

ME 303 Fluid Mechanics – Syllabus
Robin Cleveland, Boston University

Lecture Time Subjects

2 hours	Fundamental definitions
2 hours	Compressibility of Fluids
4 hours	Fluid statics
3 hours	Bernoulli Equation
3 hours	Fluid Kinematics
2 hours	Conservation of Mass
2 hours	Conservation of Momentum
2 hours	Fluids and Thermodynamics
2 hours	Differential Analysis of Fluids
3 hours	Navier Stokes Equations
3 hours	Viscous Flow
2 hours	Dimensional Analysis
2 hours	Buckingham Pi Theory
2 hours	Dimensionless Groups
2 hours	Experiments and Modelling
2 hours	Similitude
2 hours	Laminar pipe flow
2 hours	Turbulent pipe flow
2 hours	Pipe Systems
2 hours	Flow over bodies
2 hours	Boundary layers
2 hours	Drag and Lift

Laboratory exercises 3 x 2 hours each. 1/ Conservation of mass in a wind tunnel, 2/ Observation of laminar/turbulent transition in pipe flow, 3/ Pressure drop in pipe flow.

In class tests 4 hours

Final Exam 2 hours