MATHEMATICAL SCIENCES
DIVISION OF MATHEMATICAL AND PHYSICAL SCIENCES
Lecture List for Hilary Term 2017

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 24 February 2017
Events shown on this list are generally one hour long unless stated otherwise.

Subject	*Lecturer*	*Time**	*Place*
GRADUATE SEMINARS			
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 Algebraic Geometry Seminar	Prof. Francis Brown, Prof. Minhyong Kim and Prof. Damian Roessler	F.11	Mathematical Institute, C5 (week 1), C1 (week 2), C3 (weeks 3-8)
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 (weeks 1-5, 8 [L5] weeks 6-7 [L2]	Mathematical Institute, L2, L5
Cryptography Seminar	Dr Ali El Kaafarani	W.3 (weeks 1-5, 8 [L5] weeks 6-7 [L3]	Mathematical Institute, L5, L3
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, L1
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	Dr Robert Van Gorder	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. Ben Green and Prof. Minhyong Kim	M.4	Mathematical Institute, C3
Junior Topology and Group Theory	Mr Nicolaus Heuer	W.4–5:30	Mathematical Institute, L6 (week 1), C1 (weeks 2-8)
Kinderseminar	Mr Kieran Calvert	W.11–12.30	Mathematical Institute, N3.12
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 (weeks 1-4, 6, 8 [L3], week 5 [L4])	Mathematical Institute, L3, L4

Mathematical and Computational Finance	Prof. Jan Obloj	Th.4-5.30	Mathematical Institute, L4
Mathematical Finance Internal Seminar	Prof. Samuel Cohen	F.1	Mathematical Institute, L6
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 (weeks 1-5, 8 [L5], week 6-7 [L2])	Mathematical Institute, L5, L2
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 1-5, 8 [L5], week 6-7 [L2])	Mathematical Institute, L5
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	Mathematical Institute, L4
Quantum Field Theory/Relativity	Dr Keith Hannabuss and Dr Florence Tsou	T.12–1:30	Mathematical Institute, L4
Representation Theory	Prof. Kobi Kremnizer & 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 M. 3.45-5	Mathematical Institute, L3
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	Dr Tomasz Lukowski	Th.12–2 (weeks 1-4, 6-7 [L6], week 5, 8 [L2]	Mathematical Institute, L6, L2
Topology Seminar	Prof. Cornelia Drutu, Prof. Andras Juhasz, Prof. Ulrike Tillmann	M.3:30–5 (week 0 [L2]; weeks 1-8 [L6])	Mathematical Institute, L6, L2
Wolfson Centre for Mathematical Biology Journal Club	Prof. Philip Maini	M.12–1:30 (weeks 1-6, 8 [L5]; week 7 [L6]	Mathematical Institute, L5, L6
GRADUATE WORKSHOPS			
WORKSHOPS			
Industrial and Interdisciplinary Workshops	Prof. Chris Breward	F.10–1	Mathematical Institute, L4
ADVANCED CLASSES			
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
GRADUATE LECTURES			

TAUGHT COURSE CENTRE			
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 https://www.maths.ox.ac.uk/groups/tcc			
EPSRC CDT in Industrially Focused Mathematical Modelling			
Mathematics for Energy	Dr Phil Trinh	M.9-11	Mathematical Institute, C6
Continuum Models in Industry	Prof. Peter Howell	T.9-11	Mathematical Institute, C6
Contemporary Numerical Techniques	Prof. Cartis, Dr Ruiz Baier, Prof. Tanner & Prof. Giles	W.9-11	Mathematical Institute, C6
Mathematical Analytics	Prof. Peter Grindrod	Th.9-11	Mathematical Institute, C6
Modelling Case Studies	Prof. Chris Breward	M-Th.3-5.30 (weeks 1-2, 5-6)	Mathematical Institute, C6
