

Reading list: 1st year LTCC courses

Recommended reading

Pure Mathematics

Arveson, W., *An invitation to C*-algebras*, Springer-Verlag, Heidelberg, 1976 (C*-algebras)

Neukirch, J., *Algebraic number theory*, Springer, 1999 (Algebraic Number Theory)

Oxtoby, J.C., *Measure and Category*, Springer, 1971 (Measure and Category)

Swinnerton-Dyer, H.P.F., *A brief guide to algebraic number theory*, Cambridge University Press, 2001 (Algebraic Number Theory)

Takesaki, M., *Theory of operator algebras I*, Springer-Verlag, Heidelberg, 1979 (C*-algebras)

Wilson, R.A., *Finite Simple Groups*, to appear shortly (Finite Simple Groups)

Statistics

Andersson, Hakan & Britton, Tom, *Stochastic Epidemic Models and their Statistical Analysis*, Springer Lecture Notes in Statistics, no.151, 2000 (Stochastic Processes)

Cox, D.R., *Principles of Statistical Inference*, Cambridge University Press, 2006 (Fundamental Theory of Statistical Inference)

Cox, D.R. & Isham, Valerie, *Point Processes*, Chapman & Hall, 1980 (Stochastic Processes)

Davidson, A.C., *Statistical Models*, Cambridge, 2003 (Statistical Modelling and Estimation)

Lee, P.M., *Bayesian Statistics: An Introduction* (3rd ed.), A Hodder Arnold Publication, 2004 (Applied Bayesian Methods)

Ross, Sheldon, *Stochastic Processes*, Wiley, 1996 (Stochastic Processes)

Stirzaker, David, *Stochastic Models and Processes*, Oxford University Press, 2005 (Stochastic Processes)

Williams, David, *Probability with martingales*, Cambridge University Press, 1991 (Measure-theoretic Probability)

Young, G.A. & Smith, R.L., *Essentials of Statistical Inference*, Cambridge University Press, 2005 (Fundamental Theory of Statistical Inference)

Applied Mathematics

Beck, C & Schloegel, F., *Thermodynamics of Chaotic Systems: An Introduction*, Cambridge University Press, 1993 (Applied Dynamical Systems)

Brenner, S.C. & Scott, L.R., *The Mathematical Theory of Finite Element Methods*, Springer-Verlag, New York, no 15 in Texts in Applied Mathematics, 1994 (Computational Methods)

Ciarlet, P.G., *The Finite Element Method for Elliptic Problems*, North-Holland, Amsterdam, 1978 (Computational Methods)

Cumberbatch, E. & Fitt, A., *Mathematical Modelling: Case Studies from Industry*, Cambridge University Press, 2001 (Models)

Drazin, P.G. & Reid, W.H., *Hydrodynamic stability*, Cambridge University Press, 2004 (Analytical Methods)

Fowler, A.C., *Mathematical Models in the Applied Sciences*, Cambridge University Press, 1997 (Models)

Grisvard, P., *Elliptic Problems in Non-smooth Domains*, Pitman Publishing Inc., Boston, 1985 (Computational Methods)

Hinch, E.J., *Perturbation methods*, Cambridge University Press, 1991 (Analytical Methods)

Hofbauer, Josef & Sigmund, Karl, *Evolutionary Games and Population Dynamics*, Cambridge University Press, 1998 (Bio-Mathematics)

Morris, Hirsch, Smale, Stephen & Devaney, Robert, *Differential Equations, Dynamical Systems, and an Introduction to Chaos*, (Pure and Applied Mathematics (Academic Press), 60.) 2003 (Bio-Mathematics)

Ockendon, J., Howison, S., Lacey, A. & Movchan, A., *Applied Partial Differential Equations*, Oxford University Press, 2003 (Models)

Weinberger, *PDEs with complex variables and transform methods* (Analytical Methods)

Additional optional reading

Pure Mathematics

Dixmier, J., *C*-algebras*, North-Holland, Amsterdam, 1977 (C*-algebras)

Kadison, R.V. & Ringrose, J.R., *Fundamentals of the theory of operator algebras I, II*, Academic Press, New York, 1983, 1986 (C*-algebras)

Serre, J.P., *A course in arithmetic*, Springer, 1973 (Algebraic number theory)

Taylor, D.E., *The Classical Groups*, Heldermann, Berlin, 1992 (Finite Simple Groups)

Washington, L.C., *Introduction to cyclotomic fields*, Springer, 1982 (Algebraic Number Theory)

Statistics

Bayarri, M.J. & Berger, J., *The interplay between Bayesian and frequentist analysis*, *Statistical Science*, 19, 2004, 58-80 (Fundamental Theory of Statistical Inference)

Berger, J., *Could Fisher, Jeffreys and Neyman have agreed on testing (with discussion)?*, *Statistical Science*, 18, 2003, 1-32 (Fundamental Theory of Statistical Inference)

Erfon, B., *R.A. Fisher in the 21st Century (with discussion)*, *Statistical Science*, 13, 95-122 (Fundamental Theory of Statistical Inference)

Gelman, A., Carlin, J.B., Stern, H.S. & Rubin, D.B., *Bayesian Data Analysis*, Chapman & Hall, 2003 (Applied Bayesian Methods)

Gilks, W.R., Richardson, S. & Spiegelhalter, D.J., *Markov Chain Monte Carlo*, Chapman & Hall/CRC, 1995 (Applied Bayesian Methods)

Grimmett, G.R. & Stirzaker, D., *Probability and random processes*, [Ch. 12, 13] Oxford University Press, 2001 (Measure-theoretic Probability)

Kallenberg, O., *Foundations of modern probability*, Springer, 2002 (Measure-theoretic Probability)

Mignon, H.S. & Gamerman, D., *Statistical Inference – An Integrated Approach*, A Hodder Arnold Publication, 1999 (Applied Bayesian Methods)

Rao, C.R., *Linear Statistical Inference and Its Applications*, Wiley, 1973 (Statistical Modelling and Estimation)

Steele, J.M, *Stochastic calculus and financial applications*, [Ch. 1-6], Springer, 2001
(Measure-theoretic Probability)