technologies for performing functions
Preliminary layouts combining concepts
Sketches, layouts
Analysis used to compare effectiveness of alternatives
Weighted selection tables
Selection of recommended concept
Verification
Does concept meet requirements?

Description of Proposed Solution System (length as required)

Initial decisions on layout, functionality, power sources, **etc.**

Project Management Analysis (length as required)

Analysis of tasks and resource allocation

Gantt chart (include areas of responsibility)

Hours spent

Appendices

Sources:

People

Name / affiliation / contact (phone, mail, email, fax, etc)

Meetings

Dates/ places / purpose

Literature Consulted

Standards

Books, reports, textbooks, handbooks

Web sources

Journals, proceedings, magazines, media

Patent and registered designs

Vendor catalogues