# 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.

First year mathematics students are recommended to attend the induction session which will be held from 9.30 a.m. to 10.45 a.m. on Wednesday 4 October 2006, in the *Cockcroft Lecture Theatre*.

A meeting will be held for all Part IA students on Friday 4 May 2007 at 2.00 p.m. in *Mill Lane Room 3* to discuss examinations and examination techniques.

Note that the non-examinable course on **Topics in the History of Mathematics** will be of interest to all students reading the Mathematical Tripos. This course will be given in the Michaelmas Term (**Ancients to the Renaissance**) and in the Lent Term (**Renaissance to the 19th century**). Full details are given below.

**MICHAELMAS 2006** **LENT 2007** **EASTER 2007**

## PART IA

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

Differential Equations
PROF. M. G. WORSTER Tu. Th. S. 10

Algebra and Geometry
DR S. J. COWLEY AND PROF. T. W. KÖRNER M. Tu. W. Th. F. S. 11

Numbers and Sets
DR I. B. LEADER M. W. F. 10

Dynamics
DR R. E. HUNT M. W. F. 10

Analysis I
PROF. A. G. THOMASON M. W. F. 11

Vector Calculus
PROF. E. J. HINCH Tu. Th. S. 11

Probability
DR D. P. KENNEDY Tu. Th. S. 10

Numerical Analysis*
PROF. A. ISERLES M. W. F. 12, *Mill Lane Room 3* (Twelve lectures)

Optimization*
DR M. R. TEHRANCHI M. W. F. 11, *Mill Lane Room 3* (Twelve lectures)

Metric and Topological Spaces*
DR I. SMITH M. W. F. 10, *Mill Lane Room 3* (Twelve lectures)

Special Relativity*
PROF. M. B. GREEN Tu. Th. 10, *Mill Lane Room 3* (Eight lectures)

Computational Projects*
DR N. NIKIFORAKIS AND OTHERS Tu. Th. 11, *Mill Lane Room 3* (Six lectures)

**Non-Examinable Courses**

Introduction to Physics**
PROF. P. WADHAMS Tu. Th. 9, *Mill Lane Room 2* (Twelve lectures)

Topics in the History of Mathematics: Ancients to the Renaissance
DR P. BURSILL-HALL W. F. 4 , *Centre for Mathematical Sciences, Room 9*

Topics in the History of Mathematics: Renaissance to the 19th Century
DR P. BURSILL-HALL W. F. 4, *Centre for Mathematical Sciences, Room 9*

### Mathematics with Computer Science Option:

Students taking this option should attend Algebra and Geometry, Numbers and Sets, Differential Equations, Analysis I, Vector Calculus and Probability from Part IA of the Mathematical Tripos, together with the courses from the Computer Science Tripos listed below. Students should note that the programming exercises will be taken into account by the Examiners.

Registration.
DR F. H. KING AND MISS C. H. NORTHEAST Th. 12 (One lecture) *Arts School, Room A, Bene't Street*

Introduction to Computer Science.
PROF. A. HOPPER F. 12 (One lecture) *Arts School, Room A, Bene't Street*

Foundations of Computer Science.
PROF. L. C. PAULSON M. W. F. 12 (Fifteen lectures, beginning 9 Oct.) *Arts School, Room A, Bene't Street*

Operating Systems continued.
DR M. RICHARDS M. W. F. 12 (Eight lectures) *Arts School, Room A, Bene't Street*

Programming in Java.
DR A. C. NORMAN M. W. F. 12 (Sixteen lectures, beginning 7 Feb.) *Arts School, Room A, Bene't Street*

Algorithms I.
DR K. A. FRASER M. W. F. 12 *Arts School, Room A, Bene't Street* (non-examinable course)

* Examined in Part IB of the Tripos.
** This course assumes no prior knowledge of A-level Physics.

