Lectures proposed by the Board of the Faculty of Mathematics

MATHEMATICAL TRIPOS

Lectures proposed by the Board of the Faculty of Mathematics. Graduates of the University who are not reading for any University Examination may attend without payment any lectures proposed by the Faculty Board of Mathematics.

Note that the non-examinable courses on Topics in the History of Mathematics will be of interest to all students reading the Mathematical Tripos. Full details are given below.

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PART IA

Lectures for Part IA of the Mathematical Tripos will be held in the Cockcroft Lecture Theatre unless otherwise stated.

Part IA students are recommended to attend the induction session which will be held from 9.30 a.m. to 10.30 a.m. on Wednesday 8 October 2014, in the Cockcroft Lecture Theatre.

A meeting will be held for all Part IA students on Friday 1 May 2015 at 2.00 p.m. in Mill Lane Room 3 to discuss examinations and examination techniques.

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<table>
<thead>
<tr>
<th>MICHAELMAS 2014</th>
<th>LENT 2015</th>
<th>EASTER 2015</th>
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</thead>
<tbody>
<tr>
<td>Numbers and Sets</td>
<td>Vector Calculus</td>
<td>Optimisation*</td>
</tr>
<tr>
<td>PROF. A. G. THOMASON</td>
<td>PROF. B. ALLANACH</td>
<td>DR. F. A. FISCHER</td>
</tr>
<tr>
<td>M. W. F. 10</td>
<td>M. W. F. 10</td>
<td>M. W. F. 10, Mill Lane Room 3</td>
</tr>
<tr>
<td></td>
<td>Probability</td>
<td>Metric and Topological Spaces*</td>
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<td>PROF. R. R. WEBER</td>
<td>DR. J. RASMUSSEN</td>
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<td>M. W. F. 11</td>
<td>M. W. F. 11, Mill Lane Room 3</td>
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<tr>
<td></td>
<td>Analysis I</td>
<td>Variational Principles*</td>
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<tr>
<td></td>
<td>PROF. W. T. GOWERS</td>
<td>PROF. P. K. TOWNSEND</td>
</tr>
<tr>
<td></td>
<td>Tu. Th. S. 10</td>
<td>M. W. F. 12, Mill Lane Room 3</td>
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<tr>
<td></td>
<td></td>
<td>(Twelve lectures)</td>
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<td></td>
<td>Dynamics and Relativity</td>
<td>Computational Projects*</td>
</tr>
<tr>
<td></td>
<td>PROF. G. I. OGILVIE</td>
<td>DR. M. B. WINGATE</td>
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<td></td>
<td>Tu. Th. S. 11</td>
<td>Tu. Th. 10 (Eight lectures)</td>
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</table>

Information for non-examinable courses and the Mathematics with Physics option appears below on the next page.
The following courses are non-examinable

Introduction to Mechanics
DR P. O’DONNELL
Tu. Th. 12, Arts School, Room B, Bene’t Street
(Twelve lectures)

History of Mathematical Ideas: Ancient Mathematics
DR P. BURSILL-HALL
W. F. 4, Centre for Mathematical Sciences, MR3

History of Science for Mathmos: The origins and early development of Islam and Islamic science
DR P. BURSILL-HALL
Th. 4, Centre for Mathematical Sciences, MR3

* Examined in Part IB of the Tripos

The following courses are non-examinable

History of Mathematical Ideas: the Middle Ages to the Enlightenment
DR P. BURSILL-HALL
W. F. 4, Centre for Mathematical Sciences, MR3

History of Science for Mathmos: early Islamic science and science in the western Middle Ages
DR P. BURSILL-HALL
Th. 4, Centre for Mathematical Sciences, MR3

The following course is non-examinable

Concepts in Theoretical Physics
DR D. D. BAUMANN
Tu. Th. 11, (Eight lectures)

Mathematics with Physics Option:

Students taking this third option should attend Vectors and Matrices, Groups, Differential Equations, Analysis I, Vector Calculus and Probability from Part IA of the Mathematical Tripos, together with the lectures listed at

http://www.timetable.cam.ac.uk/#tripos/nst/IA/phy

in Part IA Physics of the Natural Sciences Tripos. They will be required to do Physics practical work, and should attend at least the first lecture of the Scientific Computing Course.
MATHEMATICAL TRIPOS, PART IB

Lectures for Part IB of the Mathematical Tripos will be held in Mill Lane Lecture Rooms, Room 3 unless otherwise stated.

