ECE463/SysEngr491 - Capstone Design Course - Fall 2016
Preliminary Design Review - Expectations

1. **Purpose:** The Preliminary Design Review (PDR) is a formal briefing by your project team to present your system-level design, the accompanying analysis and project plan to your faculty team and as appropriate your customer. **The fundamental purposes of the PDR are to convince your SRO that your project's system-level design is complete**, that the design will satisfy all requirements and that you have a logical plan to complete the detailed design phase of the project.

2. **Presentation Format:** Plan to brief for up to 55 minutes followed by 30 minutes of Q&A, not to include grading feedback. **Uniform is service dress**. Your team is responsible for notifying the faculty members and your customer regarding the time and location of the PDR.

3. **PDR Deliverables:** Use the briefing templates provided for your design documentation. The PDR design deliverables and their grade weights are listed below. **Post the deliverables listed below on your team website 24 hours prior to the start of your briefing (NLT 0750 hrs).**

- **Updated Requirements: 5%**
  - Updated Requirements Traceability Matrix with physical allocation complete
  - Updated Functional Flow Block Diagram (FFBD) of the system functions expanded down to the single process level
  - Highlight requirement changes and challenges
- **Decision Process: 20%**
  - Evaluation criteria description and justification
  - Summary of background research and competing system designs
  - Summary of analysis and design decision justification
- **System-Level Hardware Design: 25%**
  - System level block design in block diagram form
  - Analysis demonstrating selected design will satisfy system requirements
  - Physical allocation of requirements, Subsystem IO specified
  - System level budgets including power, weight, size, cost and others as directed.
  - System Acceptance Test Plan complete
- **System-Level Software Design: 25%**
  - Structure charts and allocation of requirements
  - Module Specifications
  - Test Plans
- **Updated Project Plan: 15%**
  - Schedule baselined at SRR, with details to CDR and progress to date (overview of critical path in presentation with full schedule gantt chart as a handout)
    - Detailed plans for the next phase of the project (through the end of the semester)
  - Updated Risk Analysis
    - Current status, along with any issues and your plans to resolve them
- **Presentation: 10%**
  - Clarity of communications
  - Briefing slides
  - Present a dry run of your briefing to your mentor one lesson prior to the PDR
- **Technical Report:**
  - This Report is not graded with the PDR. It is a standalone document graded IAW syllabus.
  - Post the draft with revisions tracked to your team website
  - Evaluation of Technical Writing
  - Following sections complete:

- Executive Summary,
- Requirements Specifications,
- Implementation considerations,
- Contemporary Issues,
- Functional Allocation,
- System-Level Design Tradeoffs,
- System Block Diagram,
- System Analysis,
- For each Subsystem, complete:
    - Subsystem Concept
    - Subsystem Performance Requirements
    - Subsystem Inputs and Outputs
- System Acceptance Testing

NOTE: Any deliverables submitted earning Unsatisfactory (<67%) marks, must be resubmitted one lesson after receiving feedback.

4. Each individual will also receive a grade for their individual performance and contributions to the team. The individual grade is combined with the team grades IAW the syllabus. Each team member will be evaluated based on:

- The **appropriateness** of work accomplished based on their individual skill set
- The **amount** of work accomplished
- **Interpersonal** skills

Bring your lab notebooks to the design review so your faculty team can review them. **Make it clear in the presentation what each member has done**.

5. **Peer Evaluations**. Submit IAW syllabus