Scientific Computing Modelling Case Studies	Prof. Chris Breward	M-Th.3-5.30 (weeks 3-4, 7-8)	Mathematical Institute, C6
EPSRC CDT in Partial Differential Equations			
Analysis of PDEs	Prof Gregory Seregin	W.9–11	Mathematical Institute, VC
Scientific Computing and Numerical Analysis	Prof Endre Suli	Th.9–11	Mathematical Institute, C4
Geometric Analysis of PDEs	Prof. Luc Nguyen	M.10–12	Mathematical Institute, C3
Fixed Point Methods for Nonlinear PDEs	Prof. Melanie Rupflin	Th.3 [L5 (weeks 1-5, 8) L3 (weeks 6-7)] F.3 [L6]	Mathematical Institute, L3, L5, L6
Stochastic Analysis and PDEs	Prof. Ben Hambly	Th.11 [L3] F.9 [L4]	Mathematical Institute, L3, L4
M.Sc IN MATHEMATICAL AND COMPUTATIONAL FINANCE			
Tool Stream			
Stochastic Control	Dr Alvaro Cartea	T.11–1 (week 1) W.Th.10 (week 1) M.11-1 (weeks 2) T.11 (weeks 2) W.10 (week 2)	Mathematical Institute, L6
Optimisation	Prof. Raphael Hauser	W.11 (weeks 1–3) W.3 (week 4) Th.11 (weeks 1-4)	Mathematical Institute, L6
Monte Carlo	Prof. Mike Giles	M.T. 11 (weeks 5, 7–9)	Mathematical Institute, L6
Finite Difference	Prof. Mike Giles	W.Th.11 (weeks 5) M.10-12 (week 6)	Mathematical Institute, L6
Calibration	Prof. Sam Howison	W.11 (week 8 [L6] week 9 [L5]) Th.11 (week 8-9) [L6]	Mathematical Institute, L5, L6
Model Stream			
Exotic Derivatives	Prof. Sam Cohen	M.T. 10 (weeks 1–4)	Mathematical Institute, L6
Fixed Income	Prof. Michael Monoyios	W.Th.2 (weeks 1–5, 7)	Mathematical Institute, L6
Stochastic Volatility	Prof. Michael Monoyios	M.10 (weeks 5 & 7) T.10 (weeks 5 & 7)	Mathematical Institute, L6
Credit Derivatives	Prof. Ben Hambly	W.2–4 [week 8 (L6), week 9 (L5)]	Mathematical Institute, L6
Commodities	Prof. Sam Howison	Th.2–4 (weeks 8) T.3-5 (week 9)	Mathematical Institute, L6
Data Stream			
Asset Pricing	Dr Alvaro Cartea & Prof. Dan Jones	T.2–4 (weeks 1–4)	Mathematical Institute, L3
Machine Learning	Dr Ning Wang	W.Th.10 (weeks 3–4)	Mathematical Institute, L6
Algorithmic Trading	Dr Alvaro Cartea	F.1.30–3 & 3.30–5 (week 6)	Mathematical Institute, L5
Advanced Financial Data	Dr Siddharth Arora	T.9–5 (week 6)	Mathematical Institute, L5

Econometrics of Volatility	Dr Siddharth Arora	T.2–6 (week 7)	Mathematical Institute, L3
Market Microstructure	Dr Martin Gould	W.9–10.30 & 11–12.30 (week 6)	Mathematical Institute, L5
M.Sc IN MATHEMATICAL AND THEORETICAL PHYSICS			
Advanced Fluid Dynamics	Prof. Alex Schekochihin and Dr Paul Dellar	M.11-1	Department of Physics, Fisher Room
Advanced Quantum Field Theory	Prof. Graham Ross	T.2-4 (weeks 1-4,6-8) Th.11 (weeks 1-4,6-8) Th.4 (weeks 1,4,6)	Department of Physics, Fisher Room
Applied Complex Variables	Prof. Peter Howell	W.5 (week 1-2 [L4] week 3-8 [L3]) Th. 10 [L3]	Mathematical Institute, L3, L4
Astrophysical Gas Dynamics	Prof. Caroline Terquem	W.9-11 (weeks 3, 5-8)	Department of Physics, Fisher Room
Collisionless Plasma Physics	Prof. Felix Parra-Diaz	M.2-4	Department of Physics, Fisher Room
Cosmology	Prof Pedro Ferreira and Dr Johannes Noller	W.11-1	Department of Physics, Fisher Room
Galactic and Planetary Dynamics	Dr John Magorrian	M.4 T.12	Department of Physics, 501
General Relativity II	Prof. Xenia de la Ossa	T.11 (weeks 1-7) [L3] W.1 (weeks 4, 6) [L3] Th.9 (weeks 1-7) [L4]	Mathematical Institute, L3, L4
