

# MATHEMATICAL SCIENCES

## DIVISION OF MATHEMATICAL AND PHYSICAL SCIENCES

### Draft Lecture List for Michaelmas Term 2016

There may be late changes and amendments to this Lecture List. For an up-to-date version, please check the Mathematical Institute Website:

<https://www.maths.ox.ac.uk/members/students/lecture-lists>

This version updated 19 October 2016

Events shown on this list are generally one hour long unless stated otherwise.

<i>Subject</i>	<i>Lecturer</i>	<i>Time*</i>	<i>Place</i>
<b>GRADUATE SEMINARS</b>			
Algebra Seminar	Prof. Kevin McGerty, Prof. Nikolay Nikolov and Prof. Martin Bridson	T.2.15–3.30	Mathematical Institute, L4
Algebraic and Symplectic Geometry	Prof. Dominic Joyce and Prof. Balazs Szendroi	T.3.45–5	Mathematical Institute, L4
Analytic Topology in Mathematics and Computer Science	Prof. Samson Abramsky, Dr Peter Collins, Dr Robin Knight, Prof. Hilary Priestley, Prof. Bill Roscoe and Dr Rolf Suabedissen	W.4–5:30	Mathematical Institute, C2
Arithmetic Geometry Seminar	Prof. Francis Brown, Prof. Minhyong Kim and Prof. Damian Rössler	M.11	Mathematical Institute, C4
Combinatorial Theory	Prof. Alex Scott	T.2:30–3:45 T.4:30–6	Mathematical Institute, L6
Computational Mathematics and Applications	Prof. Nick Trefethen and Dr Tyrone Rees (RAL)	Th.2	Mathematical Institute, L5 (weeks 1–7), L2 (week 8)
Cryptography Seminar	Dr Ali El Kaafarani	W.3	Mathematical Institute, L5 (weeks 1–7), L6 (week 8)
Department of Computer Science Seminar	Prof. Georg Gottlob	T.4:30	Department of Computer Science
Fridays@4	Prof. Frances Kirwan, Prof. Andreas Muench, Dr Vicky Neale	F.4	Mathematical Institute, L2 (week 1), L1 (weeks 2–8)
Functional Analysis	Prof. Charles Batty	T.5–6:30	Mathematical Institute, C1
Geometry and Analysis	Prof Andrew Dancer and Prof Frances Kirwan	M.2.15–3:30	Mathematical Institute, L4
Geophysical and Non-linear Fluid Dynamics	Prof. Peter Read and Prof. Irene Moroz	T.2:15	Atmospheric Physics
Homological Theory	Prof. Kobi Kremnitzer	W.10–12	Mathematical Institute, L4
Industrial and Applied Mathematics	T.B.C.	Th.4–5.30	Mathematical Institute, L3
Junior Algebra and Representation Theory	Mr Kieran Calvert	F.10 (odd weeks)	Mathematical Institute, N3.12
Junior Applied Mathematics	Mr Mark Gilbert	T.12.45–2:00 (even weeks)	Mathematical Institute, C5
Junior Analytic Topology	Mr Robert Leek	Th. 1.30-3.00	Mathematical Institute, C5
Junior Geometry and Topology Seminar	Mr Alejandro Betancourt De La Parra	Th.4–5:30	Mathematical Institute, C5
Junior Logic	Mr Felix Weitkämper	T.2.30	Mathematical Institute, C4
Junior Number Theory	Prof. Roger Heath-Brown	M.4–5	Mathematical Institute, C3
Junior Topology and Group Theory	Mr Nicolaus Heuer	W.4–5:30	Mathematical Institute, C1
Kinderseminar	Mr Kieran Calvert	W.11–12.30	Mathematical Institute, N3.12 (weeks 1–2, 4–8), S1.37 (week 3)
Logic	Prof. Jochen Koenigsmann	Th.5.30	Mathematical Institute, L6
Mathematical Behavioural Finance		W.3	Oxford-Man Institute