# Faculty of Mathematics (continued)

## MATHEMATICAL TRIPOS, PART IA (continued)

| MICHAELMAS 2006 | LENT 2007 | EASTER 2007 |
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| Operating Systems.<br>DR M. RICHARDS M. W. F. 12 (Eight lectures, beginning 13 Nov.) *Arts School, Room A, Bene't Street* | | |
| Practical ML under Windows.<br>DR F. H. KING, MISS C. H. NORTHEAST AND MR R. J. STIBBS Th. 2–5 (Two classes) *Lecture Theatre 1, William Gates Building* | Programming Practical Class.<br>DR F. H. KING AND DR A. C. NORMAN Th. 2–4 (Four fortnightly classes, beginning 18 Jan. *or* 25 Jan.) *Cockcroft Building, Floor 4* | Programming Practical Class.<br>DR F. H. KING AND DR A. C. NORMAN Th. 1–4 (Two fortnightly classes, beginning 26 Apr. *or* 3 May) *Cockcroft Building, Floor 4* |
| Programming Practical Class.<br>PROF. L. C. PAULSON AND DR F. H. KING Th. 2–4 (Three fortnightly classes, beginning 19 Oct. *or* 26 Oct.) *Cockcroft Building, Floor 4* | Assessed Exercise Work.<br>M. *or* W. *or* F. 2–4 *Cockcroft Building, Floor 4* | Assessed Exercise Work.<br>M. *or* W. *or* F. 2–4 Cockcroft Building, Floor 4 |
| Assessed Exercise Work.<br>M. *or* W. *or* F. 2–4 *Cockcroft Building, Floor 4* | How to Install Linux.<br>DR R. J. DOWLING Th. 5 (One lecture, 8 Feb.) *Cockcroft Lecture Theatre* | Part IB Assessed Exercise Briefing.<br>DR A. C. NORMAN AND DR J. K. FAWCETT Th. 4.30 (One lecture, 17 May) *Arts School, Room A, Bene't Street* |
| How to Study Computer Science.<br>DR N. A. DODGSON AND OTHERS Th. 5 (One lecture, 19 Oct.) *Arts School, Room A, Bene't Street* | Revision Skills.<br>STAFF Th. 5 (One lecture, 8 Mar.) *Arts School, Room A, Bene't Street* | |
| Tick-Four Briefing.<br>DR F. H. KING Th. 5 (One lecture, 26 Oct.) *Hopkinson Lecture Room* | | |
| Help Sessions.<br>DR R. G. ROSS Th. 5 (Four classes, beginning 2 Nov.) *Hopkinson Lecture Room* | | |

### Mathematics with Physics Option:

Students taking this third option should attend Algebra and Geometry, Differential Equations, Analysis I, Vector Calculus and Probability from Part IA of the Mathematical Tripos, together with the lectures listed below in Part IA of the Natural Sciences Tripos (Course B version). They will be required to do Physics practical work, and are recommended to attend at least the first lecture of Course B of the Computing Course for Physical Scientists.

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| Principles of Relativity, Mechanics and Fields<br>DR P. J. DUFFETT-SMITH M. W. F. 9 (first nineteen lectures) *Chemical Laboratory, Lensfield Road*<br>Electromagnetism, Oscillations and Waves<br>DR J. M. RILEY M. W. F. 9 (last three lectures, beginning 24 Nov.) *Chemical Laboratory, Lensfield Road*<br>Experimental Physics<br>DR D. A. GREEN Two lectures, W. 18 Oct. and W. 1 Nov. *Chemical Laboratory, Lensfield Road* | Electromagnetism, Oscillations and Waves<br>DR J. M. RILEY M. W. F. 9 (first sixteen lectures) *Chemical Laboratory, Lensfield Road*<br>Quantum Mechanics and the Physics of Large Systems<br>PROF. C. G. SMITH M. W. F. 9 (last eight lectures, beginning 26 Feb.) *Chemical Laboratory, Lensfield Road* | Quantum Mechanics and the Physics of Large Systems<br>PROF. C. G. SMITH M. W. F. 9 (first ten lectures) *Chemical Laboratory, Lensfield Road*<br>Revision Lectures<br>DR P. J. DUFFETT-SMITH AND DR J. M. RILEY Two lectures, M. 21 May and W. 23 May *Chemical Laboratory, Lensfield Road* |

