## **School of Mathematics**

Module MA342F — Distributions (Optional JS & SS Mathematics, JS & SS Two-subject Moderatorship)

Lecturer: Prof. T. Dorlas

Requirements/prerequisites: prerequisite: MA342E

Duration: Hilary term, 10 weeks

Number of lectures per week: 3 lectures including tutorials per week

## Assessment:

**End-of-year Examination:** This module will be examined jointly with MA342E in a 3-hour examination in Trinity term, except that those taking just one of the two modules will have a 2 hour examination. However there will be separate results for MA342E and MA342F.

**Description:** This module will meet at the Dublin Institute for Advanced Studies, 10 Burlington Road, Dublin 4. Most likely the lectures will be scheduled on Tuesday afternoons (and clash with MA4446).

**Distributions (or generalised functions)**. Definition and basic properties. Examples. Antiderivative. Convergence. Regulatisation and approximations of delta. Fourier transform and convolutions. The space S and tempered distributions. Singular solutions of differential equations and Green's functions.

## References.

W. Rudin, Functional Analysis, McGraw-Hill (1973) — part II

H. Bremermann, *Distributions, complex variables, and Fourier transforms*, Addison-Wesley (1965).

July 6, 2010

2010-11