Geometric Group Theory	Prof. Panos Papazoglou	Th.12 [L4] F.12 (weeks 1-5,8 [L5] weeks 6-7 [L3])	Mathematical Institute, L4, L5
Geophysical Fluid Dynamics	Prof. Andrew Wells	M.5 (weeks 4-7) Th.2-4 (weeks 3-8)	Department of Physics, Dobson Room
Introduction to Quantum Information	Prof Artur Ekert	T.9 (week 1 [C1], week 2-4,6-8 [L4], week 5 [L5]) W.3 (week 1,3,5-7 [L6] weeks 2,4 [L3] week 8 [L2])	Mathematical Institute, C1, L4, L5, L6, L3, L2
Networks	Dr Heather Harrington	M.10 [L3] W.4 (week 1 [L2] weeks 2-8 [L3])	Mathematical Institute, L3, L2
Non-Equilibrium Statistical Physics	Dr Ramin Golestanian	M.9 (week 1) W.10 (week 1) T.4 (weeks 4, 7) F.9-11	Department of Physics, Fisher Room
Non-perturbative Methods in Quantum Field Theory	Prof Mike Teper	T.10 T.4 (weeks 5-6, 8)	Department of Physics, Fisher Room
Quantum Matter	Prof Steve Simon	Th.2-4	Department of Physics, Fisher Room
Soft Matter Physics	Prof. Julia Yeomans and Prof. Ard Louis	F.11-1	Department of Physics
String Theory I	Prof. Philip Candelas	M.W.9	Mathematical Institute, L4
Supersymmetry and Supergravity	Dr Sven Krippendorf	T.12 W.2 F.11	Department of Physics, Fisher Room
M.Sc IN MATHEMATICAL MODELLING AND SCIENTIFIC COMPUTING			
CORE			
A2 Nonlinear Systems	Prof. Alain Goriely	F. 2-4 (weeks 1-4)	Mathematical Institute, L2
A2 Further Mathematical Methods	Prof. Jon Chapman	M.11 (week 6,8 [L5] week 7 [L2]) T.4 (weeks 6-7 [L2]) W.3 (week 5,8 [L3]) Th.11 (week 5 [L5])	Mathematical Institute, L2, L3, L5
A2 Further Applied Partial Differential Equations	Prof. Jon Chapman	M.12 (weeks 1,3-4, 6,8 [L6]) (weeks 2,7 [C3])	Mathematical Institute, L6, C3

		Th.12 (week 5) [L6]	
B2 Continuous Optimization	Prof. Coralia Cartis	W.11 (weeks 1-5, 8 [L5]; weeks 6-7 [L2]) F.11 [L2]	Mathematical Institute, L2, L5
Case Studies in Mathematical Modelling	Prof. Ian Hewitt	W.12 [L3](week 1 only) T.4–6 [L2] (week 8 only) Th.12-2 [L6] (week 8 only)	Mathematical Institute, L2, L3, L6
Case Studies in Scientific Computing	Dr Kathryn Gillow	Th.11 (week 1 only)	Mathematical Institute, L5
SPECIAL TOPICS			
Applied Complex Variables	Prof. Peter Howell	W.5 (week 1-2 [L4] week 3-8 [L3]) Th. 10 [L3]	Mathematical Institute, L3, L4
Computational Algebraic Topology	Prof. Ulrike Tillmann and Prof. Samson Abramsky	T.3 (weeks 1-5, 8 [L5] weeks 6-7 [L1]) F.4 [L4]	Mathematical Institute, L5, L1, L4
Continuum Models in Industry	Prof Peter Howell	T.9-11	Mathematical Institute, C6
Elasticity and Plasticity	Prof. Dominic Vella	T.10 [week 1-4, 6-8 (L4) week 5 (L5)] F.10 [week 1-2, 4,6,8 (L6) week 3,5 (L5) week 7 (L2)]	Mathematical Institute, L4, L5, L6, L2
Finite Element Methods for Partial Differential Equations	Dr Patrick Farrell	M.4 (weeks 1-6, 8 [L5]; week 7 [L2]) F.12 [L6]	Mathematical Institute, L2, L5, L6
Mathematical Analytics	Prof Peter Grindrod	Th.9-11	Mathematical Institute, C6
Mathematical Mechanical Biology	Prof. Eamonn Gaffney	M.5 [L4] T.12 [L3]	Mathematical Institute, L3, L4
Mathematical Models of Financial Derivatives	Dr Jeff Dewynne	M.2 [L2] W.2 [L3]	Mathematical Institute, L2, L3
Mathematics for Energy	Dr Phil Trinh	M.9-11	Mathematical Institute, C6
Networks	Dr Heather Harrington	M.10 [L3] W.4 (week 1 [L2] weeks 2-8 [L3])	Mathematical Institute, L3, L2
Numerical Solution of Differential Equations II	Dr Ricardo Ruiz Baier	W.9 [L2] Th.9 [L3]	Mathematical Institute, L2, L3