Part IB students are recommended to attend the induction session which will be held from 4 p.m. to 5 p.m. on Wednesday 8 October 2014, in the Cockcroft Lecture Theatre.

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<tr>
<th>MICHAELMAS 2014</th>
<th>LENT 2015</th>
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<tr>
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<td>Optimisation</td>
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<tr>
<td>DR D. B. SKINNER</td>
<td>DR A. SHADRIN</td>
<td>DR F. A. FISCHER</td>
</tr>
<tr>
<td>M. W. F. 10</td>
<td>M. W. F. 9 (Sixteen lectures)</td>
<td>M. W. F. 10 (Twelve lectures)</td>
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<tr>
<td>Analysis II</td>
<td>Geometry</td>
<td>Metric and Topological Spaces</td>
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<tr>
<td>PROF. N. WICKRAMASEKERA</td>
<td>DR A. G. KOVALEV</td>
<td>DR J. RASMUSSEN</td>
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<td>M. W. F. 11</td>
<td>M. W. 10</td>
<td>M. W. F. 11 (Twelve lectures)</td>
</tr>
<tr>
<td>Linear Algebra</td>
<td>Complex Analysis</td>
<td>Variational Principles</td>
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<tr>
<td>DR S. J. WADSLY</td>
<td>PROF. A. J. SCHOLL</td>
<td>PROF. P. K. TOWNSEND</td>
</tr>
<tr>
<td>M. W. F. 12</td>
<td>M. W. F. 11 (Sixteen lectures)</td>
<td>M. W. F. 12 (Twelve lectures)</td>
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<tr>
<td>Markov Chains</td>
<td>Groups, Rings and Modules</td>
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<tr>
<td>PROF. G. R. GRIMMETT</td>
<td>DR R. D. CAMINA</td>
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<tr>
<td>Tu. Th. 10 (Twelve lectures)</td>
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<tr>
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<td>PROF. D. SPIEGELHALTER</td>
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<td>Tu. Th. 11</td>
<td>Tu. Th. 9</td>
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<td></td>
<td>Numerical Analysis</td>
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<td>DR G. MOORE</td>
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<td>Tu. Th. 10</td>
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<td></td>
<td>Fluid Dynamics</td>
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<td>PROF. P. F. LINDEN</td>
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<td>Tu. Th. 11</td>
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<tr>
<td></td>
<td>Electromagnetism</td>
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<td>PROF. D. TONG</td>
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<td></td>
<td>Tu. Th. 12</td>
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Information for non-examinable courses appears below on the next page.
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<th>Room</th>
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<tbody>
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<td>History of Mathematical Ideas: Ancient Mathematics</td>
<td>Dr. P. Bursill-Hall</td>
<td>W. F. 4</td>
<td>Centre for Mathematical Sciences, MR3</td>
</tr>
<tr>
<td>History of Mathematical Ideas: the Middle Ages to the Enlightenment</td>
<td>Dr. P. Bursill-Hall</td>
<td>W. F. 4</td>
<td>Centre for Mathematical Sciences, MR3</td>
</tr>
<tr>
<td>History of Science for Mathmos: The origins and early development of Islam and Islamic science</td>
<td>Dr. P. Bursill-Hall</td>
<td>Th. 4</td>
<td>Centre for Mathematical Sciences, MR3</td>
</tr>
<tr>
<td>History of Science for Mathmos: early Islamic science and science in the western Middle Ages</td>
<td>Dr. P. Bursill-Hall</td>
<td>Th. 4</td>
<td>Centre for Mathematical Sciences, MR3</td>
</tr>
</tbody>
</table>
MATHEMATICAL TRIPOS, PART II

Lectures will be held in the Meeting Rooms (MR) of the Centre for Mathematical Sciences, Clarkson Road, unless otherwise stated.

