**AE 522/722**

**Aerospace Design & Design Laboratory II**

**Spring 2025**

**Report Block 11**

Due 21 April 2025 8am to kuaerodesign@gmail.com

**All Preceding Chapters & Contents, reworked as directed as well as Appendices A–Q & Z.**

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| --- | --- | --- | --- |
| **UG Missile**  | **UG Individual, Interceptor & Grad.**  |  | **Avery & May** |
| In place of the landing gear, analyze the warhead and terminal effects including lethal radius and Pk. Discuss reconfigurable warheads. Configure and describe the sensors and processor electronics. Draw them out in CAD.   | Do the sections below as appropriate.  |  | Avery: Home in on Rotterdam Ground Ops bracketing highest and lowest densities, movements per day and associated estimates considering: 1. Same movements per day as Rotterdam, but determining footprint needed to make that happen.
2. Same land area Rotterdam is on today, solving for the reduction in movements per day.

May: Continue hammering out the various carbon-related ground – process – atmospheric systems. Making the historical conops is top priority. Do NOT cast them in .pptx, just sketches are needed at this point.  |

Chapter 11 Class II Sizing of Landing Gear­­

Chapter Q Class I Structural Layout

Chapter Z Compliance Matrix

i.) Continue long-term projects for coming reports:

 a.) Class I Configuration Definition (enter in AAA)

 b.) Class I Performance Estimation (enter in AAA)

 c.) Class I Cost Analysis (translate Roskam Part VIII equations into Word and begin analysis in AAA)

ii.) Continue long-term projects for coming reports:

 a.) Update Class II Configuration Definition with Class II Weights Information (enter in AAA)

 b.) Initiate Class II Performance Estimation (enter in AAA)

 c.) Initiate Class II Cost Analysis

 d.) Initiate Class II Stability and Control Analysis

iii.) List of all team member actions and contributions. Note that some team members may be assigned a "long term" job and may not show up as contributing to this section. That's okay, but it needs to be noted.

References (always at end of report)

**Report 11**

Due 17 April 2024 8am to kuaerodesign@gmail.com

All previous sections +

Chapter 11 Class II Weight and Balance

Chapter 12 Class II Systems (as appropriate)

 12.1 Flight Control Systems

 12.2 Fuel System

12.3 Hydraulic System

12.4 Electrical System

12.5 Environmental Control System & Cabin Sterilization

 5.1. Pressurization System

 5.2. Pneumatic System

 5.3. Oxygen System

 5.4. Air Conditioning System

 5.5. Cabin Sterilization

12.6 Cockpit Instrumentation

12.7 De-Icing

12.8 Window Rain, Fog and Frost Control

12.9 Escape Systems Ingress/Egress Systems and Compatibility

12.10 Lavatory, Galley, Water and Waste Systems

12.11 Safety and Survivability

12.12 Checked Baggage or Major Cargo Handling Systems

12.13 Cabin Baggage or Infantry Accommodations

12.14 Ground Equipment and Vehicles Compatibility

Chapter 13 Fault Tree Analysis of Flight Critical Systems

Chapter Z Compliance Matrix

i.) Continue long-term projects for coming reports:

 a.) Update Class II Configuration Definition with Class II Weights Information (enter in AAA)

 b.) Initiate Class II Performance Estimation (enter in AAA)

 c.) Initiate Class II Cost Analysis

 d.) Initiate Class II Stability and Control Analysis

ii.) List of all team member actions and contributions. Note that some team members may be assigned a "long term" job and may not show up as contributing to this section. That's okay, but it needs to be noted.

References (always at end of report)

ii.) List of all team member actions and contributions. Note that some team members may be assigned a "long term" job and may not show up as contributing to this section. That's okay, but it needs to be noted.

References (always at end of report)

**Report 12**

Due 24 April 2024 8am to kuaerodesign@gmail.com

All previous sections +

Chapter 14 Class II Stability and Control

Chapter 15 Class II Performance with Electric Motors and Energy Handling

Chapter 16: Advanced CAD 3-View, Situational Rendering & Exploded View

Chapter Z Compliance Matrix

i.) List of all team member actions and contributions. Note that some team members may be assigned a "long term" job and may not show up as contributing to this section. That's okay, but it needs to be noted.

References (always at end of report)

**Report 13**

Due 1 May 2024 8am to kuaerodesign@gmail.com

All previous sections +

Chapter 17 Manufacturing, Fielding, Logistics, Handling & Deployment

Chapter 18 Class II Cost Analysis

Chapter Z Compliance Matrix

i.) List of all team member actions and contributions. Note that some team members may be assigned a "long term" job and may not show up as contributing to this section. That's okay, but it needs to be noted.

References (always at end of report)