Stochastic Modelling of Biological Processes	Prof. Ruth Baker	M.3 (weeks 1-7) [L2] Th.2-4 (weeks 1-2,5) [L1] Th.2 (weeks 3,6-7) [L1]	Mathematical Institute, L2, L1
Waves and Compressible Flow	Prof. Ian Hewitt	W.10 [L2] F.9 (weeks 1-4, 6-8 [L3]; week 5 [L5])	Mathematical Institute, L2, L3, L5
M.Sc IN MATHEMATICS AND THE FOUNDATIONS OF COMPUTER SCIENCE			
Section A: Mathematical Foundations			
Schedule I			
Algebraic Number Theory	Prof. Minhyong Kim	Th.11 Th.5	Mathematical Institute, L2
Commutative Algebra	Prof. Nikolay Nikolov	Th.3 [L2] F.11 [L6]	Mathematical Institute, L2, L6
Gödel's Incompleteness Theorems	Dr Dan Isaacson	M.W.11	Mathematical Institute, L3
Lambda Calculus and Types	Dr Steven Ramsay	M.3 F.2	Department of Computer Science
Modular Forms	Prof. Alan Lauder	W.9 [L6] Th.10 [L4]	Mathematical Institute, L4, L6
Schedule II			
Axiomatic Set Theory	Dr Rolf Suabedissen	T.Th.9	Mathematical Institute, L6
Infinite Groups	Prof. Dan Segal	T.11 T.4	Mathematical Institute, L5 (week 1-5, 8), C2 (weeks 6-7)
Introduction to Schemes	Prof. Damian Rössler	M.F.9	Mathematical Institute, L6
Non-commutative Rings	Dr Thomas Bitoun	T.W.2	Mathematical Institute, C1
Geometric Group Theory	Prof. Panos Papazoglou	Th.12 [L4] F.12 (weeks 1-5,8 [L5] weeks 6-7 [L3])	Mathematical Institute, L3, L4, L5
Representation Theory of Semisimple Lie Algebras	Prof. Dan Ciubotaru	Th.4 (weeks 1-5, 8 [L5] weeks 6-7 [C2]) F.3 [L4]	Mathematical Institute, L4, L5, C2
Section B: Applicable Theories			

Schedule I			
Advanced Machine Learning	Dr Varun Kanade	M.4 W.2	Department of Computer Science
Concurrency	Dr Julian Gutierrez	W.12 F.10	Department of Computer Science
Schedule II			
Advanced Cryptology	Dr Christophe Petit	T.Th.9	Mathematical Institute, C2
Categorical Quantum Mechanics	Dr Jamie Vicary	M.12 Th.2	Department of Computer Science
Computational Algebraic Topology	Prof. Ulrike Tillmann and Prof. Samson Abramsky	T.3 (weeks 1-5, 8 [L5] weeks 6-7 [L1]) F.4 [L4]	Mathematical Institute, L3, L4, L5
Elliptic Curves	Prof. Victor Flynn	M.2 [L6] W.12 (weeks 1-5, 8 [L5]; weeks 6-7 [L3])	Mathematical Institute, L3, L5, L6
Networks	Dr Heather Harrington	M.10 [L3] W.4 (week 1 [L2] weeks 2-8 [L3])	Mathematical Institute, L3, L2
Probabilistic Combinatorics	Prof. Oliver Riordan	T.10 Th. 2	Mathematical Institute, L3
Probability and Computing	Prof. Elias Koutsoupias	W.4 F.3	Department of Computer Science
MATHEMATICS			
Prelims			
I: Linear Algebra II	Prof. Alan Lauder	W.10, Th.9 (weeks 1–4)	Mathematical Institute, L1
I: Groups and Group Actions	Dr Vicky Neale	W.10, Th.9 (weeks 5–8)	Mathematical Institute, L1
II: Analysis II	Prof. Hilary Priestley	W.9 (weeks 1-4) M.9 (weeks 5-8) T.9	Mathematical Institute, L1
IV: Dynamics	Prof. James Sparks	Th.F.10	Mathematical Institute, L1
V: Multivariable Calculus	Prof. Helen Byrne	M.9 (weeks 1-4) W.9 (weeks 5-8) F.9	Mathematical Institute, L1
V: Fourier Series and PDEs	Prof. Jim Oliver	M.T.10	Mathematical Institute, L1
Computational Mathematics	Dr Andrew Thompson	T.11 (weeks 1 and 3)	Mathematical Institute, L1
Part A			
A3: Rings and Modules	Dr Richard Earl	M.9 [L2] Th.11 [L1]	Mathematical Institute, L1, L2
A4: Integration	Prof. Zhongmin Qian	W.12 F.11	Mathematical Institute, L1
A5: Topology	Prof. Panos Papazoglou	M.11 [L1] T.11 [L2]	Mathematical Institute, L1, L2