Part II students are recommended to attend the induction session which will be held on Wednesday 8 October 2014, 2 p.m. to 3 p.m. in the Cockcroft Lecture Theatre.

A meeting will be held on Wednesday 10 June 2015 for finalists who may continue to Part III of the Tripos in 2015-16. The meeting will be held in MR2 at the Centre for Mathematical Sciences at 11.15 a.m.

C COURSES

<table>
<thead>
<tr>
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<td>Cosmology</td>
<td>Further Complex Methods</td>
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<tr>
<td>DR T. A. FISHER</td>
<td>PROF. J. D. BARROW</td>
<td>PROF. M. J. PERRY</td>
</tr>
<tr>
<td>M. W. F. 10, MR2</td>
<td>M. W. F. 9, MR4</td>
<td>M. W. F. 11, MR3</td>
</tr>
<tr>
<td>Classical Dynamics</td>
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<td>Statistical Modelling</td>
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<tr>
<td>DR B. GROISMAN</td>
<td></td>
<td>DR R. D. SHAH</td>
</tr>
<tr>
<td>Tu. Th. S. 9, MR9</td>
<td></td>
<td>M. W. F. 12, MR3 (sixteen lectures) and CATAM Room (eight practicals)</td>
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<tr>
<td>Topics in Analysis</td>
<td></td>
<td>Coding and Cryptography</td>
</tr>
<tr>
<td>PROF. T. W. KÖRNER</td>
<td></td>
<td>DR T. K. CARNE</td>
</tr>
<tr>
<td>Tu. Th. S. 11, MR5</td>
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<td>Tu. Th. S. 10, MR2</td>
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<tr>
<td></td>
<td>Mathematical Biology</td>
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<td>DR J. R. GOG</td>
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<td></td>
<td>Tu. Th. S. 11, MR2</td>
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D COURSES

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<th>MICHAELMAS 2014</th>
<th>LENT 2015</th>
<th>EASTER 2015</th>
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<tr>
<td><strong>Linear Analysis</strong></td>
<td>Logic and Set Theory</td>
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<tr>
<td>DR A. ZSAK</td>
<td>PROF. I. B. LEADER</td>
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<tr>
<td>M. W. F. 9, MR3</td>
<td>M. W. F. 9, MR2</td>
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<tr>
<td>Course</td>
<td>Instructor</td>
<td>Days</td>
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<tr>
<td>Dynamical Systems</td>
<td>PROF. P. H. HAYNES</td>
<td>M. W. F. 9, MR4</td>
</tr>
<tr>
<td>Fluid Dynamics</td>
<td>DR E. LAUGA</td>
<td>M. W. F. 10, MR5</td>
</tr>
<tr>
<td>Principles of Quantum Mechanics</td>
<td>PROF. R. R. HORGAN</td>
<td>M. W. F. 11, MR2</td>
</tr>
<tr>
<td>Probability and Measure</td>
<td>DR A. SOLA</td>
<td>M. W. F. 11, MR3</td>
</tr>
<tr>
<td>Graph Theory</td>
<td>DR P. A. RUSSELL</td>
<td>M. W. F. 12, MR3</td>
</tr>
<tr>
<td>Principles of Statistics</td>
<td>DR R. NICKI</td>
<td>M. W. F. 12, MR3</td>
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<tr>
<td>Numerical Analysis</td>
<td>DR J. LEILMANN</td>
<td>M. W. F. 12, MR3</td>
</tr>
<tr>
<td>Algebraic Topology</td>
<td>DR O. RANDAL-WILLIAMS</td>
<td>Tu. Th. S. 9, MR3</td>
</tr>
<tr>
<td>Galois Theory</td>
<td>DR C. BIRKAR</td>
<td>Tu. Th. S. 10, MR3</td>
</tr>
<tr>
<td>Integrable Systems</td>
<td>DR A. ASHTON</td>
<td>Tu. Th. 10, MR9</td>
</tr>
<tr>
<td>Electrodynamics</td>
<td>DR A. D. CHALLINOR</td>
<td>Tu. Th. 11, MR4</td>
</tr>
<tr>
<td>Optimisation and Control</td>
<td>PROF. R. R. WEBER</td>
<td>Tu. Th. 12, MR4</td>
</tr>
<tr>
<td>Waves</td>
<td>PROF. J. R. LISTER</td>
<td>M. W. F. 10, MR3</td>
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<tr>
<td>Differential Geometry</td>
<td>PROF. P. M. H. WILSON</td>
<td>M. W. F. 10, MR4</td>
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<td>Probability and Measure</td>
<td>DR A. SOLA</td>
<td>M. W. F. 11, MR3</td>
</tr>
<tr>
<td>Applied Probability</td>
<td>DR P. SOUSI</td>
<td>M. W. F. 11, MR5</td>
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<tr>
<td>General Relativity</td>
<td>DR S. T. C. SIKLOS</td>
<td>M. W. F. 12, MR2</td>
</tr>
<tr>
<td>Riemann Surfaces</td>
<td>PROF. G. P. PATERNAIN</td>
<td>M. W. 12, MR4</td>
</tr>
<tr>
<td>Representation Theory</td>
<td>DR S. MARTIN</td>
<td>Tu. Th. S. 9, MR2</td>
</tr>
<tr>
<td>Asymptotic Methods</td>
<td>PROF. T. FOKAS</td>
<td>Tu. Th. 9, MR3</td>
</tr>
<tr>
<td>Applications of Quantum Mechanics</td>
<td>PROF. N. DOREY</td>
<td>Tu. Th. S. 10, MR3</td>
</tr>
<tr>
<td>Statistical Physics</td>
<td>DR U. SPERHAKE</td>
<td>Tu. Th. S. 12, MR2</td>
</tr>
<tr>
<td>Number Fields</td>
<td>PROF. I. GROJNOWSKI</td>
<td>Tu. Th. 12, MR3</td>
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</table>
Partial Differential Equations  
DR D. M. A. STUART  
Tu. Th. S. 12, MR5  

