A project proposal is required for project courses. The project proposal will be submitted to the course instructor for approval. The student will complete this project proposal form and attach the project proposal. Each of the following must be included in the proposal:

1. Problem definition
2. Concept Generation/Requirements Specification
3. Design
4. Prototype
5. Testing
6. System Integration
7. Project schedule
8. Deliverables

**Design**

1. **Problem definition**
   a. Problem Identification – idea, request, market needs.
      What are you trying to do? How is it being done today?
      What is new in your approach? What will be improved if it is successful?
   b. Research
      What are the basic knowledge/concepts/procedures/rules needed to design and construct the circuit? What are the basic performance criteria? Constraints? Standards?

2. **Concept Generation/Requirement Specification**
   What is the concept? What are the parts and components that will be used to design and construct the circuit? Do you have a preliminary design?

3. **Design**
   What design considerations influence the design? What design alternatives have you considered? List implementation considerations.
4. **Prototype**
   a. Construct a prototype. Test the circuit to determine preliminary analysis, make changes and revise the design if needed.

   b. Provide a final list of materials/components, and circuit diagram.

5. **System Integration**
   Explain/show how the circuit solves a problem when integrated into a system. What type of quality control and testing will be required? Maintenance required? Possible upgrades? Recycling/Rebuilding? What is the cost?

6. **Timeline**
   Provide a list of activities to be completed and a schedule. Use a GANTT chart or similar tool.

7. **Deliverables**
   Provide a list of all the deliverables for the project that includes, but not limited to, Final report, Power point presentation, Poster presentation, and the circuit.

Signature of Students ___________________________ Date ____________________

Print Name of Instructor ________________________ Phone NO. ____________________

Signature of Instructor* _________________________ Date ____________________

Signature of Advisor ___________________________ Date ____________________

Note to faculty: Please sign only after checking that Engineering Standards and realistic constraints are included in the proposal.

Note to students: Please include all aspects of design identified in both rubrics.