

Something New is Coming!

Finally,

Proposal

- What is Proposal?
- Proposal Format
- Proposal Presentation Format
- Proposal Review Panel
- Proposal Approval

Project Proposal

- **Proposal**
 - A bid for a job, services, cash award, or research money.
 - Or for marriage!
- **Design Project Proposal**
 - Remember that design project exists because there is problem or need.
 - “a clear description of the initial ideas developed for solving the problem”
 - Background
 - Problems and Needs Refined Problem Definition and Problem Formulation
 - ROOT CAUSE
 - Current Status of Art
 - Design Requirements and Standards, Regulations, Restrictions, and Constraints
 - Initial Solution Ideas and Approaches
 - Project Management with timelines and milestone
 - Project Verification Plans and Deliverables
 - Resources and Cost
 - Qualification: knowledge content, course works, etc

Proposal Format

- Project Proposal Transmittal
 - A memo or letter for submission
- Proposal
 - Proposal Cover
 - Title
 - Team and Members
 - Space for Approval Signature

Cover

Introduction

Problem Definition

Current Status of Art

Engineering Approaches

Tasks and Deliverables

Project Management

Conclusions

Proposal Contents - Introduction

- **1. Introduction**

- Objective of the project
- Goals and scopes of the project
- Background of the project
- Main problems
- Customer needs
- What the Proposal intends to do
- The organization (or order) of the Proposal

Cover

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Proposal Content – Problem Definition

- **2. Problem Definition**
 - Refined Problem definition → Root Cause
 - Problem Formulation around the root cause
 - Design Requirements & Performance Measures.
 - Required compliance – Specific situation, regulation, standard, rules, codes, etc
 - Technical terms and words

Cover

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Proposal Contents – Current Status of Art

- **3. Current Status of Art**
 - Similar Product in the market?
 - Problem Already Solved?
 - Available Technology?
 - Weakness of the Current Status of Art
 - More time here saves the time

Cover

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Proposal Contents – Engineering Solution Approaches

- 4. Engineering Solution Approaches
 - Provide general or system level structures with schematics
 - Initial solution ideas
 - Possible alternative solutions
 - What knowledge and course works are to be used in the solution
 - What knowledge to be learned for the solution

Cover

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Proposal Contents - Tasks

- 5. Tasks and Deliverables
 - Tasks to be done to (i) achieve the engineering solutions and (ii) verify the solution meets the design requirements
 - Tasks assigned to the team members
 - Deliverables
 - Final solution product
 - Demonstration System of the final solution for ECE Day presentation/Demo

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Introduction
Problem Definition
Current Status of Art
Engineering Approaches
Tasks and Deliverables
Project Management
Conclusions

Proposal Contents – Project Management

- **6. Project Management**
 - Timelines and milestones
 - Resources and Budget
 - Safety Issues
 - Engineering ethics issues

Proposal Contents - Conclusions

- **7. Conclusions**

- Rephrase problems, needs, and benefits
- Rephrase objectives
- Summary of the engineering solution approach
- Give costs and timeline

- **8. References**

- Reference list

Procedures on Proposal

- Before Proposal Writing
 - More works on Problem Formulation, Current status of art, Solution generation
 - Completion and Revision of Design Requirement
- Proposal Writing ---- Start Today
- **Proposal Submission**
 - Proposal Submission: **T 03NOV09**
 - **Proposal Presentation (Individual Team): TBD**
- **Proposal Presentation (Review Panel): TBD (F 13NOV09)??**
- **Final Approved (signed) Proposal Submission: W 02DEC09**

Proposal Presentation Format

- **Cover (1 slide)**
 - Title and Members
- **Background (1 slide)**
 - Background of the project (industry, technology, customer, etc)
 - Needs and demands in customer's point of view
- **Problem Formulation (2 slides)**
 - Refined Problem Definition in Engineering point of view (1 slide)
 - Design Requirements (1 slide): emphasis on alternative solutions, knowledge contents, and constraints
- **Current Status of Art (1 Slide)**
 - Prior art and available technology, weakness, etc
- **Solution Approaches (3 slides)**
 - Overall introduction of the technology field (with system level schematics) and summary of the alternative solution ideas (1 slide)
 - Explanation of the first and major solution approach (why this may work)(1 slide)
 - Explanation of the other solution approaches (1 slide)
- **Tasks and Project Management (1 slide)**
 - Assigned tasks for finding solutions and solution implementation
 - Timelines and milestones
- **Verification Plan and Deliverables (1 slide)**
 - Evaluation plan of the solution
 - Deliverables
- **Costs and Resources (1 slide)**
 - Rough budget
 - Resources available and resources needed
- **Conclusion (1 slide)**
 - Crisp and clear summary of the proposal

Technical Writing Tips

- Write like a newspaper staff writer
- Outline, a long outline, and sections
 - Divide into members
 - Every topic must be covered
 - Single topic must not be covered multiple times
- Tips
 - Know your audience/reader
 - Rule 17 of “Elements of Style” – Omit unnecessary words.
 - Avoid wordy phrases and sentences
 - Avoid information and conversational words and phrases
 - Why, What, When, & How
 - Correct Grammar and Spelling
 - Third Person, Active Voice, Same Tense
 - Direct and to the point
 - Paragraph Construction: Topic Sentence – Support - Description
- Finish Draft
 - Integrate the sections completed by members
- Spend More Time on Revising
 - Consistency
 - Terminology
 - Flow
 - Check Format