A6: Differential Equations 2	Prof. Derek Moulton	F.2-4	Mathematical Institute, L1
A7: Numerical Analysis	Prof. Andrew Wathen	T.10 [L2] Th.9 (weeks 1-5,7-8) [L2] T.12 (week 7 only) [L1]	Mathematical Institute, L2, L1
A9: Statistics	Dr Neil Laws	T.9 F.9	Mathematical Institute, L2
A10: Waves and Fluids	Prof. Irene Moroz	M.12 W.11	Mathematical Institute, L1
ASO: Integral Transforms	Dr Richard Earl	T.12 [L1] (weeks 1-4) F.10 [L2] (weeks 1-4)	Mathematical Institute, L1, L2
Part B			
B1.2 Set Theory	Prof. Jonathan Pila	M.12 [L2] T.2 [L1]	Mathematical Institute, L2, L1
B2.2 Commutative Algebra	Prof. Nikolay Nikolov	Th.3 [L2] F.11 [L6]	Mathematical Institute, L2, L6
B3.3 Algebraic Curves	Prof. Dominic Joyce	M.11 [L4] W.12 [L6]	Mathematical Institute, L4, L6
B3.4 Algebraic Number Theory	Prof. Minhyong Kim	Th.11 Th.5	Mathematical Institute, L2
B4.2 Hilbert Spaces	Prof. Gregory Seregin	M.T.9 [L3]	Mathematical Institute, L3
B5.1 Stochastic Modelling of Biological Processes	Prof. Ruth Baker	M.3 (weeks 1-7) [L2] Th.2-4 (weeks 1-2,5) [L1] Th.2 (weeks 3,6-7) [L1]	Mathematical Institute, L1, L2

B5.4 Waves and Compressible Flow	Prof. Ian Hewitt	W.10 [L2] F.9 (weeks 1-4, 6-8 [L3]; week 5 [L5])	Mathematical Institute, L2, L3, L5
B5.6 Nonlinear Systems	Prof. Alain Goriely	F.2-4 (weeks 1-6,8 [L2] week 7 [L3])	Mathematical Institute, L2, L3
B6.2 Numerical Solution of Differential Equations II	Dr Ricardo Ruiz Baier	W.9 [L2] Th.9 [L3]	Mathematical Institute, L2, L3
B7.3 Further Quantum Theory	Prof. Lionel Mason	Th.10 [L2] F.10 (weeks 1-4,6-8 [L3]; week 5 [L2]	Mathematical Institute, L2, L3
B8.2 Continuous Martingales and Stochastic Calculus	Prof. Jan Obloj	T.3 [L2] Th.12 [L3]	Mathematical Institute, L2, L3
B8.3 Mathematical Models of Financial Derivatives	Prof. Jeff Dewynne	M.2 [L2] W.2 [L3]	Mathematical Institute, L2, L3
BO1.1 History of Mathematics	Dr Christopher Hollings	W.3–4.30	Mathematical Institute, C4
BSP	Dr Cath Wilkins	M.4 (week 1 only)	Mathematical Institute, C2
SB1b Computational Statistics	Prof. François Caron and Dr Jennifer Rogers	T.12 (weeks 1-6) F.12 (weeks 1-7) W.3-4.30 (Practical) (weeks 4 and 8)	Department of Statistics
SB2b Statistical Machine Learning	Prof Mihaela van der Schaar and Dr Seth Flaxman	W.12 Th.4	Department of Statistics
SB3b Statistical Lifetime-Models	Dr Matthias Winkel	M.10 W.11	Department of Statistics
SB4b Actuarial Science II	Mr Jethro Green	T.10–12	Department of Statistics
OCS1 Lambda Calculus and Types	Dr Steven Ramsay	M.3 F.2	Department of Computer Science
OCS2 Computational Complexity	Prof Bernardo Cuenca Grau	W.3 F.4	Department of Computer Science
N101 Early Modern Philosophy: Leibniz	Prof Gonzalo Rodriguez-Pereyra	Th.11	Examination Schools
N101 Early Modern Philosophy: Locke	Prof Anita Avramides	M.10	Examination Schools
N101 Early Modern Philosophy: Hume	Prof Peter Kail	W.10	Examination Schools
N102 Knowledge and Reality: Metaphysics	Prof Ralf Bader	Th.10	Examination Schools
N127 Philosophical Logic	Prof James Studd	T.12	Radcliffe Humanities (Lecture Room)
*An Introduction to LaTeX Question and Answer Session	Dr Peter Neumann	T.11 (week 3 only)	Mathematical Institute, L4
*Projects: Some points and reminders about writing mathematics	Dr Richard Earl	Th.10 (week 2 only)	Mathematical Institute, L5
*These lectures will be useful to students offering an Extended Essay or Dissertation.			
