



**THE OHIO STATE UNIVERSITY**  
COLLEGE OF ENGINEERING

# Design of Atmospheric Flight Vehicles II

## AEROENG 4516

**Credit Hours:**

3.00

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**Course Levels:**

Undergraduate (1000-5000 level)

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**Course Components:**

Lecture

Lab

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**Course Description:**

Continuation of 4515. Preliminary and detailed design of aerospace vehicle components: design of a vehicle for atmospheric flight.

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**Prerequisites and Co-requisites:**

Prereq: 4515 (515 and 516), and enrollment as AeroEng-BS student (No pre-majors can enroll in this class).

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**Course Goals / Objectives:**

- Provide students with preliminary and detailed aircraft design experience
  - Foster multidisciplinary thought processes and collaborations
  - Train students in effective teamwork
  - Refine students' technical communication skills through written reports and presentations
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**Course Topics:**

- Minimum Buckling Load Design
  - Low Cycle/High Cycle Fatigue Design
  - FEA with Hypermesh and Nastran
  - Structural design presentations
  - Detailed aerodynamic analysis
  - Detailed weights estimation
  - Detailed stability, control, and handling
  - Detailed propulsion performance
  - Detailed performance assessment
  - Cost analysis
  - Final presentations
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**Designation:**

Required