

# FLIGHT MECHANICS

UCK322E



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## **TEXTBOOK:**

Hale, F.J.,  
Introduction to Aircraft Performance, Selection and Design,  
John Wiley & Sons, Inc., 1984, USA

## **OTHER REFERENCES:**

Raymer, D.P.,  
Aircraft Design: A Conceptual Approach,  
AIAA Education Series, Washington, 1992.

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MIDTERM EXAMS:	2	30%
QUIZES:	4	10%
HOMEWORKS:	2	5%
TERM PROJECTS:	1	15%
FINAL EXAM:	1	40%

<b>Week</b>	<b>Contents</b>
<b>1</b>	Introduction, Standard atmosphere, Basic aerodynamics
<b>2</b>	Airfoils- Wings Lift and Drag , Airspeeds, Weight fractions
<b>3</b>	Flight performance for turbojet aircrafts: Equations of motion, Level flight, Range and endurance
<b>4</b>	Best range, best endurance level flights
<b>5</b>	Take-off and landing
<b>6</b>	<b>EXAM I</b>
<b>7</b>	Climbing flight, Gliding flight
<b>8</b>	Turning flight
<b>9</b>	Turning flight
<b>10</b>	Flight performance for piston- props aircrafts: Equations of motion
<b>11</b>	Flight static stability and control
<b>12</b>	<b>EXAM II</b>
<b>13</b>	Flight static stability and control
<b>14</b>	Presentation of term project