Aerodynamics for Engineers (2009)

1. Why study aerodynamics?  
2. Fundamentals of fluid mechanics  
3. Dynamics of an incompressible, inviscid flow field  
4. Viscous boundary layers  
**5. Characteristic parameters for airfoil and wing aerodynamics**  
5.4 Lift, drag..6. Incompressible flows around airfoils of infinite span  
7. Incompressible flow about wings and finite span  
8. Dynamics of a compressible flow field  
9. Compressible, subsonic flows and transonic flows  
10. Two-dimensional, supersonic flows around thin airfoils  
11. Supersonic flows over wings and airplane configurations  
12. Hypersonic flows  
13. Aerodynamic design considerations  
14. Tools for defining the aerodynamic environment

Bramwell's Helicopter Dynamics (2001)

**1. Basic mechanics of rotor systems and helicopter flight**2. Rotor aerodynamics in axial flight  
3. Rotor aerodynamics and dynamics in forward flight  
4. Trim and performance in axial and forward flight  
5. Flight dynamics and control  
6. Rotor aerodynamics in forward flight  
7. Structural dynamics of elastic blades  
8. Rotor induced vibration  
9. Aeroelastic and aeromechanical behaviour

Principles of Helicopter Aerodynamics (2006)

1. Introduction: History of helicopter flight  
**2. Fundamentals of rotor aerodynamics**Induced inflow, rotor power requirements, numerical solutions to inflow equation **3. Blade Element analysis**  
BEMT,   
4. Rotating blade motion  
5. Helicopter performance  
6. Aerodynamics design of helicopters  
7. Aerodynamics of rotor airfoils  
8. Unsteady airfoil behavior  
9. Dynamic stall  
10. Rotor wakes and blade tip vortices  
11. Rotor-airframe interactional aerodynamics  
12. Autogiros and gyroplanes  
13. Aerodynamics of wind turbines  
**14. Computational methods for helicopter aerodynamics**

The art of the helicopter (2004)

1. Introduction to rotorcraft  
2. Technical background  
**3. Introduction to helicopter dynamics**Ground effect, lift, cyclic control, H-force and Y-force?, the speed limit (figur), 4. Rotors in practice  
**5. The tail**Balancing the torque,   
6. Engines and transmissions  
**7. Control**Flight sensors, autopilots and AFCS, fault tolerance **8. Helicopter performance**Stability  
9. Other types of rotorcraft