ICOM-5217: MICROPROCESSOR INTERFACING
Project Proposal Guidelines

The project proposal is a formal document not to exceed **15** pages in length (excluding cover, preliminaries, and appendix) that will count as your first progress report. The document must be prepared according to the Guide for Writing Technical Reports. The proposal is to be turned-in in hard copy to the class instructor at the beginning of class on the due date. The proposal must include the following parts:

Cover Page: Include a page cover according to the format indicated in the report guidelines. The cover must identify the team members and project leader and include the following statement verbatim below the project title:

"*A project proposal submitted as a partial requirement of the Microprocessor Interfacing course ICOM-5217*"

If your group assigns a nickname to the project or team, include it in the cover page.

Preliminary Pages: Must include an abstract and a table of contents. Use a descriptive style for the abstract (see guide).

I. Introduction: Provide a motivation or need for your project. Describe what problem your system will solve and the overall design functionality. Begin to number pages with Arabic numbers starting at 1 (see guidelines).

II. System Block Diagram High-level system block diagram with a brief description of needed components (include part names and numbers if known). All major control signals and interconnects must be indicated. Indicate proper direction of signals. Identify power sources. DO NOT IDENTIFY ANY SPECIFIC MICROPROCESSOR YET.

III. Specifications *High-level* project specifications with details based on problem insight.

A. Describe expected requirements, features, and limitations.
B. List all identifiable hardware and software requirements (major components and functions)
C. All projects must contain the following four essential components. Briefly describe how each is satisfied.
   1.-Communications: The system must be able to communicate with another system or subsystem.
   2.-User interface: The system must allow interaction with a human.
   3.-Control Scheme: The system must have something to be controlled.
   4.-Microprocessor-based: Justify the need for a microprocessor in the system.

IV. System Conception: Graphical representation of your system as conceived, provided at two levels: Global System View and User Interface-level. Global view depicts intra/inter-system interaction. System Interface-level is how a user sees the system, such as through its control panel, taking into consideration its usability.

V. Market Description: An overview of the target market for your system and a description of at least one commercial product currently available that is similar to your proposed product, their specifications, and cost if available. Briefly compare the functionality of your proposed system to that of the commercially available alternative. Provide supporting documentation.

VI. Design Criteria: Explain how you plan to consider issues that apply to your project, in your design decisions. Choose two or three from the non-exclusive list below, depending on the application. Explain the relevance of the chosen criteria.

A. Economic	E. Safety	I. Manufacturability	M. Other
B. Power/Energy	F. Sustainability	J. Political	
C. Ethical	G. Competitive edge	K. Social	
D. Health factors	H. Environmental	L. Privacy	

VII. Project Time Table: A Gant Chart indicating projected completion dates for the major tasks associated with the design cycle. The tasks should include (adhere to class schedule). Break down milestones according to your application, including:

A. Problem definition and specifications
B. Block-level system design
C. Hardware design and parts acquisition
D. Software design and coding
E. Prototype implementation, testing and debugging
F. Progress and Final Report preparation

VIII: Expert Opinion: Your proposal must identify and include the advice and opinion of an external expert user for the application to be developed. The expert user cannot be a group member. Provide contact information and remarks.

IX. References Numbered list of all cited references, including WWW links, consulted in the conception of your project idea and used in the preparation of this report. References must be cited throughout the report.

X. Appendices:

A. Work Distribution Table: A table with team member names in the top row and major tasks in the leftmost column. Provide a balanced distribution of chores in HW/SW/RPT for all team members.
B. Project Journal: Create a journal to keep track of the activities in your group. Create an entry per each work session indicating: Date and time, place, member attendance, and a brief description of the issues worked on.