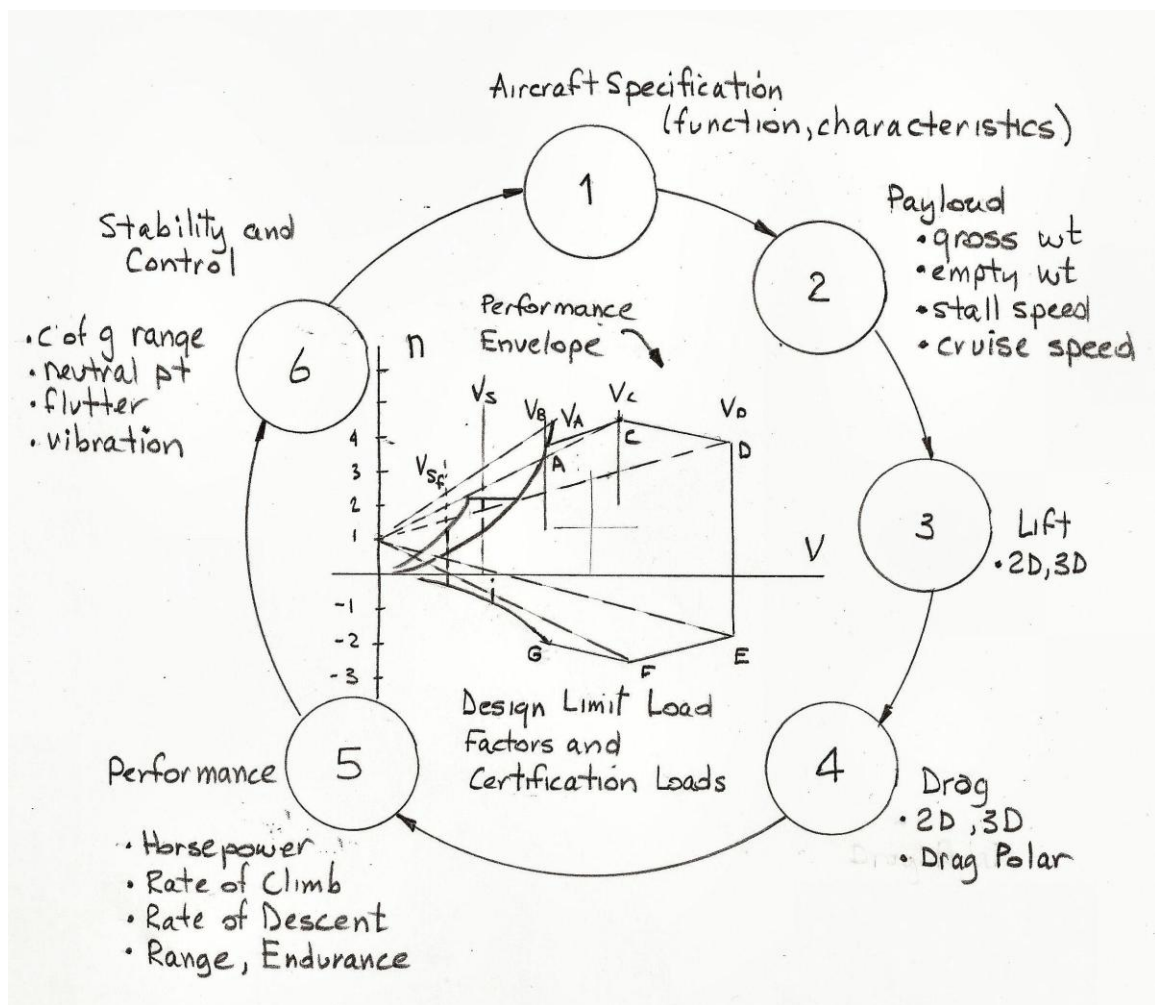


# MECH 484

## Course Syllabus

Title:

### Applied Aerodynamics for Aircraft Preliminary Design



## 1. Course Particulars

**Instructor:** Wayne M. Williams, P. Eng  
**Email:** [waynewilliams@dccnet.com](mailto:waynewilliams@dccnet.com)  
**Office:** t. b.d

**Classes and Class times and location:**

Term 1, Mondays and Wednesdays 5-7 pm

**Course Details:**

**Credits:** 3

**Calendar Description:**

**Aircraft Design: Aerodynamics**

Aircraft performance, stability and control, loading and airworthiness. Detailed examples. [2-2-0]

**Prerequisites: None.**

**Textbook:**

Course notes will be provided with information from several references

**Recommended textbook(s)**

**Anderson, *Introduction To Flight*, Third Edition**

**Mech 481/581 *Aerodynamics of Aircraft I*, Primus Custom Printing, 2008. ISBN 9780070735064**

## **2. Course Objectives**

**This course will be useful for those who wish to consider and/or prepare for an engineering career in aviation.**

**The objective of the course is to familiarize the student with the application of aeronautical engineering principles and design practices. The course will focus on steps in preliminary design of general aviation aircraft with emphasis on the iterative aspects of design.**

**In addition to discussion about career paths in aeronautical engineering, insight regarding the certification process will be provided.**

**Emphasis will be on the design cycle with specific reference to:**

**Product Requirement and Specification (Design Category)  
Product Function (Design Payload, Weights, and Speeds)  
Loads (V-n Diagrams)  
Lift  
Drag  
Performance  
Stability and Control**

**Upon completion of the course material, the student should be able to assess existing aircraft designs, look at the issues related to modification of existing designs, and/or understand the steps in development of new aircraft.**

## **3. Course Schedule and Format**

**1 day, (2 hours per session) per week, class time**

**1 day, (2 hours per session) per week, tutorial/project time.**

## **4. Grading**

<b>1 mid term</b>	<b>15 %</b>
<b>1 preliminary design study exercises</b>	<b>50 %</b>
<b>1 final exam</b>	<b>35 %</b>