Part C			
C1.2 Gödel's Incompleteness Theorems	Dr Dan Isaacson	M.W.11	Mathematical Institute, L3
C1.4 Axiomatic Set Theory	Dr Rolf Suabedissen	T.Th.9	Mathematical Institute, L6
C2.3 Representation Theory of Semisimple Lie Algebras	Prof. Dan Ciubotaru	Th.4 (weeks 1-5, 8 [L5] weeks 6-7 [C2]) F.3 [L4]	Mathematical Institute, L4, L5, C2
C2.4 Infinite Groups	Prof. Dan Segal	T.11 T.4	Mathematical Institute, L5 (weeks 1-5, 8) C2 (weeks 6-7)
C2.5 Non-commutative Rings	Dr Thomas Bitoun	T. W. 2	Mathematical Institute, C1
C2.6 Introduction to Schemes	Prof. Damian Rössler	M.F.9	Mathematical Institute, L6
C3.2 Geometric Group Theory	Prof. Panos Papazoglou	Th.12 [L4] F.12 (weeks 1-5, 8 [L5]; weeks 6-7 [L3])	Mathematical Institute, L3, L4, L5
C3.5 Lie Groups	Prof. Andrew Dancer	Th.11 [L4] F.2 [L6]	Mathematical Institute, L4, L6
C3.6 Modular Forms	Prof. Alan Lauder	W.9 [L6] Th.10 [L4]	Mathematical Institute, L4, L6
C3.7 Elliptic Curves	Prof. Victor Flynn	M.2 [L6] W.12 (weeks 1-5,8 [L5]; week 6-7[L3]	Mathematical Institute, L5, L6
C3.9 Computational Algebraic Topology	Prof. Ulrike Tillmann and Prof. Samson Abramsky	T.3 (weeks 1-5, 8 [L5] weeks 6-7 [L1]) F.4 [L4]	Mathematical Institute, L1, L4, L5

C4.2 Linear Operators	Prof. Charles Batty	T.12 (week 1 [L5]; weeks 2-8 [L6]) W.10 (weeks 1-5, 8 [L5]; weeks 6-7 [L6])	Mathematical Institute, L5, L6
C4.6 Fixed Point Methods for Nonlinear PDEs	Prof. Melanie Rupflin	Th.3 [L5 (weeks 1-5, 8) L3 (weeks 6-7)] F.3 [L6]	Mathematical Institute, L3, L5, L6
C5.2 Elasticity and Plasticity	Prof. Dominic Vella	T.10 [week 1-4, 6-8 (L4) week 5 (L5)] F.10 [week 1-2, 4,6,8 (L6) week 3,5 (L5) week 7 (L2)]	Mathematical Institute, L4, L5, L6, L2
C5.4 Networks	Dr Heather Harrington	M.10 [L3] W.4 (week 1 [L2] weeks 2-8 [L3])	Mathematical Institute, L3, L2
C5.6 Applied Complex Variables	Prof. Peter Howell	W.5 (week 1-2 [L4] week 3-8 [L3]) Th. 10 [L3]	Mathematical Institute, L3, L4
C5.9 Mathematical Mechanical Biology	Prof. Eamonn Gaffney	M.5 [L4] T.12 [L3]	Mathematical Institute, L3, L4
C6.2 Continuous Optimisation	Prof. Coralia Cartis	W.11 (weeks 1-5, 8 [L5]; weeks 6-7 [L2]) F.11 [L2]	Mathematical Institute, L2, L5
C6.4 Finite Element Methods for Partial Differential Equations	Dr Patrick Farrell	M.4 (weeks 1-6, 8 [L5]; week 7 [L2]) F.12 [L6]	Mathematical Institute, L2, L5, L6
C7.1 Theoretical Physics II	Prof. Fabian Essler and Dr Ulrich Haisch	M.9, W.10, Th.11	Department of Physics
C7.4 Introduction to Quantum Information	Prof. Artur Ekert	T.9 (week 1 [C1], week 2-4,6-8 [L4], week 5 [L5]) W.3 (week 1,3,5-7 [L6] weeks 2,4 [L3] week 8 [L2])	Mathematical Institute, C1, L4, L5, L6, L3, L2
C7.6 General Relativity II	Prof. Xenia de la Ossa	T.11 (weeks 1-7) [L3] W.1 (weeks 4, 6) [L3] Th.9 (weeks 1-7) [L4]	Mathematical Institute, L3, L4
C8.2 Stochastic Analysis and PDEs	Prof. Ben Hambly	Th.11 [L3] F.9 [L4]	Mathematical Institute, L3, L4
C8.4 Probabilistic Combinatorics	Prof. Oliver Riordan	T.10 Th.2	Mathematical Institute, L3
SC4 Data Mining and Machine Learning	Prof. Dino Sejdinovic	T.2 Th.12	Department of Statistics
SC5 Advanced Simulation Methods	Dr Tigran Nagapetyan	M.12 W.10	Department of Statistics
SC7 Bayes Methods	Prof. Geoff Nicholls	M.3 Th.11	Department of Statistics
180 The Rise of Modern Logic	Prof Volker Halbach	T.11	Radcliffe Humanities (Lecture Room)
*An Introduction to LaTeX Question and Answer Session	Dr Peter Neumann	T.11 (week 3 only)	Mathematical Institute, L4
*Projects: Some points and reminders about writing mathematics	Dr Richard Earl	Th.10 (week 2 only)	Mathematical Institute, L5
*These lectures will be useful to students offering an Extended Essay or Dissertation.			