The following courses are non-examinable  

Laboratory Demonstrations in Fluid Dynamics  
DR S. B. DALZIEL  
Four sessions, beginning 20 or 21 October, 2, Fluids Laboratory  

History of Mathematical Ideas: Ancient Mathematics  
DR P. BURSILL-HALL  
W. F. 4, Centre for Mathematical Sciences, MR3  

History of Science for Mathmos: The origins and early development of Islam and Islamic science  
DR P. BURSILL-HALL  
Th. 4, Centre for Mathematical Sciences, MR3  

The following courses are non-examinable  

History of Mathematical Ideas: the Middle Ages to the Enlightenment  
DR P. BURSILL-HALL  
W. F. 4, Centre for Mathematical Sciences, MR3  

History of Science for Mathmos: early Islamic science and science in the western Middle Ages  
DR P. BURSILL-HALL  
Th. 4, Centre for Mathematical Sciences, MR3
MATHEMATICAL TRIPOS PART III

All lectures are held at the Centre for Mathematical Sciences, Clarkson Road unless otherwise stated.

There will be a meeting in MR2 on Wednesday 8 October 2014 at 9.30 a.m. for all those who intend to offer courses in Part III.

There is a series of meetings for Part III students in MR2, Centre for Mathematical Sciences on Wednesdays at 4.15 p.m. Students are invited to refer to the Part III Handbook for more details.