Mathematical and Computational Biology	Prof. Philip Maini, Prof. Ruth Baker, Prof. Eamonn Gaffney, Dr Peter Minary and Dr David Gavaghan	F.2	Mathematical Institute, L3 (weeks 1–2, 4–6, 8), L2 (week 3 and 7)
Mathematical Finance Internal Seminar	Prof. Samuel Cohen	F.1	Mathematical Institute, L6
Mathematical Finance Nomura	Prof. Xunyu Zhou	Th.4-5.30	Mathematical Institute, L4
Mathematical Geoscience	Prof. Andrew Fowler & Prof. Ian Hewitt	F.2–3.30 (even weeks)	Mathematical Institute, C3
Networks Journal Club	Dr Marya Bazzi	Th.12–1.30	Mathematical Institute, C1
Nonlinear PDE	Prof. Gui-Qiang Chen	Th.3.30–5.30	Mathematical Institute, C1
Number Theory	Prof. Ben Green and Prof. Sir Andrew Wiles	Th.4	Mathematical Institute, L6
Numerical Analysis Internal Seminar	Prof. Nick Trefethen	T.2	Mathematical Institute, L5 (weeks 1-7) L3 (week 8)
Oxford Advanced Seminar on Informatic Structures	Dr Mehrnoosh Sadrzadeh	F.2	Department of Computer Science
Partial Differential Equations Seminar	Prof. Luc Nguyen	M.4	Mathematical Institute, L4
PDE CDT lunchtime seminar	Dr Angkana Ruland	Th.12 (weeks 1–7, 9)	Mathematical Institute, L5 (weeks 1–7), L4 (week 9)
Poincare Seminar	Prof. Martin Bridson and Prof. Marc Lackenby	M.12.30–2:00	Mathematical Institute, C2
Probability Workshops	Prof. Alison Etheridge	M.12–1.30 (weeks 1–5, 7–8) [L4] W.12 (week 6 only) [L3]	Mathematical Institute, L4, L3
Quantum Field Theory/Relativity	Dr Keith Hannabuss and Dr Florence Tsou	T.12–1:30	Mathematical Institute, L4
Representation Theory	Prof. Kobi Kremnitzer & Prof. Kevin McGerty	Th.2–4	Mathematical Institute, L4
Solid and Liquid Crystals	Prof. Sir John Ball	T.11–1	Mathematical Institute, C1
Statistics Applied Probability and Operational Research	Prof. Yee Whye Teh	Th.2:15	Department of Statistics
Statistics Graduate Seminar	Prof. Geoff Nicholls	Th.3.45(weeks 1 and 3–6)	Department of Statistics
Statistics Graduate Student Presentations	Prof. Geoff Nicholls	Th.3 (week 7)	Department of Statistics
Stochastic Analysis	Prof. Terry Lyons	M. 2.15–3.30 [L3] M. 3.45-5.[L3, weeks 2–4, 6, L1 weeks 5,7),	Mathematical Institute, L3, L1
Stochastic Differential Games Reading Seminar	Prof. Samuel Cohen	Time t.b.c on a weekly basis	Mathematical Institute
String Theory	Prof. Philip Candelas and Prof. Xenia de la Ossa	M.12–2	Mathematical Institute, L3
String Theory Discussion Seminar	Prof. Xenia de la Ossa	W.12–1.30	Mathematical Institute, L4
Topology Seminar	Prof. Cornelia Drutu, Prof. Andras Juhasz, Prof. Ulrike Tillmann	M.3:30–5 (weeks 0-8)	Mathematical Institute, L6
Wolfson Centre for Mathematical Biology Journal Club	Prof. Philip Maini	M.12–1:30	Mathematical Institute, L6
<b>GRADUATE WORKSHOPS</b>			
<b>WORKSHOPS</b>			
Industrial and Interdisciplinary Workshops	Prof. Chris Breward	F.10–1	Mathematical Institute, L4
<b>ADVANCED CLASSES</b>			
Algebra	Dr Aditi Kar	T.4–5.30	Mathematical Institute, C5

Iterated Integrals	Prof. Francis Brown	F.10	Mathematical Institute, C3
Logic	Prof Ehud Hrushovski	Th.11–12:30	Mathematical Institute, C5
Representation Theory	Dr Lisa Lamberti	Th.10	Mathematical Institute, C5
Topology	Prof. Ulrike Tillmann	M.11-12.30	Mathematical Institute, C2
<b>GRADUATE LECTURES</b>			
Galois representations and automorphic forms	Prof. Andrew Wiles	W.3–4.30 (weeks 3–8)	Mathematical Institute, C3.
<b>TAUGHT COURSE CENTRE</b>			
<p>The Taught Course Centre is a collaboration between the Mathematics Departments at the Universities of Bath, Bristol, Imperial, Oxford and Warwick. It aims to offer approximately 25 graduate level courses over the academic year. Access grid technology will be used so that audiences in all five universities can participate in the lectures. Graduate students should register in advance in order to attend the lectures. For more information about the Taught Course Centre, and for their lecture timetable, please see the website at <a href="http://tcc.maths.ox.ac.uk/">http://tcc.maths.ox.ac.uk/</a></p>			
<b>EPSRC CDT in Industrially Focused Mathematical Modelling</b>			
Mathematical Modelling	Prof. Chris Breward	M.T.W.Th.F.9–1 (weeks 1–2)	Mathematical Institute, C6
Scientific Computing	Dr Andrew Thompson	M.T.W.Th.F.2–5.30 (weeks 1–2)	Mathematical Institute, C6
Modelling, analysis and computation of continuous real world problems	Prof. Colin Please, Dr Ricardo Ruiz Baier, Prof. Cora Cartis, Dr Phil Trinh	M.T.W.Th.9–5.30 (weeks 3–6)	Mathematical Institute, C6
Modelling, analysis and computation of discrete real world problems	Prof. Jared Tanner, Dr Andrew Thompson, TBC	M.T.W.Th.9–5.30 (weeks 7–9)	Mathematical Institute, C6
<b>EPSRC CDT in Partial Differential Equations</b>			
<b>Foundation Modules</b>			
Measure Theory and Probability	Prof. Zhongmin Qian	W.1–3 (week -1) Th.11.15–1.15 (week -1) M.9–11, 2.30–4.30 (week 0)	Mathematical Institute, C5
Function Spaces and Distribution Theory	Prof. Melanie Rupflin	Th.9–11, 2.30–4.30 (week -1) M.11.15–1.15 (week 0) T.2–4 (week 0)	Mathematical Institute, C5
Introduction to Partial Differential Equations	Prof. Dominic Joyce	Th.1–3.30 (week 0) F.10.30–1 (week 0) M.1.30–4.30 (week 1) W.2–4.30 (week 1)	Mathematical Institute, C5
Introduction to Differential Geometry	Prof. Gui-Qiang Chen	M.10–12 (week 1) [C5] T.2–4 (week 1) [C5] Th.10–12 (week 1) [C4] F.10–12 (week 1) [C5]	Mathematical Institute, C4, C5
<b>Survey Courses</b>			
Nonlinear Analysis and Applications	Prof. Melanie Rupflin	T.2–4 (weeks 3–5) [C1] F.10–11 (weeks 3–5) [C5]	Mathematical Institute, C1, C5
Stochastic Analysis and Partial Differential Equations	Prof. Zhongmin Qian	T.10 (weeks 3–5) [C5] Th.11 (weeks 3–5) [C4] W.4 (weeks 3 & 5) [C5]	Mathematical Institute, C4, C5
Scientific Computing and Numerical Analysis	Prof. Endre Süli	M.12 (weeks 6–8) F.10–12 (weeks 6–8)	Mathematical Institute, C5
Geometric Analysis and Partial	Prof. Luc Nguyen	M.2 (weeks 6–8)	Mathematical Institute, C5