## 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.

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| Methods<br>DR C. P. CAULFIELD M. W. F. 11<br>Linear Algebra<br>PROF. J. SAXL M. W. F. 12<br>Analysis II<br>DR M. J. WALTERS M. W. F. 10<br>Quantum Mechanics<br>DR R. M. WILLIAMS Tu. Th. 10<br>Markov Chains<br>PROF. F. P. KELLY Tu. Th. 11 (Twelve lectures)<br>Fluid Dynamics<br>PROF. H. E. HUPPERT Tu. Th. 12 | Special Relativity<br>DR R. M. WILLIAMS M. W. F. 11 (last eight lectures, beginning 26 Feb.)<br>Fluid Dynamics<br>DR N. BERLOFF W. F. 12<br>Complex Analysis<br>PROF. A. J. SCHOLL Tu. Th. 9<br>Quantum Mechanics<br>DR A. KENT M. W. F. 11 (first sixteen lectures ending 24 Feb.)<br>Groups, Rings and Modules<br>DR C. J. B. BROOKES M. W. F. 9<br>Statistics<br>PROF. R. R. WEBER Tu. Th. 10<br>Geometry<br>PROF. P. M. H. WILSON Tu. Th. 11<br>Electromagnetism<br>PROF. N. G. TUROK M. W. F. 10 (first sixteen lectures, ending 23 Feb.)<br>Complex Methods<br>PROF. F. QUEVEDO Tu. Th. 12 | Numerical Analysis<br>PROF. A. ISERLES M. W. F. 12 (Twelve lectures)<br>Optimization<br>DR M. R. TEHRANCHI M. W. F. 11 (Twelve lectures)<br>Metric and Topological Spaces<br>DR I. SMITH M. W. F. 10 (Twelve lectures)<br>Special Relativity<br>PROF. M. B. GREEN Tu. Th. 10 (Eight lectures) |

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# Faculty of Mathematics (continued)

## MATHEMATICAL TRIPOS, PART IB (continued)

| MICHAELMAS 2006 | LENT 2007 | EASTER 2007 |
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**Non-Examinable Courses**

Topics in the History of Mathematics: Ancients to the Renaissance
DR P. BURSILL-HALL W. F. 4 , *Centre for Mathematical Sciences, Room 9*

Topics in the History of Mathematics: Renaissance to the 19th Century
DR P. BURSILL-HALL W. F. 4, *Centre for Mathematical Sciences, Room 9*

## MATHEMATICAL TRIPOS PART II

Lectures will be held in the Meeting Rooms (MR) of the *Centre for Mathematical Sciences, Clarkson Road*, unless otherwise stated.
A meeting will be held on Wednesday, 13 June 2007 for finalists who may continue to Part III of the Tripos in 2007–08. The meeting will be held in *MR2 at the Centre for Mathematical Sciences* at 11.15 a.m.

### C COURSES

Geometry and Groups
DR T. K. CARNE M. W. F. 9, *MR 3*
Coding and Cryptography
DR T. A. FISHER Tu. Th. S. 9, *MR 3*
Mathematical Biology
PROF. T. J. PEDLEY M. W. F. 12, *MR 2*
Further Complex Methods
DR S. T. C. SIKLOS Tu. Th. S. 12, *MR2*
Classical Dynamics
PROF. J. C. B. PAPALOIZOU M. W. F. 11, *MR 3*
Computational Projects
DR N. NIKIFORAKIS AND OTHERS M. W. F. 2 (six lectures), *MR 2*