<table>
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<th>MICHAELMAS 2014</th>
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<th>EASTER 2015</th>
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<tr>
<td><strong>Category Theory</strong></td>
<td><strong>Algebraic Number Theory</strong></td>
<td><strong>Introduction to the Gauge/Gravity Duality</strong></td>
</tr>
<tr>
<td>DR R. B. B. LUCYSHYN-WRIGHT</td>
<td>DR J. A. THORNE</td>
<td>DR J. E. SANTOS</td>
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<tr>
<td>M. W. F. 9, MR2</td>
<td>M. W. F. 9, MR3</td>
<td>M. Tu. Th. F. 9, MR4</td>
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<tr>
<td><strong>Advanced Probability</strong></td>
<td><strong>Black Holes</strong></td>
<td><strong>Classical and Quantum Solitons</strong></td>
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<tr>
<td>DR A. SOLA</td>
<td>PROF. H. S. REALL</td>
<td>PROF. N. DOREY</td>
</tr>
<tr>
<td>M. W. F. 9, MR9</td>
<td>M. W. F. 9, MR9</td>
<td>M. Tu. Th. F. 10, MR4</td>
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<tr>
<td><strong>Approximation Theory</strong></td>
<td><strong>Elliptic PDEs</strong></td>
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<td>DR C. BELLETTINI, DR B. KRUMMEL</td>
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<td>M. W. F. 9, MR12</td>
<td>M. W. F. 9, MR11</td>
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<tr>
<td><strong>Cosmology</strong></td>
<td><strong>Stochastic Calculus and Applications</strong></td>
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<tr>
<td>DR D. D. BAUMANN</td>
<td>DR M. TEHRANCHI</td>
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<td>M. W. F. 10, MR3</td>
<td>M. W. F. 9, MR12</td>
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<td><strong>Mathematics of Operational Research</strong></td>
<td><strong>Galactic Astronomy and Dynamics</strong></td>
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<td>DR F. A. FISCHER</td>
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<td>DR D. B. SKINNER</td>
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<td><strong>Topics in Set Theory</strong></td>
<td><strong>Semigroups of Operators</strong></td>
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<td>DR O. KOLMAN</td>
<td>DR D. J. H. GARLING</td>
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<td>M. W. F. 10, MR12</td>
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<td><strong>Slow Viscous Flow</strong></td>
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<td>M. W. F. 10, MR13</td>
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<td></td>
<td>Lectures start M. 26 January, additional lectures on F. 6 March, F. 13 March, sixteen lectures in total</td>
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<tr>
<td>Course Name</td>
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<td>Analysis of Partial Differential Equations</td>
<td>Prof. C. Mouhot</td>
<td>M. W. F. 10, MR14</td>
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<td>M. W. F. 10, MR14</td>
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<tr>
<td>Representation Theory</td>
<td>Dr. S. Martin</td>
<td>M. W. F. 11, MR2</td>
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<tr>
<td>Complex Manifolds</td>
<td>Dr. J. A. Ross</td>
<td>M. W. F. 11, MR9</td>
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<tr>
<td>Fluid Dynamics of Climate</td>
<td>Prof. P. F. Linden, J. R. Taylor</td>
<td>M. W. F. 11, MR13</td>
