

Course	Term	No.	Lecturer	Dept	Examinable	Total for subject area	Of which, examinable
<b>Algebra</b>						5	4
Group Cohomology	L	16	C.J.B.Brookes	DPMMS	Examinable		
Commutative Algebra	M	24	Oren Becker	DPMMS	Examinable		
Lie Algebras and their Representations	L	24	Ian Grojnowski	DPMMS	Examinable		
Modular Representation Theory	M	16	Stuart Martin	DPMMS	Graduate non-examinable		
Representation Theory of Symmetric Groups	M	24	S. W. C. Law	DPMMS	Examinable		
<b>Algebraic Geometry</b>						2	2
Algebraic geometry	M	24	Dhruv Ranganathan	DPMMS	Examinable		
Abelian Varieties	L	16	Tony Scholl	DPMMS	Examinable		
Toric Geometry	L	24	Navid Nabijou	DPMMS	Examinable		
<b>Analysis and PDEs</b>						4	4
Functional Analysis	L	24	Andras Zsak	DPMMS	Examinable		
Analysis of PDEs	M	24	Mihalis Dafermos	DPMMS	Examinable		
An introduction to non linear analysis	M	24	Pierre Raphael	DPMMS	Examinable		
Elliptic PDEs	L	24	Greg Tadjanskas (&TBD)	DPMMS	Examinable		
<b>Applied and Computational Analysis</b>						5	3
Nonlinear Spectral Analysis	M	16	TBC	DAMTP	Examinable		
Unbounded Operators and Semigroups	L	16	David Stuart	DAMTP	Examinable		
Topics in the mathematics of deep learning	L	16	Carlos Esteve Yagüe	DAMTP	Graduate non-examinable		
Nonlinear Functional Analysis and Applications	M	24	Edriss Titi	DAMTP	Graduate non-examinable		
Numerical solution of differential equations	M	24	Arieh Iserles	DAMTP	Examinable		
Inverse Problems	L	16	Malena Sabate Lanc	DAMTP	Examinable		
Topics in Convex Optimisation	L	16	Hamza Fawzi	DAMTP	Examinable		
<b>Astrophysics</b>						7	7
Structure and Evolution of Stars	M	24	Zytkow	Astro	Examinable		
Astrophysical Fluid Dynamics	M	24	Rafikov	DAMTP	Examinable		
Extrasolar Planets: Atmospheres and Interiors	M	24	Madhusudhan	Astro	Examinable		

Modern Stellar Dynamics	M	16	Vasiliev	Astro	Examinable		
Life and Death of Galaxies	L	24	Belokurov	Astro	Examinable		
Astrophysical Black Holes	L	16	Sijacki	Astro	Examinable		
Astrostatistics	L	24	Mandel	DAMTP	Examinable		
Dynamics of Astrophysical Discs	L	16	Ogilvie	DAMTP	Examinable		
<b>Combinatorics</b>						4	4
Combinatorics	M	16	Prof. B. Bollobas	DPMMS	Examinable		
Extremal and probabilistic graph theory	M	16	Dr J. Sahasrabudhe	DPMMS	Examinable		
Ramsey Theory	L	16	Prof. I. Leader	DPMMS	Examinable		
Introduction to computational complexity	L	16	Prof. W.T. Gowers	DPMMS	Examinable		
<b>Continuum Mechanics</b>						9	6
Perturbation Methods	M	16	Stephen Cowley	DAMTP	Examinable		
Slow Viscous Flow	M	24	John Lister	DAMTP	Examinable		
Fluid Dynamics of Climate	M	24	John Taylor and Pet	DAMTP	Examinable		
Introduction to Computational Fluid Dynamics	M	16	Dormy	DAMTP	Graduate non-examinable		
Hydrodynamic Stability	L	16	Rich Kerswell	DAMTP	Examinable		
Non-Newtonian Fluid Mechanics	L	16	Eric Lauga	DAMTP	Examinable		
Direct and Inverse Scattering of Waves	L	16	Orsola Rath-Spivack	DAMTP	Examinable		
Demonstrations in Fluid Mechanics	L	8	Stuart Dalziel & Jerome Neufeld	DAMTP	Part III non-examinable		
Fluid dynamics of the built environment	E	8	Daria Frank & Rajesh Kumar Bhagat	DAMTP	Graduate non-examinable		
<b>Soft Matter and Biological Physics</b>						3	3
Theoretical Physics of Soft Condensed Matter	M	16	Mike Cates	DAMTP	Examinable		
Biological Physics	M	24	Ray Goldstein	DAMTP	Examinable		
Stochastic Processes in Biology	L	16	Maria Bruna & Tomislav Plesa	DAMTP	Examinable		
<b>Differential Geometry and Topology</b>						5	4
Differential Geometry	M	24	Jack Smith	DPMMS	Examinable		
Algebraic topology	M	24	Jake Rasmussen	DPMMS	Examinable		