COMPUTER SCIENCE			
Prelims			
Continuous Mathematics	Dr Stephen Cameron	T. Th.10	Department of Computer Science
Design and Analysis of Algorithms	Dr Michael Vanden Boom	M.10 W.11	Department of Computer Science
Digital Systems	Dr Hanno Nickau	W.F.10	Department of Computer Science
Imperative Programming I	Prof Geraint Jones	T.Th.11	Department of Computer Science
MATHEMATICS AND COMPUTER SCIENCE			
Prelims			
Continuous Mathematics	Dr Stephen Cameron	T.Th.10	Department of Computer Science
Design and Analysis of Algorithms	Dr Michael Vanden Boom	M.10 W.11	Department of Computer Science

Imperative Programming I	Prof Geraint Jones	T.Th.11	Department of Computer Science
Linear Algebra II	Prof. Alan Lauder	W.10, Th.9 (weeks 1–4)	Mathematical Institute, L1
Groups and Group Actions	Dr Vicky Neale	W.10, Th.9 (weeks 5–8)	Mathematical Institute, L1
Analysis II	Prof. Hilary Priestley	W.9 (weeks 1-4) M.9 (weeks 5-8) T.9	Mathematical Institute, L1
COMPUTER SCIENCE			
Part A			
Core			
Concurrent Programming	Dr Bernard Sufrin	W.10 Th.12	Department of Computer Science
Logic and Proof	Dr Christoph Haase	M.10 W.9	Department of Computer Science
Schedule A			
Algorithms and Data Structures	Prof Edith Elkind	Th.2 F.3	Department of Computer Science
Compilers	Prof. Quentin Miller	T.Th.9	Department of Computer Science
Concurrency	Dr Julian Gutierrez	W.12 F.10	Department of Computer Science
MATHEMATICS & COMPUTER SCIENCE			
Part A			
Core			
Concurrent Programming	Dr Bernard Sufrin	W.10 Th.12	Department of Computer Science
Logic and Proof	Dr Christoph Haase	M.10 W.9	Department of Computer Science
[In addition, the lectures above for Mathematics Part A are applicable.]			
COMPUTER SCIENCE, MATHEMATICS & COMPUTER SCIENCE			
Part B			
Schedule B1			
Algorithms and Data Structures	Prof Edith Elkind	Th.2 F.3	Department of Computer Science
Compilers	Prof. Quentin Miller	T.Th.9	Department of Computer Science
Concurrency	Dr Julian Gutierrez	W.12 F.10	Department of Computer Science
Schedule B2			
Computational Complexity	Professor Bernardo Cuenca Grau	W.3 F.4	Department of Computer Science
Geometric Modelling	Dr Irina Voiculescu	M. W. F.11	Department of Computer Science
Knowledge Representation & Reasoning	Dr Egor V. Kostylev	T.F.12	Department of Computer Science
Lambda Calculus and Types	Dr Steven Ramsay	M.3 F.2	Department of Computer Science
Schedule B3			
Lectures under Mathematics Part B: B1, B2, B3.1, B3.2, B3.3, B3.4, B3.5, B4, B6, B8.1, B8.2, B8.4, B8.5, SB3a, 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.			