Number Theory
PROF. J. H. COATES M. W. F. 10, *MR 3*
Topics in Analysis
PROF. T. W. KÖRNER M. W. F. 9, *MR 3*
Statistical Modelling
TBC M. W. F.11, *MR 3*
Dynamical Systems
PROF. J. R. LISTER Tu. Th. S. 10, *MR 3*
Cosmology
DR E. P. S. SHELLARD M. W. F. 12, *MR 3*

### D COURSES

Linear Analysis
DR M. DAFERMOS Tu. Th. S. 10, *MR 4*
Principles of Quantum Mechanics
DR J. M. EVANS M. W. F. 9, *MR 2*
Galois Theory
PROF. I. GROJNOWSKI Tu. Th. S. 12, *MR 5*
Riemann Surfaces
DR A. G. KOVALEV Tu. Th. S.11, *MR 13*
Algebraic Topology
PROF. B. J. TOTARO M. W. F. 12, *MR 5*
Probability and Measure
DR S. GROSSKINSKY M. W. F. 10, *MR 3*
Principles of Statistics
PROF. L. C. G. ROGERS M. W. F. 11, *MR 5*
Optimization and Control
PROF. J. R. NORRIS Tu. Th. 11, *MR 3*
Partial Differential Equations
DR D. M. A. STUART Tu. Th. S. 9, *MR 4*
Electrodynamics
DR J. M. STEWART Tu. Th.10, *MR 14*
Fluid Dynamics
PROF. M. R. E.PROCTOR M. W. F. 10, *MR 5*
Computational Projects
DR N. NIKIFORAKIS AND OTHERS M. W. F. 2 (six lectures), *MR 2*

Number Fields
DR M. STRAUCH Tu. Th. 12, *MR 13*
Graph Theory
DR O. M. RIORDAN M. W. F. 12, *MR 2*
Representation Theory
PROF. J. SAXL Tu. Th. S. 10, *MR 5*
Asymptotic Methods
DR P. D. D'EATH Tu. Th. 10, *MR 4*
Logic and Set Theory
PROF. P. T. JOHNSTONE M. W. F. 11, *MR 4*
Differential Geometry
DR G. P. PATERNAIN Tu. Th. S. 9, *MR 4*
Applied Probability
PROF. Y. M. SUHOV Tu. Th. S. 11, *MR 4*
Stochastic Financial Models
DR P. K. FRIZ M. W. F. 9, *MR 2*
Integrable Systems
PROF. A. FOKAS Tu. Th. 12, *MR 4*
Applications of Quantum Mechanics
PROF. N. S. MANTON Tu. Th. S. 9, *MR 2*
Statistical Physics
DR M. WINGATE Tu. Th. 11, *MR 3*
General Relativity
PROF. H. OSBORN M. W. 10, *MR 2*
Waves
DR J. M. RALLISON M. W. F.11, *MR 2*
Numerical Analysis
DR A. SHADRIN M. W. F. 9, *MR 4*

**Non-Examinable Courses**

Topics in the History of Mathematics: Ancients to the Renaissance
DR P. BURSILL-HALL W. F. 4 , *Centre for Mathematical Sciences, Room 9*

Topics in the History of Mathematics: Renaissance to the 19th Century
DR P. BURSILL-HALL W. F. 4, *Centre for Mathematical Sciences, Room 9*

# Faculty of Mathematics (continued)

## 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 *MR 2* on Wednesday, 4 October 2006 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 MR 2, Centre for Mathematical Sciences, at 4.15 p.m. on the following topics:*
10 October 2006: PhD applications to Cambridge and other universities
18 October 2006: Exams and lectures
25 October 2006: How to write a Part III essay
22 November 2006: Research opportunities in Cambridge
2 May 2007: Exams