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<tr>
<td>Time Series and Monte Carlo Inference</td>
<td>Dr. Y. Chen, Dr. S. Tavakoli</td>
<td>M. W. F. 11, MR14</td>
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<tr>
<td>Advanced Financial Models</td>
<td>Dr. M. Tehranchi</td>
<td>M. W. F. 12, MR9</td>
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<tr>
<td>Numerical Solution of Differential Equations</td>
<td>Prof. A. Iserles</td>
<td>M. W. F. 12, MR11</td>
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<tr>
<td>Structure and Evolution of Stars</td>
<td>Dr. A. N. Zytkowski</td>
<td>M. W. F. 12, MR12</td>
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<td>Computability and Logic</td>
<td>Dr. T. E. Forster</td>
<td>M. W. F. 12, MR14</td>
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<tr>
<td>Introduction to Nonlinear Wave Equations</td>
<td>Dr. J. W. Liu</td>
<td>M. W. F. 12, MR14</td>
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<tr>
<td>Course</td>
<td>Instructor</td>
<td>Days &amp; Time</td>
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<tr>
<td>Biological Physics</td>
<td>Prof. R. E. Goldstein, Dr. U. F. Keyser</td>
<td>Tu. Th. S. 12, Small Lecture Theatre, Cavendish Laboratory</td>
</tr>
<tr>
<td>Advanced Cosmology</td>
<td>Dr. A. D. Challinor, Prof. E. P. S. Shellard</td>
<td>M. W. F. 12, MR13</td>
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<tr>
<td>Quantum Field Theory</td>
<td>Prof. M. J. Perry</td>
<td>Tu. Th. S. 9, MR2</td>
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<tr>
<td>Geometric Group Theory</td>
<td>Dr. H. Wilton</td>
<td>M. W. F. 12, MR14</td>
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<tr>
<td>Actuarial Statistics</td>
<td>Dr. S. M. Pitts</td>
<td>Tu. Th. S. 9, MR4</td>
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<tr>
<td>Homotopy Theory</td>
<td>Dr. O. Randal-Williams</td>
<td>Tu. Th. S. 9, MR4</td>
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<tr>
<td>Local Fields</td>
<td>Dr. T. A. Fisher</td>
<td>Tu. Th. S. 9, MR5</td>
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<tr>
<td>Elementary Methods in Analytic Number Theory</td>
<td>Dr. A. J. Harper</td>
<td>Tu. Th. S. 9, MR5</td>
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<tr>
<td>Magnetohydrodynamics</td>
<td>Prof. M. R. E. Proctor</td>
<td>Tu. Th. S. 9, MR13</td>
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<tr>
<td>String Theory</td>
<td>Prof. P. K. Townsend</td>
<td>Tu. Th. S. 9, MR9</td>
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<tr>
<td>Symmetries, Fields and Particles</td>
<td>Prof. N. S. Manton</td>
<td>Tu. Th. S. 10, MR2</td>
</tr>
<tr>
<td>Sound Generation and Propagation</td>
<td>Dr. E. Brambley</td>
<td>Tu. Th. S. 9, MR12</td>
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<tr>
<td>Astrophysical Fluid Dynamics</td>
<td>Prof. G. I. Ogilvie</td>
<td>Tu. Th. S. 10, MR4</td>
</tr>
<tr>
<td>Applied Statistics ++</td>
<td>Dr. B. D. M. Tom</td>
<td>Tu. 9, MR13 and CATAM Room (Four lectures and four classes)</td>
</tr>
<tr>
<td>Techniques in Combinatorics</td>
<td>Prof. W. T. Gowers</td>
<td>Tu. Th. S. 10, MR5</td>
</tr>
<tr>
<td>Kinetic Theory</td>
<td>Dr. A. Einav</td>
<td>Tu. Th. S. 9, MR14</td>
</tr>
<tr>
<td>General Relativity</td>
<td>Dr. U. Sperhake</td>
<td>Tu. Th. S. 11, MR2</td>
</tr>
<tr>
<td>Percolation and Related Topics</td>
<td>Prof. G. R. Grimmett, Dr. D. Kiss</td>
<td>Tu. Th. 10, MR4</td>
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<tr>