Part C			
Schedule C1			
Advanced Security	Prof Sadie Creese and Prof Michael Goldsmith	M.11 (weeks 1-2) W.F.11	Department of Computer Science
Database System Implementation	Prof. Dan Olteanu	T.Th.10	Department of Computer Science
Deep Learning for Natural Language Processing	Prof Phil Blunsom	T.Th.4-6 (weeks 1,3-8)	Mathematical Institute, L1
Advanced Machine Learning	Dr Varun Kanade	M.4 W.2	Department of Computer Science
Probability and Computing	Prof. Elias Koutsoupias	W.4 W.5 (weeks 1-4) F.3	Department of Computer Science
Visual Analytics	Prof Min Chen	Th.F.9 (week 1 only) M.T.2 (weeks 2-8)	Department of Computer Science
MATHEMATICS AND PHILOSOPHY			
Prelims			
Mathematics:			
I: Linear Algebra II	Prof. Alan Lauder	W.10, Th.9 (weeks 1–4)	Mathematical Institute, L1
I: Groups and Group Actions	Dr Vicky Neale	W.10, Th.9 (weeks 5–8)	Mathematical Institute, L1
II: Analysis II	Prof. Hilary Priestley	W.9 (weeks 1-4) M.9 (weeks 5-8) T.9	Mathematical Institute, L1
[Papers I and II are compulsory papers for Prelims in Mathematics and Philosophy.]			
Philosophy:			
General Philosophy	Prof. Ofra Magidor	W.12	Examination Schools
Elements of Deductive Logic	Prof. Alex Paseau	T.12	Mathematical Institute, L2
Part A Mathematics:			
A3: Rings and Modules	Dr Richard Earl	M.9 [L2] Th.11 [L1]	Mathematical Institute, L1, L2
A4: Integration	Prof. Zhongmin Qian	W.12 F.11	Mathematical Institute, L1
A5: Topology	Prof. Panos Papazoglou	M.11 [L1] T.11 [L2]	Mathematical Institute, L1, L2
Part B Mathematics			
B1.2 Set Theory	Prof. Jonathan Pila	M.12 [L2] T.2 [L1]	Mathematical Institute, L2, L1
[These lectures are for the compulsory subject "Foundations". Other courses listed under mathematics Part B can be taken: B2.2, B3.3, B3.4, B4.2, B8.2, B8.5, BO1.1, BN1.2, SB3a, Lambda Calculus and Types, Computational Complexity, Knowledge Representation and Reasoning.]			
Part B Philosophy:			
N101 Early Modern Philosophy: Leibniz	Prof Gonzalo Rodriguez-Pereyra	Th.11	Examination Schools
N101 Early Modern Philosophy: Locke	Prof Anita Avramides	M.10	Examination Schools
N101 Early Modern Philosophy: Hume	Prof Peter Kail	W.10	Examination Schools
N102 Knowledge and Reality: Metaphysics	Prof Ralf Bader	Th.10	Examination Schools
N127 Philosophical Logic	Prof James Studd	T.12	Radcliffe Humanities (Lecture Room)
[For further Philosophy lectures, please consult the Philosophy lecture list]			
Part C Mathematics: Logic			
C1.2 Gödel's Incompleteness	Dr Dan Isaacson	M.W.11	Mathematical Institute, L3

Theorems			
C1.4 Axiomatic Set Theory	Dr Rolf Suabedissen	T.Th.9	Mathematical Institute, L6
[See Philosophy list for Philosophy subjects which may be offered.]			
MATHEMATICS AND STATISTICS			
Prelims			
The lectures above for MATHEMATICS Prelims all apply.			
Part A			
A12: Simulation and Statistical Programming	Prof. Julien Berestycki and Prof. Robin Evans	M.2 (weeks 1-8) [LG.01] W.9-11 (weeks 2-3, 5-8) [LG.02]	Department of Statistics, LG.01, LG.02
The lectures above for Mathematics Part A all apply.			
Part B			
SB1b Computational Statistics	Prof. François Caron and Dr Jennifer Rogers	T.12 (weeks 1-6) F.12 (weeks 1-7) W.3-4.30 (Practical) (weeks 4 and 8)	Department of Statistics
SB2b Statistical Machine Learning	Prof Mihaela van der Schaar and Dr Seth Flaxman	W.12 Th.4	Department of Statistics
SB3b Statistical Lifetime-Models	Dr Matthias Winkel	M.10 W.11	Department of Statistics
SB4b Actuarial Science II	Mr Jethro Green	T.10–12	Department of Statistics
[Other courses listed under Mathematics Part B can be taken: B1, B2, B3, B4, B5, B6, B7, B8, BSP]			
Part C			
SC4 Data Mining and Machine Learning	Prof. Dino Sejdinovic	T.2 Th.12	Department of Statistics
SC5 Advanced Simulation Methods	Dr Tigran Nagapetyan	M.12 W.10	Department of Statistics
SC7 Bayes Methods	Prof. Geoff Nicholls	M.3 Th.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, 17 January), unless otherwise stated in this column. Events take place every Week of Full Term (Weeks 1–8) unless otherwise stated.