

# RC Plane Design Report

## Input Parameters (mm / kg):

wingspan: 1800

aspect\_ratio: 4.5

weight: 12.0

cl\_max: 2.1

taper\_ratio: 1.0

tail\_taper\_H: 0.5

tail\_taper\_V: 0.5

motor\_kv: 1200

battery\_voltage: 11.1

propeller: 9x4.5

## Design Results (mm / kg / N):

Wing Area (S) mm<sup>2</sup>: 720000.0

MAC mm: 400.0

Root Chord mm: 400.0

Tip Chord mm: 400.0

Horizontal Tail Area SH mm<sup>2</sup>: 136800.0

Vertical Tail Area SV mm<sup>2</sup>: 68400.0

Horizontal Tail Root Chord mm: 253.3

Horizontal Tail Tip Chord mm: 126.7

Vertical Tail Root Chord mm: 600.5

Vertical Tail Tip Chord mm: 300.2

Fuselage Length mm: 1215.0

Fuselage Height mm: 151.9

Fuselage Width mm: 30.4

Lift L (N): 92.61

Drag D (N): 18.08

Stall Speed V<sub>stall</sub> (m/s): 16.34

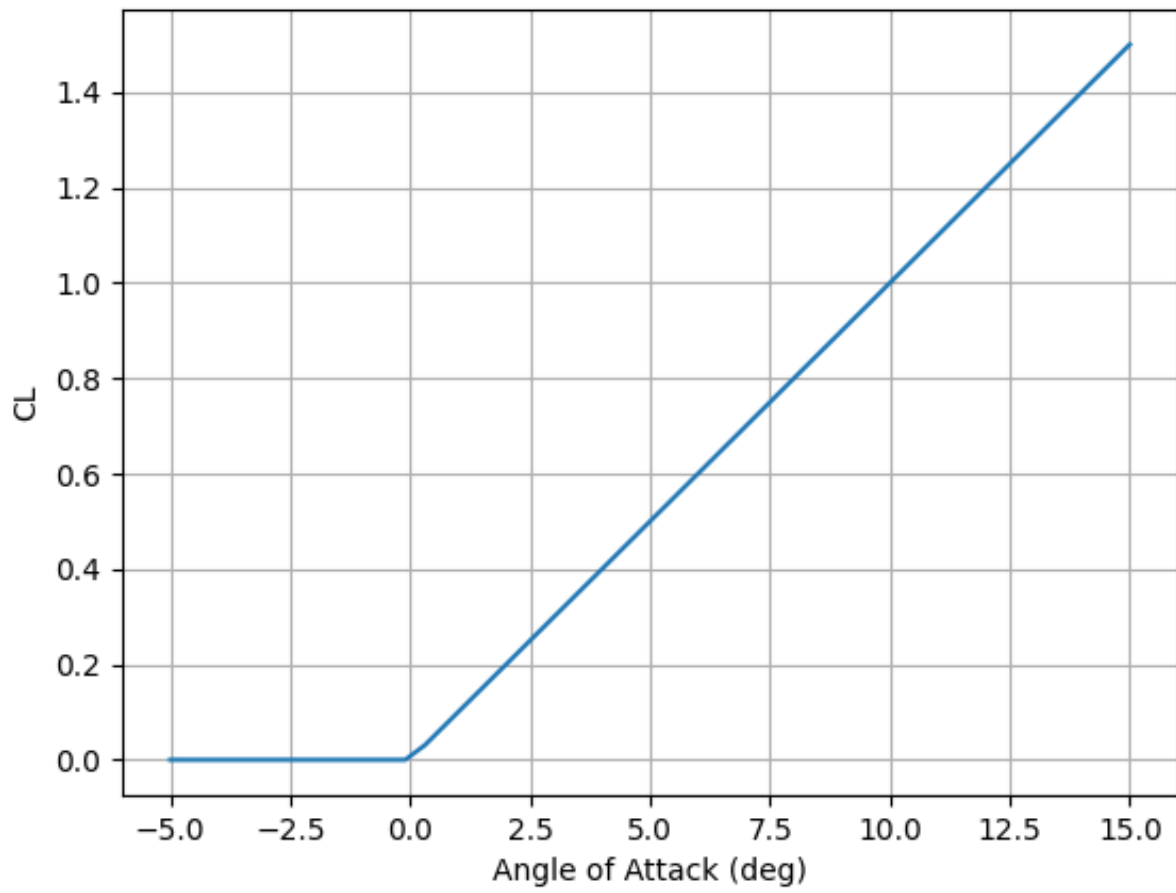
Static Margin: 0.1

Aerodynamic Center x<sub>ac</sub> mm: 100.0

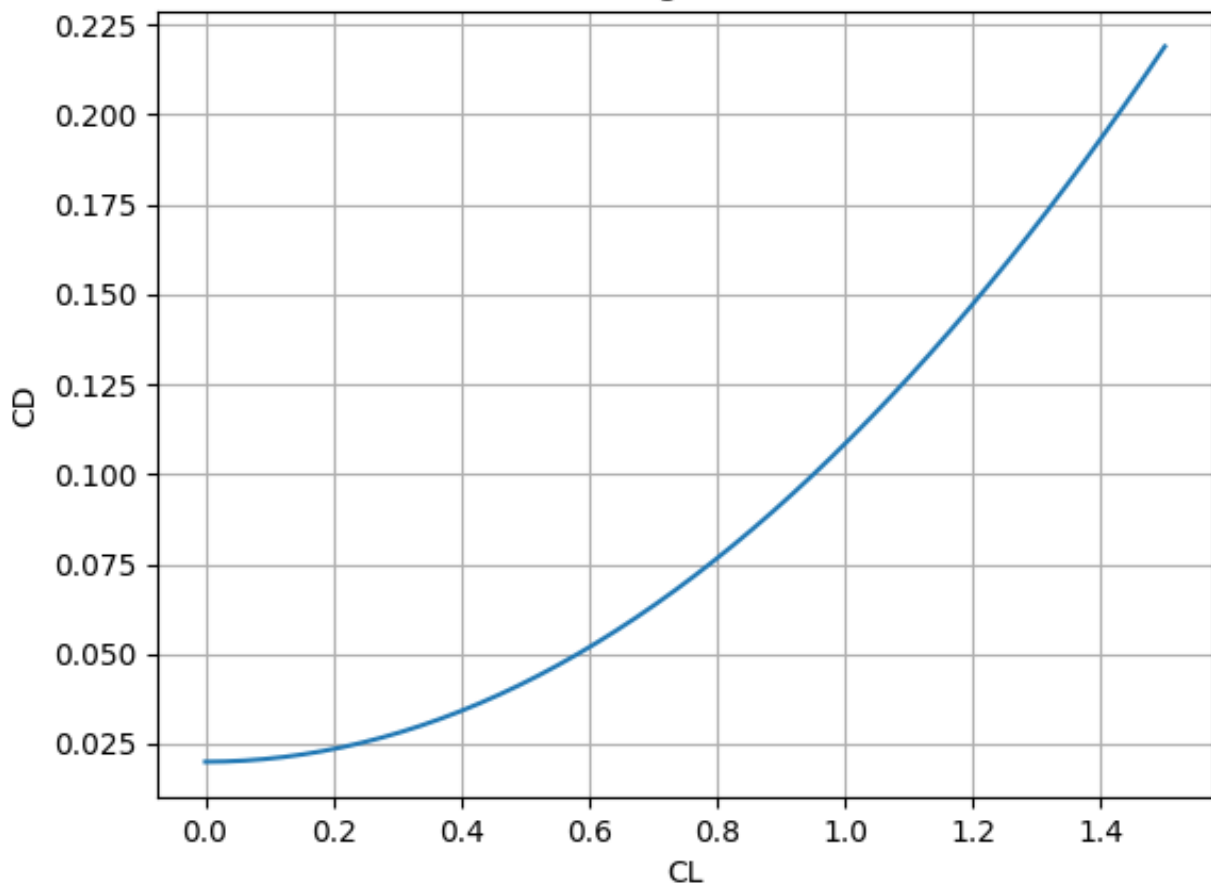
CG Position mm: 120.0

Neutral Point  $x_{np}$  mm: 160.0

Lift Curve



Drag Polar



CG vs Neutral Point