**MICHAELMAS 2006** **LENT 2007** **EASTER 2007**

## DEPARTMENT OF APPLIED MATHEMATICS AND THEORETICAL PHYSICS

General Relativity
DR J. M. STEWART M. W. F. 10, *MR 2*
Structure and Evolution of Stars
PROF. J. C. B. PAPALOIZOU M. W. F. 12, *MR 3*
Perturbation and Stability Methods
DR J. M. RALLISON AND DR S. J. COWLEY M. W. F. 12, *MR 4*
Symmetry and Particle Physics
DR J. B. GUTOWSKI M. W. F. 11, *MR 9*
Magnetohydrodynamics and Turbulence
DR A. SCHEKOCHIHIN M. W. 11, *MR 12*
Fundamentals of Atmosphere-Ocean Dynamics
PROF. M. E. MCINTYRE M. W. F. 9, *MR 14*
Slow Viscous Flows
DR J. R. LISTER M. W. F. 10, *MR 15*
Quantum Field Theory
DR D. TONG Tu. Th. S. 9, *MR 2*
Cosmology
PROF. N. G. TUROK Tu. Th. S. 10, *MR 2*
Introduction to Quantum Computation
PROF. A. EKERT Tu. Th. 12, *MR 3*
Astrophysical Fluid Dynamics
DR G. I. OGILVIE Tu. Th. S. 11, *MR 9*
Numerical Solution of Differential Equations
PROF. A. ISERLES Tu. Th. S. 12, *MR 9*
Nonlinear Continuum Mechanics
PROF. J. R. WILLIS Tu. Th. S. 10, *MR 11*
Computational Methods in Fluid Mechanics
PROF. E. J. HINCH Tu. Th. 9, *MR 15*
(non-examinable, but essays will be set)
Computer-aided Geometric Design
DR M. A. SABIN Tu. Th. 11, *MR 14*

Physical Cosmology
PROF. M. PETTINI M. W. F. 10, *MR 4*
The Standard Model
DR B. ALLANACH M. W. F. 9, *MR 9*
Black Holes
PROF. M. J. PERRY M. W. F. 10, *MR 9*
String Theory
PROF. M. B. GREEN M. W. F. 11, *MR 9*
Supersymmetry and Extra Dimensions
PROF. F. QUEVEDO M. W. F. 12, *MR 9*
Symmetric Dynamical Systems
DR J. H. P. DAWES M. W. 10, *MR 14*
Stellar and Planetary Magnetic Fields
PROF. M. R. E. PROCTOR M. W. F. 9, *MR 15*
Control of Quantum Systems
DR S. SCHIRMER M. W. 2, *MR 15*
Computational Neuroscience
DR S. EGLEN Th. 2–4, *MR 12*
Advanced Quantum Field Theory
PROF. H. OSBORN Tu. Th. S. 11, *MR 2*
Quantum Information, Entanglement and Nonlocality
DR A. P. A. KENT Tu. Th. 12, *MR 3*
Advanced Cosmology
DR E. P. S. SHELLARD Tu. Th. 9, *MR 9*
Imaging, boundary value problems and integrability
PROF. A. FOKAS Tu. Th. S. 10, *MR 14*
Astrophysical Dynamics
DR N. W. EVANS Tu. Th. S. 11, *MR 14*
Quantum Fluids
DR N. BERLOFF Tu. Th. 11, *MR 15*
The Fluid Dynamics of Swimming Organisms
PROF. T. J. PEDLEY Tu. Th. 12, *MR 15*
Accretion Discs
PROF. J. E. PRINGLE Tu. Th. 10, *MR 13*
Classical Wave Scattering
DR O. RATH-SPIVACK M. W. 11, *MR 14*
The Polar Ocean and Climate Change
PROF. P. WADHAMS Tu. Th. S. 10, *MR 15*
(Sixteen lectures, 3 per week, 1st half of Term)
Environmental Fluid Mechanics
DR S. DALZIEL M. W. 12, *MR 15*
Demonstrations in Fluid Dynamics
DR S. DALZIEL Th. 2, *GK Batchelor Laboratory, CMS* (non-examinable)

Supergravity
PROF. A. C. DAVIS M. Tu. Th. F. 10, *MR 9*
Solitons and Instantons
DR M. DUNAJSKI M. Tu. Th. F. 11, *MR 9*
Systems Biology
PROF. S. TAVARÉ AND DR J. PAULSON
TBA

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# Faculty of Mathematics (continued)

## MATHEMATICAL TRIPOS, PART III (continued)

**MICHAELMAS 2006** **LENT 2007** **EASTER 2007**

## DEPARTMENT OF PURE MATHEMATICS AND MATHEMATICAL STATISTICS

A number of courses given by the Statistical Laboratory are available both to candidates for Part III and for the M.Phil. in Statistical Science.