Stationary measures for random walks on homogeneous spaces	L	16	Timothee Benard	DPMMS	Graduate non-examinable	
Characteristic classes and K-theory	L	24	Oscar Randal-Williams	DPMMS	Examinable	
Complex Manifolds	L	24	Alexei Kovalev	DPMMS	Examinable	
<b>Foundations</b>						4 4
Category Theory	M	24	Prof. P. T. Johnstone	DPMMS	Examinable	
Logic and Computability	M	24	Dr J.V.Siqueira	DPMMS	Examinable	
Large Cardinals	L	16	Prof. B. Loewe	DPMMS	Examinable	
Model Theory	L	16	Silvia Barbina	DPMMS	Examinable	
<b>Information and Finance</b>						3 3
Information Theory	M	16	Ioannis Kontoyianni	StatsLab	Examinable	
Advanced Financial Models	L	24	Mike Tehranchi	StatsLab	Examinable	
Concentration Inequalities	L	16	Varun Jog	StatsLab	Examinable	
<b>Number Theory</b>						4 4
Local Fields	M	24	Rong Zhou	DPMMS	Examinable	
Modular Forms	M	24	Jack Thorne	DPMMS	Examinable	
Algebraic Number Theory	L	24	Hanneke Wiersema	DPMMS	Examinable	
Elliptic Curves	L	24	Tom Fisher	DPMMS	Examinable	
Topics in Arithmetic Algebraic Geometry	L	24	Tony Scholl	DPMMS	Graduate non-examinable	
<b>Particle Physics and Quantum Fields</b>						10 8
Quantum Field Theory	M	24	Nick Dorey	DAMTP	Examinable	
Symmetry, Particles and Fields	M	24	Matthew Wingate	DAMTP	Examinable	
Statistical Field Theory	M	16	Christopher Thomas	DAMTP	Examinable	
Non-Equilibrium Statistical Field Theory	M	8	Johannes Pausch	DAMTP	Graduate non-examinable	
Advanced Quantum Field Theory	L	24	Ron Reid-Edwards	DAMTP	Examinable	
Standard Model	L	24	Fernando Quevedo	DAMTP	Examinable	
String Theory	L	24	David Skinner	DAMTP	Examinable	
Supersymmetry and Duality	L	24	David Tong	DAMTP	Examinable	
Applications of QFT	E	16	Sean Hartnoll	DAMTP	Examinable	
Physics Beyond the Standard Model	E	12	Maria Ubiali	DAMTP	Graduate non-examinable	

<b>Probability</b>						4	4
Advanced Probability	M	24	Prof. P. Sousi	StatsLab	Examinable		
Lattice Models	M	24	Prof. R. Bauerschmidt	StatsLab	Examinable		
Stochastic Calculus and Applications	L	24	Prof. J. Miller	StatsLab	Examinable		
Schramm—Loewner evolutions	L	16	Mr K Kavvadias	StatsLab	Examinable		
<b>Quantum Computation, Information and Foundations</b>						4	3
Quantum Computation	M	24	Sergii Strelchuk	DAMTP	Examinable		
Topics in Quantum Foundations	L	16	Boris Groisman	DAMTP	Examinable		
Topological Quantum Matter	L	16	Benjamin Bèri	DAMTP	Examinable		
Mathematics of Tensor Networks	M	8	Dr Thorsten Wahl	DAMTP	Graduate non-examinable		
<b>Relativity and Cosmology</b>						7	6
Cosmology	M	24	Blake Sherwin	DAMTP	Examinable		
General Relativity	M	24	Claude Warnick	DAMTP	Examinable		
Black Holes	L	24	Jorge Santos	DAMTP	Examinable		
Field Theory in Cosmology	L	24	Enrico Pajer	DAMTP	Examinable		
Solitons, Instantons and Geometry	L	16	Maciej Dunajski	DAMTP	Examinable		
Gauge/Gravity Duality	E	16	Aron Wall	DAMTP	Examinable		
Gravitational waves and numerical relativity	E	16	Ulrich Sperhake	DAMTP	Graduate non-examinable		
<b>Statistics</b>						9	8
Modern Statistical Methods	M	24	Dr R. D. Shah	StatsLab	Examinable		
Topics in Statistical Theory	M	16	Prof. R. J. Samworth	StatsLab	Examinable		
Causal Inference	M	16	Dr Q. Zhao	StatsLab	Examinable		
Statistics in Medical Practice (Biostatistics)	M	12	Dr C. Jackson et al	StatsLab	Examinable		
Bayesian Modelling and Computation	L	24	Dr S. Bacallado	StatsLab	Examinable		
Functional Data Analysis	L	16	Prof. J. A. D. Aston	StatsLab	Examinable		
Statistical Learning in Practice	L	12+12	Dr R. Altmeyer	StatsLab	Examinable		
Analysis of Survival Data	L	12	Dr P. Treasure	StatsLab	Examinable		
Bayesian Non-linear Statistical Inverse Problems	L	16	Prof. R. Nickl	StatsLab	Graduate non-examinable		

## Summary

<b>Department</b>	<b>Total</b>	<b>Examin:</b>	<b>Non-examinable</b>
DAMTP (inc. Astro)	45	36	9
Astro only	7	7	0
DPMMS (inc. StatsLab)	44	41	3
StatsLab only	16	15	1
Total	112	99	13



