A1: THERMAL AND STATISTICAL PHYSICS
MT 2013 & HT 2014

Andrew Boothroyd and Alexander Schekochihin

READING LIST

Textbook based on the Oxford course as taught up to 2011:
'Concepts in Thermal Physics,' S. J. Blundell and K. M. Blundell (2nd edition, OUP 2009)

More undergraduate textbooks:
'Fundamentals of Statistical and Thermal Physics,' F. Reif (Waveland Press 2008)
'Equilibrium Thermodynamics,' C. J. Adkins (3rd edition, CUP 1997)
'Statistical Physics,' F. Mandl (2nd edition, Wiley-Blackwell 2002)
'Elementary Statistical Physics,' C. Kittel (Dover)
'Thermodynamics and the Kinetic Theory of Gases,' W. Pauli (Volume 3 of Pauli Lectures on Physics, Dover 2003)

More advanced-level books:
'Statistical Thermodynamics,' E. Schroedinger (Dover 1989) *[a beautiful and very concise treatment of the key topics in statistical mechanics, a bravura performance by a great theoretical physicist; may not be an easy undergraduate read, but well worth the effort!]*
'Statistical Physics, Part I,' L. D. Landau and E. M. Lifshitz (3rd edition, Volume 5 of the Landau and Lifshitz Course of Theoretical Physics, Butterworth-Heinemann, 2000) *[the Bible of statistical physics for theoretically inclined minds]*
'Physical Kinetics,' E. M. Lifshitz and L. P. Pitaevskii (Volume 10 of the Landau and Lifshitz Course of Theoretical Physics, Butterworth-Heinemann, 1999)
'The Mathematical Theory of Non-uniform Gases: An Account of the Kinetic Theory of Viscosity, Thermal Conduction and Diffusion in Gases,' S. Chapman and T. G. Cowling (CUP 1991) *[the Cambridge Bible of kinetic theory, not a page-turner, but VERY thorough]*
'Statistical Physics of Particles,' M. Kardar (CUP 2007)