MA 4391 - ANALYTICAL METHODS FOR FLUID DYNAMICS
SYLLABUS

Text: An Introduction to Fluid Dynamics, G. K. Batchelor, Cambridge, 1967.

HOURS	TOPICS	SECTIONS
	I. Mathematical basis of °uid dynamics	
2- 2	Tensors { a lightning-fast introduction	Notes
4- 6	Properties of Fluids { de¯nition of °uid, continuum hypothesis, body & surface forces, hydrostatics, thermodynamics and transport processes, boundaries and surface tension	1.1 - 1.9
9- 15	Kinematics { Eulerian & Lagrangian viewpoints, material derivative, mass conservation & stream functions, deformation & rotation, singularities in expansion & vorticity, potential °ow, in¯nite °ow-¯eln .09, in¯ni-) [illegible]	[illegible]