Introduction to Functional Analysis
PROF. T. W. KÖRNER Tu. Th. S. 9, *MR 5*
Toric Geometry
PROF. P. M. H. WILSON M. W. F. 10, *MR 14*
Differential Geometry
DR G. P. PATERNAIN Tu. Th. S. 9, *MR 9*
Noetherian Algebras
DR S. J. WADSLEY Tu. Th. S. 12, *MR 13*
Ramsey Theory
PROF. I. B. LEADER Tu. Th. 12, *MR 4*
Combinatorics
PROF. A. G. THOMASON Tu. Th. 11, *MR 4*
Algebraic Topology
PROF. B. J. TOTARO M. W. F. 11, *MR 13*
Category Theory
PROF. P. T. JOHNSTONE M. W. F. 9, *MR 5*
Finite Dimensional Lie Algebras and their Representations
PROF. I. GROJNOWSKI M. W. F. 12, *MR 13*
Analysis of Operators
DR A. J. WASSERMAN M. W. F. 10, *MR 13*
Topics in Group Theory
DR R. I. LAWTHER Tu. Th. S. 10, *MR 3*
Local Fields
DR T. DOKCHITSER Tu. Th. 10, *MR 5*

***Courses given by the Statistical Laboratory***
Advanced Financial Models
DR D. P. KENNEDY M. W. F. 9, *MR 9*
Stochastic Networks
PROF. F. P. KELLY M. W. F. 10, *MR 4*
Statistical Theory
DR R. J. SAMWORTH Tu. Th. 10, *MR 12*
Rough Path Theory and Applications
DR P. K. FRIZ Tu. Th. 11, *MR 12*
Advanced Probability
DR G. MIERMONT M. W. F. 11, *MR 4*
Information and Coding
PROF. Y. M. SUHOV Tu. Th. 9, *MR 13*
Mathematics of Operational Research
PROF. R. R. WEBER M. W. F. 12, *MR 9*

Applied Statistics
DR S. M. PITTS Tu. Th. 12, *MR 12* (Eight lectures and eight classes)
Applied Multivariate Analysis
PROF. S. P. BROOKS M. W. 11, *MR 14*

Combinatorial Probability
PROF. B. BOLLOBAS Tu. Th. 11, *MR 9*
Geometry of Surfaces
DR I. SMITH M. W. F. 11, *MR 13*
3-manifolds
DR V. EASSON Tu. Th. 11, *MR 11*
Spectral Geometry
DR D. BARDEN M. W. F. 10, *MR 13*
Algebraic Curves
PROF. N. I. SHEPHERD-BARRON Tu. Th. S. 10, *MR 11*
Set Theory and Logic
DR T. E. FORSTER Tu. Th. S. 9, *MR 13*
Complex Manifolds
DR A. G. KOVALEV M. W. F. 9, *MR 5*
Modular Representation Theory of Finite Groups
DR S. MARTIN M. W. F. 9, *MR 11*
Elliptic Curves
DR T. A. FISHER Tu. Th. S. 12, *MR 5*
Additive Number Theory
PROF. B. J. GREEN M. W. F. 11, *MR 5*
Isoperimetry and Concentration of Measure
DR D. J. H. GARLING Tu. Th. 12, *MR 11* and F. 10, *MR 12*
Modular Forms
DR T. BERGER Tu. Th. S. 9, *MR 12*
Pro-p Groups
DR R. CAMINA M. W. F. 10, *MR 11*
Cobordism
DR K. FELDMAN M. W. F. 12, *MR 5*
Birational Geometry
DR C. BIRKAR M. W. F. 11, *MR 11*
Riemann Surfaces and Discrete Groups
DR T. K. CARNE M. W. F. 12, *MR 13*
Reading Course on Quantum Groups
DR M. BATCHELOR TBA

