

**PRELIMINARY READING FOR
UNDERGRADUATES INTENDING TO READ PHYSICS**

MATHEMATICS

Essential:

K F Riley, M P Hobson and S J Bence *Mathematical Methods for Physics and Engineering: A Comprehensive Guide*, (CUP 2002), ISBN 0521-81372 7 (HB), ISBN 0521-89067 5 (PB)

Also of some use:

Gould, M and Hurst, E. *Bridging the Gap to University Mathematics* (Springer) (useful if you have not done further maths)

Spiegel *Advanced Calculus* (Schaum Outline Series) (may be out of print)

Arfken, G. *Mathematical Methods for Physicists* (AP)

Boas *Mathematical Methods in the Physical Sciences* (similar to Riley)

PHYSICS

MICHAELMAS:	Mechanics, Relativity
HILARY:	Vibrations, Waves, Optics, and Electromagnetism
TRINITY:	Electromagnetism, Optics

M W McCall *Classical Mechanics*, (Wiley 2001)

French, A.P. *Special Relativity* (Nelson)

Pain, H.J. *The Physics of Vibrations and Waves* 3rd edition (Wiley)

Duffin **Electricity & Magnetism* (MaGraw Hill)

Lorrain & Corson *Electromagnetic Fields and Waves* (Freeman)

Hecht **Optics* (Addison Wesley)

The above list comprises some of the relevant texts for first year undergraduates at Oxford. It is recommended that prospective undergraduates look through these to obtain some idea of the scope of the course. The lecturers may suggest different texts, so do not buy all these books. A closer look at the mathematical texts is strongly recommended as preparation for the first term's work. Books marked with a * should be regarded as essential. Duffin is currently out of print, please try to get a second hand copy, perhaps on Amazon.

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NB On-line bridging material will be sent to you late August from the University– please look out for an email from bridging@mpls.ox.ac.uk at the mid-end of August.