<td>Commutative Algebra</td>
<td>Dr. C. J. B. Brookes</td>
<td>Tu. Th. S. 11, MR3</td>
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<tr>
<td>Distribution Theory and Applications</td>
<td>Dr. A. Ashtion</td>
<td>Tu. Th. 10, MR5</td>
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<tr>
<td>Functional Analysis</td>
<td>Dr. A. Zsak</td>
<td>Tu. Th. S. 11, MR9</td>
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<tr>
<td>Homological and Homotopical Algebra</td>
<td>Dr. J. V. S. Holstein</td>
<td>Tu. Th. 10, MR9</td>
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<td>Course</td>
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<tr>
<td>Applied Statistics ++</td>
<td>DR D. PIGOLI, DR S. M. PITTS</td>
<td>Tu. Th. 11, MR13 and CATAM room</td>
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<tr>
<td>Dynamics of Astrophysical Discs</td>
<td>DR H. LATTER</td>
<td>Tu. Th. 10, MR13</td>
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<tr>
<td>Differential Geometry</td>
<td>DR A. G. KOVALEV</td>
<td>Tu. Th. S. 12, MR2</td>
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<tr>
<td>Advanced Quantum Information Theory</td>
<td>DR T. CUBITT</td>
<td>Tu. Th. S. 10, MR14</td>
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<tr>
<td>Combinatorics</td>
<td>PROF. A. G. THOMASON</td>
<td>Tu. Th. S. 12, MR3</td>
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<tr>
<td>Probabilistic Combinatorics</td>
<td>PROF. B. BOLLOBÁS</td>
<td>Tu. Th. 11, MR3</td>
</tr>
<tr>
<td>Modern Statistical Methods</td>
<td>DR R. D. SHAH</td>
<td>Tu. Th. S. 12, MR9</td>
</tr>
<tr>
<td>Fluid Dynamics of the Solid Earth</td>
<td>DR J. A. NEULIEFELD, PROF. M. G. WORSTER</td>
<td>Tu. Th. 11, MR5</td>
</tr>
<tr>
<td>Origin and Evolution of Galaxies</td>
<td>PROF. M. G. HAHNELT</td>
<td>Tu. Th. 12, MR11</td>
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<tr>
<td>Applications of Differential Geometry to Physics</td>
<td>DR M. DUNAJSKI</td>
<td>Tu. Th. 11, MR9</td>
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<tr>
<td>Perturbation and Stability Methods</td>
<td>DR S. J. COWLEY, PROF. N. PEAKE</td>
<td>Tu. Th. S. 12, MR12</td>
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<tr>
<td>Boundary Value Problems for Evolution and Elliptic PDEs</td>
<td>PROF. A. FOKAS</td>
<td>Tu. Th. 11, MR12</td>
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<tr>
<td>Statistical Field Theory</td>
<td>PROF. R. R. HORGAN</td>
<td>Tu. Th. 12, MR13</td>
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<tr>
<td>Binary Stars</td>
<td>DR C. A. TOUT</td>
<td>Tu. Th. 11, MR13</td>
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<tr>
<td>Statistics in Medical Practice +</td>
<td>DR R. TURNER ET AL</td>
<td>Th. 4-6, MR13 (Five lectures on 23 Oct., 30 Oct., 6 Nov., 20 Nov., and 27 Nov.)</td>
</tr>
<tr>
<td>Analysis of Survival Data +</td>
<td>DR P. TREASURE</td>
<td>Tu. Th. 11, MR14 (Fourteen lectures)</td>
</tr>
<tr>
<td>Supersymmetry and Extra Dimensions</td>
<td>PROF. B. ALLANACH, PROF. F. QUEVEDO</td>
<td>Tu. Th. S. 12, MR4</td>
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<tr>
<td>Model Theory</td>
<td>PROF. B. LÖWE</td>
<td>Tu. Th. 12, MR5</td>
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<tr>
<td>Topics in Statistical Theory</td>
<td>DR R. NICKL</td>
<td>Tu. Th. 12, MR9</td>
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Direct and Inverse Scattering of Waves
DR. O. RATH-SPIVACK
Tu. Th. 12, MR12