***Courses given by the Statistical Laboratory***
Time Series+
DR S. PITTS M. W. F. 9, *MR 12* (Eight lectures)
Monte Carlo Inference+
DR R. B. GRAMACY AND DR R. J. SAMWORTH M. W. F. 9, *MR 12* (Sixteen lectures starting 7 Feb.)
Optimal Investment
DR M. TEHRANCHI Tu. Th. 12, *MR 9*
Stochastic Calculus and Applications
PROF. J. R. NORRIS AND DR S. GROSSKINSKY M. W. F. 10, *MR 5*
Survival Data++
DR F. P. TREASURE Tu. Th. 12, *MR 12* (Ten lectures and two classes, starting 23 Jan.)
Interacting Particle Systems
PROF. G. R. GRIMMETT M. W. F. 9, *MR 13*
Actuarial Statistics
DR S. M. PITTS Tu. Th. 11, *MR 12*
Quantum Information Theory
DR N. DATTA M. W. F. 11, *MR 12*
The Spread of Epidemics and Rumours
DR M. DRAIEF AND DR L. MASSOULIE Tu. Th. 9, *MR 5*
Statistics in Medical Practice++
DR S. BIRD, DR V. FAREWELL AND DR D. SPIEGELHALTER W. 4–6 p.m., *MR 13* (Six hours)
Nonparametric Statistical Theory
DR R. J. SAMWORTH M. W. 12, *MR 12*
Stochastic Loewner Evolutions
PROF. J. R. NORRIS M. W. 12, *MR 14*

Applied Statistics
DR B. D. M. TOM Tu. Th. 10, *MR 12* (Four lectures and four classes)

**+These two courses constitute the twenty-four hour course in Time Series and Monte Carlo Inference**
**++These two courses constitute the sixteen hour course in Biostatistics**

# Faculty of Mathematics (continued)

## MATHEMATICAL TRIPOS, PART III (continued)

**MICHAELMAS 2006** | **LENT 2007** | **EASTER 2007**

## COURSES INTENDED FOR GRADUATES (non-examinable)

Quine's Set Theory
DR T. E. FORSTER Th. 4–6, *MR 9* (Four lectures, starting 9 Nov.)
Root Numbers
PROF. J. H. COATES M. W. F. 10, *MR 12*
Philosophy of Classical and Quantum Mechanics
PROF. J. BUTTERFIELD M. 4.30–6, *MR 14*
L-functions and Motives
PROF. A. J. SCHOLL Tu. Th. S. 11, *MR 11*
Geometric Function Theory
PROF. A. F. BEARDON Tu. Th. 10, *MR 13*

Philosophy of Classical and Quantum Mechanics
PROF. J. BUTTERFIELD M. 4.30–6, *MR 14*

Quine's Set Theory
DR T. E. FORSTER Th. 4–6, *MR 9* (Four lectures)

Philosophy of Classical and Quantum Mechanics
PROF. J. BUTTERFIELD M. 4.30–6, *MR 14*

Brain Imaging in Realistic Ellipsoidal Geometry
PROF. G. DASSIOS W. F. 2, *MR 11*
Philosophy of Classical and Quantum Mechanics
PROF. J. BUTTERFIELD M. 4.30–6, *MR 14*

Topics in Stochastic Analysis
DR P. K. FRIZ M. W. F. 11, *MR 12* (Eight lectures)

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# Faculty of Mathematics (continued)

