Objective

The primary objective of the Preliminary Design Review (PDR) is to provide the students experience in communicating the results of technical work. A secondary objective is to provide the instructor, with the observations of a panel of experts, as input to future course content.

Schedule

Presentations will be given on 4/20/2017 (Friday)

Location: TBD (see map)

Sequence Start Time

Team booth review (TBD) 8:00

Introductions G. Marien 8:45

Group X (X) 9:00

Group X (X) 9:30

Group X (X) 10:00

Group X (X) 10:30

Group X (X) 11:00

Lunch 11:30

Group X (X) 12:00

Group X (X) 12:30

Group X (X) 1:00

Group X (X) 1:30

Group X (X) 2:00

Group X (X) 2:30

Closing G. Marien 3:00

Reviewer discussion 3:45

The presentations will be 20 minutes maximum duration, with a 10-minute question and answer period (30 minutes maximum total). All group members will participate. Unless otherwise cleared by the instructor, the group leader will close the presentation. An LCD projector will be used for the presentation. Using a personal laptop is not allowed, unless all groups use the same one, preventing setup issues that would delay the presentation schedule. Each speaker should present at least one slide. Some slides may be used by more than one speaker, such as a 3-view drawing.

Team Booth

Each team will have a “Booth” set up in the room. No limit to what you can show.

Recommendations for your booth include:

* In-work report to show your progress
* Information Handouts
* 20” x 30” display board, showing your design
* a laptop with animation, and/or an automatic slide show

Presentation Content

This is left up to the team, except mandatory elements as stated below. Each panel judge will be given a form, like the one included, to grade each group. Your overall grade is based on the two areas, *Presentation* and *Design*. The other items are used for class metrics.

# Presentation Slides

The following is the exact number (shown in parenthesis) that shall be used in the presentation. Timing is critical to allow all teams to present and be asked questions. Additional ones may be used consistent with time limitations for progressive-style charts, i.e. have multiple slide illustrating each successive mission leg showing fuel/time/distance.

1. Title slide **(1)** 
   1. Include group photo with names identifying each member.
   2. Identify the group leader.
2. Introduction **(1)**
   1. OV-1
   2. Mission Profiles
   3. Comparative Aircraft
   4. Wing Sizing Results
3. 3-view of aircraft **(1)**
4. Inboard Profile **(1)**
5. Structural Layout **(1)**
6. Weight, balance, moments of inertia summary **(1)**
7. Aero: Lift Curves, Drag Polars: Clean and WC, CDo vs. M, high lift devices **(2)**
8. Performance Summary including propulsion and takeoff/landing **(3)**
9. Loads/Wing Structural Sizing **(2)**
10. Dimensionless stability derivatives **(1)**
11. Stability results **(1)**
12. Life Cycle Costs **(1)**
13. Requirements Summary (met/not met) **(1)**
14. Closing **(1)**

\*Note: Make sure to focus on if you met the requirements, i.e. state the requirement and if it was met, reporting the actual result.

# Handouts

Six (6) complete sets of paper copies of the slides shall be delivered at the start of the presentation and handed to the panel, one chart per sheet (may be double sides printing). The printouts shall be the same as the presentation with the exception that the 3-view drawing and inboard profile shall be printed on 11 x 17 paper.

Evaluation Form Group \_\_\_\_\_\_\_

Scoring Basis

|  |  |
| --- | --- |
| 0 | No apparent effort. |
| 1 | Unsatisfactory. Gross errors and omissions |
| 2 | Unsatisfactory. Significant errors and omissions |
| 3 | Unsatisfactory. Borderline. Important deficiencies |
| 4 | Minimum satisfactory. Significant deficiencies |
| 5 | Satisfactory. Deficiencies. |
| 6 | Good. Deficiencies. |
| 7 | Good. Few deficiencies. |
| 8 | Very Good. Minor deficiencies or none. |
| 9 | Excellent. Nothing missing. Nothing wrong. |
| 10 | Outstanding. Remarkable. Beyond the call. |

**Presentation:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Individual Student Grading (Optional) | | | | | |
| Student | 1 | 2 | 3 | 4 | 5 | 6 |
| Coherence |  |  |  |  |  |  |
| Slides |  |  |  |  |  |  |
| Public Speaking |  |  |  |  |  |  |
| Understanding of basics |  |  |  |  |  |  |

**Presentation Overall, i.e. their pitch**  \_\_\_\_\_

**Design:**

-Appropriate for the Specs? \_\_\_\_\_

-Layout \_\_\_\_\_

-Mass Properties \_\_\_\_\_

-Aerodynamics \_\_\_\_\_

-Performance Analysis \_\_\_\_\_

-Loads/Wing Structural Design \_\_\_\_\_

-Stability Analysis \_\_\_\_\_

-Life Cycle Costs \_\_\_\_\_

-Requirements Results \_\_\_\_\_

**Design Overall, i.e. their airplane** \_\_\_\_\_