Differential Equations		W.9–11 (weeks 6–8)	
Analysis of PDEs	Prof. Yves Capdeboscq	M.9–11 (weeks 2–9)	Mathematical Institute, C5
<b>M.Sc IN MATHEMATICAL AND COMPUTATIONAL FINANCE</b>			
Financial Computing with C++	Dr Greg Gyurko	W.2	Mathematical Institute, L3 (weeks 1–5, 7), VC room (weeks 6, 8)
Financial Derivatives 1	Prof. Hanqing Jin	M.11 [L4] Th.11 [L6]	Mathematical Institute, L4, L6
Numerical Methods – Monte Carlo Methods[weeks 1-4]	Prof. Mike Giles	M.1.30 (weeks 1–4) [L6] T.11 (week 4 only) [L5] W.11 (weeks 1–3) [L6]	Mathematical Institute, L6
Numerical Methods – Finite Difference Methods[weeks 5-8]	Dr Athena Picarelli	M.10 (weeks 6, 7) [L4] M.1.30 (weeks 5–8) [L6] W.11 (weeks 5, 8) [L6]	Mathematical Institute, L4, L6
Statistics and Financial Data Analysis	Prof. Sam Cohen	T.10 (week 8 only) W.10 (weeks 1–7) F.11 (weeks 1–8)	Mathematical Institute, L6
Stochastic Calculus	Prof. Ben Hambly	Th.F.10 (weeks 1–7) Th.F.9 (week 8 only)	Mathematical Institute, L6
<b>M.Sc IN MATHEMATICAL AND THEORETICAL PHYSICS</b>			
Quantum Field Theory	Dr Tomasz Lukowski	T.4 [L3 (weeks 1–6), L1 (weeks 7–8)] Th.2–4[L1]	Mathematical Institute, L1, L3, L5
Statistical Mechanics	Prof. Andrew Fowler	M.2, T.11	Mathematical Institute, C2
Advanced Quantum Theory	Prof. Fabian Essler	M.9 (weeks 1–7) W.10 (weeks 1–7) Th.9 (weeks 1–6)	Department of Physics, Dennis Sciama Lecture Theatre
Nonequilibrium Statistical Physics	Prof. Ramin Golestanian	M.9 (week 8) W.10 (week 8) Th.9 (weeks 7–8)	Department of Physics, Dennis Sciama Lecture Theatre
Topological Quantum Theory	Prof. Steve Simon	F.9–11	Department of Physics, Fisher Room
Kinetic Theory	Dr Paul Dellar, Prof. James Binney, Prof. Alexander Schekochichin	M.10 (weeks 1, 4–8) M.4–6 (weeks 1–8) T.2 (weeks 1, 3) T.2–4 (week 8)	Department of Physics, Fisher Room, except for Monday at 10am in week 1 which will be in L4, Mathematical Institute
Radiative Processes and High Energy Astrophysics	Prof. Garret Cotter	M.W.F.12	Department of Physics, Dennis Sciama Lecture Theatre
Viscous Flow	Prof. Sarah Waters	M.11 [L2] F.11 [L3]	Mathematical Institute, L2, L3
General Relativity I	Dr Andreas Braun	T.5 [L4] W.5 [L5 (weeks 1–7), L3 (week 8)]	Mathematical Institute, L4, L5, L3
Perturbation Methods	Prof. Jim Oliver	Th.11-1	Mathematical Institute, L2
Numerical Linear Algebra	Prof. Andy Wathen	T.3 [L3 (weeks 1–6, 8), L5 (week 7)] Th.5 [L2 (weeks 1–4, 6–8) L5 (week 5)]	Mathematical Institute, L2, L3, L5
Groups and Representations	Prof. Andre Lukas	T.9–11, W.2	Department of Physics, Fisher Room
Algebraic Topology	Prof. Christopher Douglas	T.12	Mathematical Institute, [L5