## M.PHIL. IN STATISTICAL SCIENCE

Lectures are held in the *Centre for Mathematical Sciences*, unless otherwise stated

| MICHAELMAS 2006 | LENT 2007 | EASTER 2007 |
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| Introduction to Probability<br>DR M. TEHRANCHI Tu. Th. 9, *MR 12*<br>Statistical Theory*<br>DR R. J. SAMWORTH Tu. Th. 10, *MR 12*<br>Mathematics of Operational Research*<br>PROF. R. R. WEBER M. W. F. 12, *MR 9*<br><br><br>Applied Statistics*<br>DR S. M. PITTS Tu. Th. 12, *MR 12* (Eight lectures and eight classes)<br>Tu. Th. 10, *MR 12* (Four lectures and four classes)<br>Advanced Financial Models<br>DR D. P. KENNEDY M. W. F. 9, *MR 9*<br>Stochastic Networks<br>PROF. F. P. KELLY M. W. F. 10, *MR 4*<br>Applied Multivariate Analysis<br>PROF. S. P. BROOKS M. W. 11, *MR 14* | Time Series+<br>DR S. PITTS M. W. F. 9, *MR 12* (Eight lectures)<br>Monte Carlo Inference+<br>DR R. B. GRAMACY AND DR R. J. SAMWORTH M. W. F. 9, *MR 12* (Sixteen lectures, starting 7 Feb.)<br>Survival Data++<br>DR F. P. TREASURE Tu. Th. 10, *MR 12* (Ten lectures and two classes, starting 23 Jan.)<br>Actuarial Statistics<br>DR S. M. PITTS Tu. Th. 11, *MR 12*<br>Statistics in Medical Practice++<br>DR S. BIRD, DR V. FAREWELL AND DR D. SPIEGELHALTER W. 4–6 p.m., *MR 13* (Six hours)<br>Nonparametric Statistical Theory<br>DR R. J. SAMWORTH M. W. 12, *MR 12* | Applied Statistics (continued)<br>DR B. D. M. TOM |

Candidates will be expected to have attended the basic courses (marked *) and an appropriate number of courses (and all will receive advice individually about this). Subject to the approval of the M.Phil. examiners, they may also offer for examination any Part III courses given by the Statistical Laboratory.

**+These two courses constitute the twenty-four hour course in Time Series and Monte Carlo Inference**

**++These two courses constitute the sixteen hour course in Biostatistics**

## M.PHIL. IN COMPUTATIONAL BIOLOGY

Lectures are held in the *Centre for Mathematical Sciences*, unless otherwise stated.

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| Disease Dynamics<br>DR J. GOG AND OTHERS Th. 10–12, Nov. 2, 9, 23, 30 *MR 15*<br>Genome Informatics<br>DR L. SMINK Tu. 9–11, *Computer Laboratory, CMS*<br>Functional Genomics<br>DR S. EGLEN W. 11–1, *MR 15*<br><br><br>Seminar Series<br>W. 2–4, *MR 5* | Disease Dynamics<br>DR J. GOG AND OTHERS Th. 10–11, *MR 12* (Eight hours)<br>Statistical Methods in Bioinformatics<br>PROF. S. TAVARÉ AND OTHERS M. W. 10–11, *MR 15*<br>Computational Neuroscience<br>DR S. EGLEN Th. 2–4, *MR 12*<br>Monte Carlo Inference<br>DR R.B. GRAMACY AND DR R. J. SAMWORTH M. W. F. 9, *MR 12* (Sixteen lectures, starting 7 Feb.)<br>Seminar Series<br>W. 2–4, *MR 5* | Systems Biology<br>DR J. PAULSSON AND PROF. S. TAVARÉ M. Tu. W. Th. 4–6, *MR 5* (Sixteen hours)<br>Methods and Models in Genomics<br>DR P. LIO W. F. 11–1, *MR 5* |

## OTHER MEETINGS

A meeting will be held on 5 October 2006 at 2 p.m. in *MR 4* for new supervisors (primarily those new to Cambridge).
A seminar will be held on 10 October 2006 at 2 p.m. in *MR 4* for all supervisors.