

Course number and Title

AVSC 2223 Aerodynamics

Catalog Description

A study of advanced aircraft aerodynamics, and performance including theories of lift generation, stability, control, and lift/drag producing devices. Weight and balance will be studied for its effect on performance and control.

Prerequisite

AVSC 1171

Credit hours/ Contact hours/ Load hours

3/3/3

Target Audience & Transferability

Course is designed for students who already possess a Private Pilot's license, and are pursuing an Associate's Degree in Aviation as a professional pilot. Will transfer to Henderson State University and most other four-year institutions which offer a Bachelor's in Aviation Science.

Common Objectives/ Student Outcomes:

Students completing this course will be able to:

1. Demonstrate a knowledge of aerodynamics and how those principles effect aircraft performance.
2. Understand and apply the principles of lift, drag, thrust and aircraft design to address those factors.
3. Have a general knowledge of aerodynamic testing and modern design concepts that address safety of flight aerodynamic factors.

Required Text

The Illustrated Guide to Aerodynamics (2nd Edition); McGraw Hill, 1992

Optional Text(s):

Topics:

- I. Introduction to Aerodynamics (Chapter 1).
- II. Lift & Drag (Chapters 2 & 3).
- III. Thrust, Aircraft Performance, and Stability factors (Chapters 4-6).
- IV. High Speed Flight and Basic Design (Chapters 7 & 8).
- V. Aerodynamic Testing & Modern Design (Chapters 9 & 10).

Required Methods of Instruction:

Some field trips may be scheduled to local air museums and or repair facilities. Classroom participation and attendance is stressed.

Required Forms of Assessment:

Assessment will be done through chapter quizzes and a multiple choice Final Examination.

Resources:

The Aviation Department Resource Center (videos, periodicals, and flight publications). Also Drake Aviation Academy & the NWACC Library have multiple resources.