		W.12	(weeks 1–7), L6 (week 8)]
Algebraic Geometry	Prof. Alexander Ritter	F.11–1	Mathematical Institute, L5 (weeks 1–7), C1 (week 8)
Differentiable Geometry (Manifolds)	Prof. Dominic Joyce	M.12 [L5] W.11 [L5 (weeks 1–7), C3 (week 8)]	Mathematical Institute, L5, C3
<b>M.Sc IN MATHEMATICAL MODELLING AND SCIENTIFIC COMPUTING[]</b>			
<b>CORE</b>			
A1 Supplementary Applied Mathematics	Prof. Andreas Muench	M.1 (odd weeks)[L2] T.2 (even weeks) [L3, weeks 2, 4, 6, L2, week 8]	Mathematical Institute, L3, L2.
A1 Applied PDEs	Prof. Derek Moulton	M.10 [L2] W.10 [L3]	Mathematical Institute, L2, L3
B1 Numerical Solution of Differential Equations I	Dr Tyrone Rees	M.9 T.12	Mathematical Institute, L2
B1 Numerical Linear Algebra	Prof. Andy Wathen	T.3 [L3 (weeks 1–6, 8), L5 (week 7)] Th.5 [L2 (weeks 1–4, 6–8) L5 (week 5)]	Mathematical Institute, L2, L3, L5
Mathematical Modelling	Prof. Ian Hewitt	M.3 [L5] Th. 2–4 [L6]	Mathematical Institute, L5, L6
Additional Skills	Dr Kathryn Gillow	W.1–3	Mathematical Institute, L6
Practical Numerical Analysis	T.B.C.	M.4 [L5] Th.4 [L5 (weeks 1–6), L2 (weeks 7- 8)]	Mathematical Institute, L5, L2
<b>SPECIAL TOPICS[]</b>			
Integer Programming	Prof. Raphael Hauser	T.Th.10	Mathematical Institute, L3
Mathematical Geoscience	Prof. Ian Hewitt	T.F.9 [L4]	Mathematical Institute, L4
Further Mathematical Biology	Prof. Helen Byrne	W.11, F.10	Mathematical Institute, L3
Mathematical Physiology	Prof. Sarah Waters	M.12 [L2] F.12 [L3]	Mathematical Institute, L2, L3
Perturbation Methods	Prof. Jim Oliver	Th.11-1	Mathematical Institute, L2
Solid Mechanics	Dr Angkana Ruland	F.2–4	Mathematical Institute, L5 (weeks 1–7), L2 (week 8)
Statistical Mechanics	Prof. Andrew Fowler	M.2, T.11	Mathematical Institute, C2
Stochastic Differential Equations	Prof. Harald Oberhauser	W.5 [L4] F.4 [L5 (weeks 1–7), L3 (week 8)]	Mathematical Institute, L4, L5, L3
Topics in Fluid Mechanics	Prof. Andreas Muench	T.4 [L5 (weeks 1–7), L3 ( week 8)] W.4 [L2]	Mathematical Institute, L5, L2, L3
Viscous Flow	Prof. Sarah Waters	M.11 [L2] F.11 [L3]	Mathematical Institute, L2, L3
Approximation of Functions	Prof. Nick Trefethen	W.9 [L4] Th.9 [L3]	Mathematical Institute, L4, L3
<b>M.Sc IN MATHEMATICS AND THE FOUNDATIONS OF COMPUTER SCIENCE</b>			
An Introduction to LaTeX	Dr Peter Neumann	T.11 (weeks 1–3)	Mathematical Institute, L5
<b>Section A: Mathematical Foundations</b>			
<b>Schedule I</b>			
Algebraic Topology	Prof. Christopher Douglas	T.12 W.12	Mathematical Institute, [L5 (weeks 1–7), L6 (week 8)]
Analytic Number Theory	Prof. Ben Green	T.9 (weeks 2 & 3) [L5]	Mathematical Institute, L4, L5,

		Th.10 [L4 (weeks 1, 3–7), L6 (week 8)] F.10 [L5 (weeks 1, 3–7), L6 (week 8)]	L6
Analytic Topology	Dr Rolf Suabedissen	T.10 [L4] W.10 [weeks 1–7: L5, week 8 :L6]	Mathematical Institute, L4, L5, L6
Model Theory	Prof Ehud Hrushovski	M.2 [L2] F.3 [L3 (weeks 1–2, 4–8), L2 (week 2)]	Mathematical Institute, L3, L2
Introduction to Representation Theory	Prof. Nikolay Nikolov	W.4 (weeks 1–4, 6–8) F.2 (weeks 1–4, 6–8) F.1–3 (week 5 only)	Mathematical Institute, L4
Lie Algebras	Prof. Dan Ciubotaru	T.11, Th.12	Mathematical Institute, L4
Topology and Groups	Prof. Marc Lackenby	T.3 [L1 (weeks 1–5, 7–8), L2 (week 6)] Th.3[L3]	Mathematical Institute, L1, L2, L3
<b>Schedule II</b>			
Algebraic Geometry	Prof. Alexander Ritter	F.11–1	Mathematical Institute, L5 (weeks 1–7), C3 (week 8)
Homological Algebra	Dr Andre Henriques	T.2 [C2] Th.2 [C1]	Mathematical Institute, C1, C2
<b>Section B: Applicable Theories</b>			
<b>Schedule I</b>			
Applied Probability	Prof. Paul Chleboun	T.W.9 (weeks 1–5, 7–8) F.3 (weeks 4–5)	Department of Statistics
Categories Proofs and Processes	Dr Kohei Kishida	M.11, T.5 F.5 (weeks 1–5)	Department of Computer Science
Communication Theory	Prof. Harald Oberhauser	T.4 [L2] Th.4 [L2 (weeks 1–6), L1 (weeks 7–8)]	Mathematical Institute, L2, L1
Computer-Aided Formal Verification	Prof. Alessandro Abate	M.3, Th.2	Department of Computer Science
Foundations of Computer Science	Prof. Paul Goldberg	M.F.4	Department of Computer Science
Graph Theory	Prof. Oliver Rioradan	W.12 [L2] Th.12 [L3]	Mathematical Institute, L2, L3
Introduction to Cryptography	Dr Ali El Kaafarani	T.5, Th.11	Mathematical Institute, C3
Quantum Computer Science	Prof. Bob Coecke	M.12, W.2–4	Department of Computer Science
<b>Schedule II</b>			
Automata, Logic and Games	Prof. Luke Ong	W.4, Th.5,F.2	Department of Computer Science
Combinatorics	Prof. Alex Scott	M.9–11	Mathematical Institute, L3
Computational Game Theory	Prof. Mike Aldridge and Prof. Edith Elkind	T.2 T.3 (weeks 1–3) W.11	Department of Computer Science
<b>MATHEMATICS</b>			
<b>Prelims</b>			
Introduction to University	Prof. Alan Lauder	M.9, T.W.Th.F.4 (week 1)	Mathematical Institute, L1