The following course is non-examinable

Demonstrations in Fluid Dynamics
DR. S. B. DALZIEL, DR. J. A. NEUFELD
W. 2, Fluids Laboratory

+ These two courses constitute the twenty-four-hour course in Biostatistics
++ These two courses constitute the twenty-four-hour course in Applied Statistics
M.Phil. in Computational Biology 2014-15

Lectures commence Wednesday 8th October (p.m.) and are held in the Centre for Mathematical Sciences, unless otherwise stated.

**MICHAELMAS 2014**

**Functional Genomics**
DR. M. DUNNING ET AL.
W. 10-12 MR15, F. 10-11 MR15
(commencing W. 15th October)

**Genome Informatics**
DR. G. MICKLEM ET AL.
M. 1-2 MR15, 2-4 CATAM Lab - MR16
F. 12-1 MR15
(commencing F. 10th October)

**Scientific Programming**
DR. S. EGLEN
M. 10-11 MR15
TU. 12-1 MR15
TH. 12-1 MR15, 1-2 CATAM Lab - MR16
(9th October - 4th November)

**Genome Sequence Analysis**
DR. A. SCALLY
W. 12-1 - MR15
(commencing W. 8th October)

**LENT 2015**

**Network Biology**
PROF. L. WERNISCH & DR. F. MARKOWETZ
W. 11-12 MR15, F. 11-12. MR15

**Computational Neuroscience**
DR. S. EGLEN
TH. 1-3 MR15
(15th January - 5th February)

**Population Genetic Analyses of Genomic Data**
DR. V. MUSTONEN, DR. C. ILLINGWORTH
& DR. R. DURBIN
TU. 10-12, MR15

**Structural Biology**
DR. L. COLWELL ET AL.
(TBC)

**EASTER 2015**

**Systems Biology**
DR. J. PAULSSON
(TBC)

**INTERNSHIPS**
May-August 2015

**Analysis and Modelling Comorbidities**
DR. P. LIO
TH. 1-3, MR15
(19th February - 12th March)

The Computational Biology Seminar series will take place on Wednesdays, 2-3p.m. in MR4 Michaelmas and Lent terms.
FACULTY OF MATHEMATICS

COURSES INTENDED FOR GRADUATES (non-examinable)

All lectures are held at the Centre for Mathematical Sciences, Clarkson Road unless otherwise stated.

MICHAELMAS 2014

Analysis of Operators
DR A. J. WASSERMANN
M. W. F. 9, MR13

Analysis of Gauge Theories
DR D. M. A. STUART
M. W. 10, MR11

Measure and Image
DR T. J. M. VALKONEN
M. W. F. 11, MR13 (Lectures start F. 24 October, sixteen hours)

Random Matrix Theory and its Applications to High-Dimensional Statistical Inference
DR D. LI
Tu. 10, MR13

Topics in Number Theory
DR W. KIM
Tu. Th. 10:30-12, MR14

Foundations of Classical Dynamics
DR J. B. PITTS, DR N. TEH
Tu. 4:30-6, MR4

Conformal Field Theory
PROF. H. OSBORN
F. 3, MR9

LENT 2015

Quantum Cohomology
PROF. I. SMITH
M. W. F. 9, MR5

Calculus of Variations – CANCELLED
DR D. GOLDMAN
M. W. F. 9, MR11

Dispersive PDEs
DR S. YANG
M. W. F. 9, MR14 (Lectures start F. 23 January, sixteen hours)

Spectral Geometry
DR D. BARDEN
M. W. F. 11, MR11

Topics in Combinatorial Algebraic Geometry
DR J. C. OTTEM
M. Tu. Th. 2, MR5

Statistcs for Stochastic Processes
DR J. SÖHL
Tu. 9, MR11

Compressed Sensing and Sampling Theory
DR A. C. HANSEN
Tu. Th. 10, MR11

Topics in Algebra and Geometry
PROF. I. GROJNOWSKI
Tu. Th. S. 11, MR4

EASTER 2015

Homogenization of PDEs
DR H. HUITRIDIURGA
M. Tu. Th. F. 10, MR5

Topics on Complex Geometry – CANCELLED
DR J. A. ROSS
M. Tu. Th. F. 11, MR4

Function Spaces
DR S. DEMOULINI
M. Tu. W. Th. F. 11, MR5

Rough Paths and Regularity Structures
PROF. P. K. FRIZ
W. 4-6, Th. 2-3, MR14 (Lectures start W. 22 April, twelve hours)

Random Matrix Theory and its Applications to High-Dimensional Statistical Inference
DR D. LI
Tu. 10, MR13

Topics in Number Theory
DR W. KIM
Tu. Th. 10:30-12, MR14

Foundations of Classical Dynamics
DR J. B. PITTS, DR N. TEH
Tu. 4:30-6, MR4

Conformal Field Theory
PROF. H. OSBORN
F. 3, MR9
Spinor Techniques in General Relativity
MISS I. M. M. BORZYM, DR. P. O'DONNELL
Tu. Th. S. 11, MR11

Topics in Random Graphs
DR L. WARNKE
Tu. Th. 12, MR11

Mean Curvature Flow and Related Topics
PROF. N. WICKRAMASEKERA
Tu. Th. 12, MR13

Infinite Dimensional Lie Algebras
DR A. BOUAYAD
Tu. Th. 12, MR14 (lectures start Tu. 3 February, twelve hours)

Quantum Theory and the Foundations of Physics
PROF. A. P. A. KENT
Tu. 3, MR4

Philosophical Aspects of Quantum Field Theory
DR J. N. BUTTERFIELD, DR A. CAULTON
Tu. 4:30-6, MR4