

Course Content

AE1110x - Introduction to Aeronautical Engineering

In case you are excited about what topics will be treated when, the following document provides a (very short) overview of the topics to be treated. Note that weeks 1-4 fall under module A (Introduction), weeks 5-7 belong to module B (Aerodynamics) and weeks 8-10 belong to module C (Flight Mechanics). We wish you a lot of fun and a cool learning experience during this course!

The AE1110x Team

Module A: Introductory module

Week 1

Lecture 1: Introduction + Ballooning

Lecture 2: The International Standard Atmosphere

Lecture 3: How aircraft fly

Week 2

Lecture 4: Cockpits & Instruments

Lecture 5: Structural concepts

Lecture 6: Stability & Control

Week 3

Lecture 7: Propulsion

Lecture 8: Materials & Exploring the limits

Lecture 9: Special vehicles

Deadline Exercises: April 1st, 23:59 UTC

Week 4

Test Module A

Deadline Test: April 6th, 23:59 UTC

Module B: Aerodynamics

Week 5

Lecture 1: Introduction to Aerodynamics

Lecture 2: Compressibility

Lecture 3: Viscous flows

Week 6

Lecture 4: Pressure distributions and flow separation

Lecture 5: Airfoils

Lecture 6: Critical Mach number

Lecture 7: Finite wings

Deadline Exercises: April 22nd, 23:59 UTC

Week 7

Test Module B

Deadline Test: April 27th, 23:59 UTC

Module C: Flight Mechanics

Week 8

Lecture 1: Introduction to flight mechanics

Lecture 2: Horizontal flight performance

Week 9

Lecture 3: Climbing and descending flight

Lecture 4: The flight envelope

Deadline Exercises: May 13th, 23:59 UTC

Week 10

Test Module C

Deadline Test: May 18th, 23:59 UTC