Mathematics		M.T.W.4 (week 2)	
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Introduction to Complex Numbers	Dr Peter Neumann	M.10, W.9 (week 1)	Mathematical Institute, L1
Linear Algebra I	Dr Peter Neumann and Dr Richard Earl	M.10 (weeks 2–5, 7-8) T.10 (week 6 only) W.9 (weeks 2-8)	Mathematical Institute, L1
Geometry	Dr Richard Earl	Th.10 (weeks 1-8) F.10 (weeks 2-8)	Mathematical Institute, L1
Analysis I	Prof. Frances Kirwan	M.10 (week 6 only) T.10 (weeks 1–5, 7-8) W.10 (weeks 2–8)	Mathematical Institute, L1
Introductory Calculus	Dr Cath Wilkins	M.4 (week 1 only) M.9 (weeks 2–8) T.9 (weeks 1–8)	Mathematical Institute, L1
Probability	Prof. James Martin	Th.F.9	Mathematical Institute, L1
Computational Mathematics	Dr Andrew Thompson	F.11 (week 2 only)	Mathematical Institute, L1
<b>Part A</b>			
Differential Equations 1	Prof. Philip Maini	T.11, Th. 12	Mathematical Institute, L1
Linear Algebra	Prof. Ulrike Tillmann	T.12, W.11	Mathematical Institute, L1
Metric Spaces and Complex Analysis	Prof. Kevin McGerty	M.11, W.12, Th.11, F.12	Mathematical Institute, L1
Quantum Theory	Dr Andrew Hodges	T.Th.10	Mathematical Institute, L2
Probability	Prof. James Martin	W.10 F.11	Mathematical Institute, L2
<b>Part B</b>			
B1.1 Logic	Prof. Jochen Koenigsmann	W.2 (weeks 1 and 2)[L1] Th.9 (weeks 1–2, 4–8) [L2] F.9 (weeks 1–2, 4–8) [L2]	Mathematical Institute, L1, L2
B2.1 Introduction to Representation Theory	Prof. Nikolay Nikolov	W.4 (weeks 1–4, 6–8) F.2 (weeks 1–4, 6–8) F.1–3 (week 5 only)	Mathematical Institute, L4
B3.1 Galois Theory	Dr Giacomo Micheli	M.11 T.12	Mathematical Institute, L3
B3.2 Geometry of Surfaces	Prof. Alexander Ritter	T.Th.11	Mathematical Institute, L3
B3.5 Topology and Groups	Prof. Marc Lackenby	T.3 [L1 (weeks 1–5, 7-8), L2 (week 6)] Th.3[L3]	Mathematical Institute, L1, L2, L3
B4.1 Banach Spaces	Prof. Hilary Priestley	W.3 [L4] Th.2 [L3]	Mathematical Institute, L4, L3
B5.2 Applied PDEs	Prof. Derek Moulton	M.10 [L2] W.10 [L3]	Mathematical Institute, L2, L3
B5.3 Viscous Flow	Prof. Sarah Waters	M.11 [L2] F.11 [L3]	Mathematical Institute, L2, L3
B5.5 Further Mathematical Biology	Prof. Helen Byrne	W.11, F.10	Mathematical Institute, L3
B6.1 Numerical Solution of Differential Equations I	Dr Tyrone Rees	M.9 T.12	Mathematical Institute, L2
B6.3 Integer Programming	Prof. Raphael Hauser	T.Th.10	Mathematical Institute, L3
B7.1 Classical Mechanics	Prof. James Sparks	M.4 [L2] F.4 [L4]	Mathematical Institute, L3, L4
B7.2 Electromagnetism	Prof. Xenia de la Ossa	M.3 [L2]	Mathematical Institute, L3, L4



