
M4A32: Vortex Dynamics

Course details: Spring 2017

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This is an advanced course aimed at giving students with a basic knowledge of fluid dynamics an introduction to the study of vorticity. A knowledge of material in course M3A2 is a desirable prerequisite (but not essential). The course is open to MSc students and 4th year MSci students.

1. **Texts:** The following are recommended reference texts:

P.K. Newton, *The N -Vortex Problem*, Springer-Verlag.

P.G. Saffman, *Vortex Dynamics*, (CUP).

D.J. Acheson: *Elementary Fluid Dynamics*, (OUP).

G.K. Batchelor: *An Introduction to Fluid Dynamics*, (CUP).

H. Lamb: *Hydrodynamics*, (CUP).

Homsy *et al*: [CD-Rom] *Multimedia Fluid Mechanics*, (CUP).

2. Office hours – to be arranged with the class.
3. Five problem sets, and solutions, are already available online:
www2.imperial.ac.uk/~dgcrowdy (and click on “Classes”).
These are meant as an aid to preparing for the summer examination and it is not required to hand in solutions to these.
4. Downloadable copies of the example sheets and past examination papers can be found on the website above.
5. This course has run for several times in past years and previous examination papers are available in the library and online.