		F.3 [L4]	
B8.1 Martingales Through Measure Theory	Prof. Zhongmin Qian	M.12 [L1] F.12 [L2]	Mathematical Institute, L1, L2
B8.4 Communication Theory	Prof. Harald Oberhauser	T.4 [L2] Th.4 [L2 (weeks 1–6), L1 (weeks 7–8)]	Mathematical Institute, L2, L1
B8.5 Graph Theory	Prof. Oliver Riordan	W.12 [L2] Th.12 [L3]	Mathematical Institute, L2, L3
SB3a Applied Probability	Prof. Paul Chleboun	T.W.9 (weeks 1-5, 7-8) F.3 (weeks 4-5)	Department of Statistics, LG.01
BO1.1 History of Mathematics	Dr Christopher Hollings	M.3–5	Mathematical Institute, C1
BSP: Structured Projects	Dr Cath Wilkins	M.3 (week 1 only)	Mathematical Institute, C3
SB1 Applied Statistics		Lectures: M.4 (weeks 1–7), Th.11 (weeks 1–6) Practical Classes: W.2–3.30pm (weeks 3, 5, 8)	Department of Statistics
SB2a Foundations of Statistical Inference		M.3, T.11	Department of Statistics
SB4a Actuarial Science I	Dr Matthias Winkel	M.T.2	Department of Statistics
BN1.1 Mathematics Education	Mr Nick Andrews	F.10–12	Mathematical Institute, C2
101 Early Modern Philosophy: Descartes	Prof. Paul Lodge	Th.10	Examination Schools
101 Early Modern Philosophy: Spinoza	Prof. William Mander	W.11 (weeks 1–4)	Examination Schools
101 Early Modern Philosophy: Berkeley	Prof. Peter Kail	W.10	Examination Schools
102 Knowledge and Reality: Epistemology	Prof. Lizzie Fricker	M.10	Examination Schools
122 Philosophy of Mathematics	Prof. Alex Paseau	M.T.12 (weeks 5–8)	Rad. Hum.
*Dissertation: ' <i>Presenting a Thesis</i> '	Dr Richard Earl	Th.11 (week 7 only)	Mathematical Institute, L4
*An Introduction to LaTeX	Dr Peter Neumann	T.11 (weeks 1–3)	Mathematical Institute, L5
<b>Part C</b>			
C1.1 Model Theory	Prof Ehud Hrushovski	M.2 [L2] F.3 [L3 (weeks 1–2, 4–8), L2 (week 3)]	Mathematical Institute, L3, L2
C1.3 Analytic Topology	Dr Rolf Suabedissen	T.10 [L4] W.10 [L5 (weeks 1–7), L6 (week 8)]	Mathematical Institute, L4, L5, L6
C2.1 Lie Algebras	Prof. Dan Ciubotaru	T.11, Th.12	Mathematical Institute, L4
C2.2 Homological Algebra	Dr Andre Henriques	T.2 [C2] Th.2 [C1]	Mathematical Institute, C1, C2
C2.7 Category Theory	Prof. Kobi Kremnitzer	Th.9 [L4 (weeks 1–7), C1 (week 8)] F.9 [L3]	Mathematical Institute, L4, C1, L3
C3.1 Algebraic Topology	Prof. Christopher Douglas	T.12 W.12	Mathematical Institute, [L5 (weeks 1–7), L6 (week 8)]
C3.3 Differentiable Manifolds	Prof. Dominic Joyce	M.12 [L5] W.11 [L5 (weeks 1–7), C3 (week 8)]	Mathematical Institute, L5, C3
C3.4 Algebraic Geometry	Prof. Alexander Ritter	F.11–1	Mathematical Institute, L5 (weeks 1–7), C3 (week 8)

C3.8 Analytic Number Theory	Prof. Ben Green	T.9 (weeks 2 & 3) [L5] Th.10 [L4 (weeks 1, 3–7), L6 (week 8)] F.10 [L5 (weeks 1, 3–7), L6 (week 8)]	Mathematical Institute, L4, L5, L6
C4.1 Functional Analysis	Dr David Seifert	M.11 [L5] W.2 [L4]	Mathematical Institute, L4, L5
C4.3 Functional Analytic Methods for PDEs	Prof. Yves Capdeboscq	T.W.10	Mathematical Institute, C1
C4.8 Complex Analysis: Conformal Maps and Geometry	Prof. Dmitry Belyaev	T.Th.3	Mathematical Institute, C2
C5.1 Solid Mechanics	Dr Angkana Ruland	F.2–4	Mathematical Institute, L5 (weeks 1–7), L2 (week 8)
C5.3 Statistical Mechanics	Prof. Andrew Fowler	M.2, T.11	Mathematical Institute, C2
C5.5 Perturbation Methods	Prof. Jim Oliver	Th.11-1	Mathematical Institute, L2
C5.7 Topics in Fluid Mechanics	Prof. Andreas Muench	T.4 [L5 (weeks 1–7), L3 (week 8)] W.4 [L2]	Mathematical Institute, L5, L2, L3
C5.11 Mathematical Geoscience	Prof. Ian Hewitt	T.F.9 [L4]	Mathematical Institute, L4
C5.12 Mathematical Physiology	Prof. Sarah Waters	M.12 [L2] F.12 [L3]	Mathematical Institute, L2, L3
C6.1 Numerical Linear Algebra	Prof. Andy Wathen	T.3 [L3 (weeks 1–6, 8), L5 (week 7)] Th.5 [L2 (weeks 1–4, 6–8) L5 (week 5)]	Mathematical Institute, L2, L3, L5
C6.3 Approximation of Functions	Prof. Nick Trefethen	W.9 [L4] Th.9 [L3]	Mathematical Institute, L4, L3
C7.1 Theoretical Physics	Prof. Fabian Essler	M.9 W.10 Th.9	Department of Physics, Dennis Sciama Lecture Theatre
C7.5 General Relativity I	Dr Andreas Braun	T.5 [L4] W.5 [L5 (weeks 1–7), L3 (week 8)]	Mathematical Institute, L4, L5, L3
C8.1 Stochastic Differential Equations	Prof. Harald Oberhauser	W.5 [L4] F.4 [L5 (weeks 1–7), L3 (week 8)]	Mathematical Institute, L4, L5, L3
C8.3 Combinatorics	Prof. Alex Scott	M.9-11	Mathematical Institute, L3
CCS1 Categories Proofs and Processes	Dr Kohei Kishida	M.11, T.5 F.5 (weeks 1–5)	Department of Computer Science
CCS2 Quantum Computer Science	Prof. Bob Coecke	M.12, W.2–4	Department of Computer Science
CCS3 Automata, Logic and Games	Prof. Luke Ong	W.4, Th.5, F.2	Department of Computer Science
CCS4 Computer Animation	Prof. Stephen Cameron	T.4 (weeks 1–4, 7, 8) W.10 (weeks 1–4, 7, 8) Th.12 (weeks 1–4) Th.4 (weeks 1–4, 7, 8)	Department of Computer Science
SC1 Stochastic Models in Mathematical Genetics		M.11, Th.2	Department of Statistics
SC2 Probability and Statistics for Network Analysis	Prof Gesine Reinert	T.4, W.12 (weeks 1–7) Practical Classes: W.3–5 (weeks 4 and 7)	Department of Statistics

SC6 Graphical Models		W.2, F.11	Department of Statistics
*Dissertation: ' <i>Presenting a Thesis</i> '	Dr Richard Earl	Th.11 (week 7 only)	Mathematical Institute, L4
*An Introduction to LaTeX	Dr Peter Neumann	T.11 (weeks 1–3)	Mathematical Institute, L5
*These lectures will be useful to students offering an Extended Essay or Dissertation.			
<b>“Extra” Part C subjects</b>			
<b>[Note: No “Extra” Part C subjects are planned for MT 2016.]</b>			
<b>COMPUTER SCIENCE</b>			
<b>Prelims</b>			
CS1 Functional Programming	Dr Anisoara Calinescu	T.11, Th.10	Department of Computer Science
CS3 Discrete Mathematics	Prof. Jonathan Barrett	M.W.10	Department of Computer Science
CS3 Linear Algebra	Prof. Peter Minary and Prof. Jonathan Whiteley	T.W.9 F.10	Department of Computer Science
<b>MATHEMATICS AND COMPUTER SCIENCE</b>			
<b>Prelims</b>			
CS1 Functional Programming	Dr Anisoara Calinescu	T.11, Th.10	Department of Computer Science
Introduction to University Mathematics	Prof. Alan Lauder	M.9, T.W.Th.F.4 (week 1) M.T.W.4 (week 2)	Mathematical Institute, L1
Introduction to Complex Numbers	Dr Peter Neumann	M.10, W.9 (week 1)	Mathematical Institute, L1
Analysis I	Prof. Frances Kirwan	M.10 (week 6 only) T.10 (weeks 1–5, 7-8) W.10 (weeks 2–8)	Mathematical Institute, L1
Linear Algebra I	Dr Peter Neumann and Dr Richard Earl	M.10 (weeks 2–5, 7-8) T.10 (week 6 only) W.9 (weeks 2-8)	Mathematical Institute, L1
Probability	Prof. James Martin	Th.F.9	Mathematical Institute, L1
<b>COMPUTER SCIENCE</b>			
<b>Part A</b>			
<b>Core</b>			
Object Oriented Programming	Dr Joe Pitt-Francis	T.Th.9	Department of Computer Science
Models of Computation	Prof. Tom Melham	M.Th.12	Department of Computer Science
<b>Schedule A</b>			
Databases	Dr Tim Furche	M.9 (weeks 5–8) M.10 T.11 (weeks 1–4)	Department of Computer Science
Intelligent Systems	Prof. Peter Jeavons	W.F.11	Department of Computer Science
<b>MATHEMATICS &amp; COMPUTER SCIENCE</b>			
<b>Part A</b>			
<b>Core</b>			
Models of Computation	Prof. Tom Melham	M.Th.12	Department of Computer Science

Object Oriented Programming	Dr Joe Pitt-Francis	T.Th.9	Department of Computer Science
[In addition, the lectures under Mathematics Part A, except Differential Equations I, are applicable.]			
<b>COMPUTER SCIENCE, MATHEMATICS &amp; COMPUTER SCIENCE</b>			
<b>Part B</b>			
<i>Schedule B1</i>			
Databases	Dr Tim Furche	M.9 (weeks 5–8) M.10 T.11 (weeks 1–4)	Department of Computer Science
Intelligent Systems	Prof. Peter Jeavons	W.F.11	Department of Computer Science
<i>Schedule B2</i>			
Computer Security	Prof. Bill Roscoe	M.2 (weeks 1–4, 6–8) T.2 (weeks 1–4, 6–8) F.3 (weeks 4 and 6)	Department of Computer Science
Computer Aided Formal Verification	Prof. Alessandro Abate	M.3, Th.2	Department of Computer Science
Machine Learning	Dr Varun Kanade	M.W.5	Mathematical Institute, L2
Principles of Programming Languages	Prof. Sam Staton	T.Th.3	Department of Computer Science
<i>Schedule B3</i>			
Lectures under Mathematics Part B: B1, B2, B3.1, B3.4, B3.5, B4.1, B4.2, B5.1, B5.2, B8.4, B8.5, BS3, are applicable. If you wish to offer an additional Maths Part B subject under this Schedule, please contact the Academic Administrator, Department of Computer Science, for details.			
<b>Part C</b>			
<i>Schedule C1</i>			
Automata, Logic and Games	Prof. Luke Ong	W.4, Th.5,F.2	Department of Computer Science
Categories Proofs and Processes	Dr Kohei Kishida	M.11, T.5 F.5 (weeks 1–5)	Department of Computer Science
Computational Game Theory	Prof. Mike Aldridge and Prof. Edith Elkind	T.2 T.3 (weeks 1–3) W.11	Department of Computer Science
Computer Animation	Prof. Stephen Cameron	T.4 (weeks 1–4, 7, 8) W.10 (weeks 1–4, 7, 8) Th.12 (weeks 1–4) Th.4 (weeks 1–4, 7, 8)	Department of Computer Science
Concurrent Algorithms and Data Structures	Prof. Gavin Lowe	T.W.F.12 (weeks 1–7)	Department of Computer Science
Probabilistic Model Checking	Dr Maria Svorenova and Dr Morteza Lahijanian	W.9, Th.11, F.10	Department of Computer Science
Quantum Computer Science	Prof. Bob Coecke	M.12, W.2–4	Department of Computer Science
<b>MATHEMATICS AND PHILOSOPHY</b>			
<b>Prelims</b>			
<b>Mathematics:</b>			
Introduction to University Mathematics	Prof. Alan Lauder	M.9 T.W.Th.F.4 (week 1) M.T.W.4 (week 2)	Mathematical Institute, L1
Introduction to Complex Numbers	Dr Peter Neumann	M.10, W.9 (week 1)	Mathematical Institute, L1

Linear Algebra I	Dr Peter Neumann and Dr Richard Earl	M.10 (weeks 2–5, 7-8) T.10 (week 6 only) W.9 (weeks 2-8)	Mathematical Institute, L1
Probability	Prof. James Martin	Th.F.9	Mathematical Institute, L1
Analysis I	Prof. Frances Kirwan	M.10 (week 6 only) T.10 (weeks 1–5, 7-8) W.10 (weeks 2–8)	Mathematical Institute, L1
Introductory Calculus	Dr Cath Wilkins	M.4 (week 1 only) M.9 (weeks 2–8) T.9 (weeks 1–8)	Mathematical Institute, L1
<b>Philosophy:</b>			
General Philosophy	Prof. Peter Millican	W.12	Examination Schools
Introduction to Logic	Prof. James Studd	M.12	Examination Schools
<b>Part A Mathematics:</b>			
Linear Algebra	Prof. Ulrike Tillmann	T.12, W.11	Mathematical Institute, L1
Metric Spaces and Complex Analysis	Prof. Kevin McGerty	M.11, W.12, Th.11, F.12	Mathematical Institute, L1
[These lectures are for compulsory subjects]			
<b>Part B Mathematics</b>			
B1.1 Logic	Prof. Jochen Koenigsmann	W.2 (weeks 1 and 2)[L1] Th.9 (weeks1– 2, 4–8) [L2] F.9 (weeks1– 2, 4–8) [L2]	Mathematical Institute, L1, L2
[These lectures are for the compulsory subject “Foundations”. Other courses listed under mathematics Part B can be taken: B2, B3, B4.1, B4.2, B8.1, B8.4, B8.5, BO1.1, BN1.1, SB3a, Computer Aided Formal Verification.]			
<b>Part B Philosophy:</b>			
101 Early Modern Philosophy: Descartes	Prof. Paul Lodge	Th.10	Examination Schools
101 Early Modern Philosophy: Spinoza	Prof. William Mander	W.11 (weeks 1–4)	Examination Schools
101 Early Modern Philosophy: Berkeley	Prof. Peter Kail	W.10	Examination Schools
102 Knowledge and Reality: Epistemology	Prof. Lizzie Fricker	M.10	Examination Schools
122 Philosophy of Mathematics	Prof. Alex Paseau	M.T.12 (weeks 5–8)	Rad. Hum.
[For further Philosophy lectures, please consult the Philosophy lecture list]			
<b>Part C Mathematics: Logic</b>			
C1.1 Model Theory	Prof Ehud Hrushovski	M.2 [L2] F.3 [L3 (weeks 1–2, 4–8), L2 (week 2)]	Mathematical Institute, L3, L2
C1.3 Analytic Topology	Dr Rolf Suabedissen	T.10 [L4] W.10 [weeks 1–7: L5, week 8 :L6]	Mathematical Institute, L4, L5, L6
[See Philosophy list for Philosophy subjects which may be offered.]			
<b>MATHEMATICS AND STATISTICS</b>			
<b>Prelims</b>			
The lectures above for MATHEMATICS Prelims all apply.			
<b>Part A</b>			
The lectures above for Mathematics Part A, on the compulsory subjects of Algebra, Analysis, and Differential Equations, all apply.			

<b>Part B</b>			
Introduction to Mathematics and Statistics Part B	Dr Laws	M.11 (week1)	Department of Statistics, LG.02
SB1 Applied Statistics		Lectures: M.4 (weeks 1–7), Th.11 (weeks 1–6) Practical Classes: W.2–3.30pm (weeks 3, 5, 8)	Department of Statistics
SB2a Foundations of Statistical Inference		M.3, T.11	Department of Statistics
SB3a Applied Probability	Prof. Paul Chleboun	T.W.9 (weeks 1-5, 7-8) F.3 (weeks 4-5)	Department of Statistics, LG.01
SB4a Actuarial Science I	Dr Matthias Winkel	M.T.2	Department of Statistics
[Other courses listed under Mathematics Part B can be taken: B1, B2, B3, B4, B5, B6, B7, B8]			
<b>Part C</b>			
Introduction to Part C Project	Dr Laws	Th.12 (week 1)	Department of Statistics, LG.01
Writing a Part C Dissertation	Dr Laws	Th.12 (week 7)	Department of Statistics, LG.01
Report Writing	Dr Scutari	Th.3 (week 1)	Department of Statistics, LG.01
Information Skills for Statistics – Part C Research Project Support	T.B.C.	Th.11-12.30 (week 2)	Radcliffe Science Library
SC1 Stochastic Models in Mathematical Genetics	Prof. Simon Myers	M.11, Th.2	Department of Statistics
SC2 Probability and Statistics for Network Analysis	Prof. Gesine Reinert	T.4, W.12 (weeks 1–7) Practical Classes: W.3–5 (weeks 4 and 7)	Department of Statistics
SC6 Graphical Models	Prof. Robin Evans	W.2, F.11	Department of Statistics
[Other courses under Mathematics Part C can also be taken.]			

#### FOOTNOTE REFERENCES

- \* Lectures begin on the first day possible after the beginning of Full Term (Sunday, 12 October), unless otherwise stated in this column. Events take place every Week of Full Term (Weeks 1–8) unless otherwise stated.