

MATHEMATICAL TRIPOS PART III

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

All Part III and PhD students in the Faculty are able to self-enrol on Part III Moodle courses; they will be sent instructions on how to do so. All other members of the University wishing to access these courses are requested to complete the [relevant form in the Part III Guide to Courses](#).

There will be a meeting on the morning of Wednesday 5 October for those intending to offer courses in Part III. Students should refer to the [Notes for New Part III Students](#) for further details.

There is a series of meetings for Part III students on Wednesdays at 4.15pm. Students are invited to refer to the [Part III Handbook](#) for more details.

For a personalised version of the timetable, which you can import into your own electronic calendar, please see <http://www.timetable.cam.ac.uk>.

MICHAELMAS 2022

General Relativity

Prof. C. M. Warnick
M. W. F. 9, *MR2*

Introduction to Non-Linear Analysis

Prof. P. Raphael
M. W. F. 9, *MR4*

Biological Physics and Fluid Dynamics

Prof. R. Goldstein
M. W. F. 9, *MR12*

Lattice Models

Prof. R. Bauerschmidt
M. W. F. 9, *MR13*

LENT 2023

String Theory

Prof D. B. Skinner
M. W. F. 9, *MR2*

Stochastic Calculus and Applications

Prof. J. Miller
M. W. F. 9, *MR5*

Algebraic Number Theory

Dr H. Wiersema
M. W. F. 9, *MR9*

Non-Newtonian Fluid Mechanics ‡

Prof. E. Lauga
M. W. 9, *MR12*
Additional Lecture Fri 10 Feb 9am, *MR12*

EASTER 2023

Gauge/Gravity Duality

Dr A. C. Wall
M. Tu. Th. F. 10, *MR3*

Applications of Quantum Field Theory

Prof. S. A. Hartnoll
M. Tu. Th. F. 11, *MR3*

Cosmology

Prof. B. D. Sherwin
M. W. F. 10, *MR2*

Algebraic Geometry

Dr D. Ranganathan
M. W. F. 10, *MR5*

Advanced Probability

Prof. P. Sousi
M. W. F. 10, *MR9*

Slow Viscous Flow ‡

Prof. J. R. Lister
M. W. F. 10, *MR12*

Representation Theory of Symmetric Groups

Dr S. Law
M. W. F. 10, *MR13*

Combinatorics ‡

Prof. B. Bollobas
M. W. F. 11, *MR3* (sixteen lectures)

Algebraic Topology

Prof. J. Rasmussen
M. W. F. 11, *MR5*

Astrophysical Fluid Dynamics

Prof. R. Rafikov
M. W. F. 11, *MR12*

Dynamics of Astrophysical Discs

Prof. G. I. Ogilvie
M. W. 9, *MR13*

Black Holes

Prof. J. E. Santos
M. W. F. 10, *MR3*

Elliptic Curves ‡

Prof. T. A. Fisher
M. W. F. 10, *MR4*

Advanced Financial Models

Prof. M. R. Tehranchi
M. W. F. 10, *MR5*

Unbounded Operators and Semigroups

Prof. D. M. A. Stuart
M. W. 10, *MR12*

Bayesian Modelling and Computation

Dr S. Bacallado
M. W. F. 10, *MR13*

Statistical Learning in Practice

Dr R. Altmeyer
M. W. F. 11, *MR4* 12+12

Abelian Varieties

Prof. A. J. Scholl
M. W. 11, *MR5*

Quantum Computation

Dr S. Strelchuk
M. W. F. 11, *MR13*

Numerical Solution of Differential Equations

Prof. A. Iserles
M. W. F. 12, *MR4*

Modular Forms

Prof. J. Thorne
M. W. F. 12, *MR5*

Modern Statistical Methods

Prof. R. Shah
M. W. F. 12, *MR9*

Structure and Evolution of Stars

Dr A. N. Zytkov
M. W. F. 12, *MR11*

Fluid Dynamics of Climate

Prof. P. Haynes, Prof. J. R. Taylor
M. W. F. 12, *MR12*

Category Theory

Prof. P. T. Johnstone
Tu. Th. S. 9, *MR3*

Topics in Statistical Theory

Prof. R. Samworth
Tu. Th. 9, *MR5*

Solitons, Instantons and Geometry ‡

Prof. M. Dunajski
M. W. 11, *MR9*
Additional lecture on Fri 3 March, 11am, *MR9*
No lecture on 8 March

The Life and Death of Galaxies

Prof. V. Belokurov
M. W. F. 11, *MR11*

Field Theory in Cosmology

Prof. E. Pajer
M. W. F. 11, *MR12*

Large Cardinals ‡

Prof. B. Löwe
M. W. 11, *MR13*

Advanced Quantum Field Theory

Dr R. A. Reid-Edwards
M. W. F. 12, *MR2*

Characteristic Classes and K-Theory

Prof. O. Randal-Williams
M. W. F. 12, *MR5*

Elliptic Partial Differential Equations

Dr G. Taujanskas and TBD
M. W. F. 12, *MR12*

Model Theory

Dr S. Barbina
M. W. F. 12, *MR13* (sixteen lectures)

Modern Stellar Dynamics

Dr E. Vasiliev
Tu. Th. 9, *MR11*

Theoretical Physics of Soft Condensed Matter

Prof. M. Cates
Tu. Th. 9, *MR12*

Statistical Field Theory

Prof. C. E. Thomas
Tu. Th. 10, *MR3*

Commutative Algebra ‡

Dr O. Becker
Tu. Th. S. 10, *MR5*

Information Theory

Prof. I. Kontoyiannis
Tu. Th. 10, *MR9*

Extrasolar Planets: Atmospheres and Interiors

Dr N. Madhusudhan
Tu. Th. S. 10, *MR11*

Analysis of Partial Differential Equations

Prof. M. Dafermos
Tu. Th. S. 10, *MR13*

Symmetries, Particles and Fields

Prof. M. Wingate
Tu. Th. S. 11, *MR2*

Causal Inference

Dr Q. Zhao
Tu. Th. 11, *MR5*

Supersymmetry and Duality

Prof. D. Tong
Tu. Th. S. 9, *MR2*

Introduction to Computational Complexity

Prof. W. T. Gowers
Tu. Th. 9, *MR5*

Topics in Convex Optimisation

Prof. H. Fawzi
Tu. Th. 9, *MR9*

Schramm-Loewner Evolutions

K. Kavvadias
Tu. Th. 9, *MR13*

Ramsey Theory ‡

Prof. I. B. Leader
Tu. Th. 10, *MR3*

Complex Manifolds

Dr A. Kovalev
Tu. Th. S. 10, *MR5*

Astrophysical Black Holes

Dr D. Sijacki
Tu. Th. 10, *MR11*

Direct and Inverse Scattering of Waves

Dr O. Rath Spivack
Tu. Th. 10, *MR12*

Functional Data Analysis

Prof. J. Aston
Tu. Th. 10, *MR13*

Differential Geometry

Dr J. Smith
Tu. Th. S. 11, *MR9*

Logic and Computability

Dr J. V. Siqueira
Tu. Th. S. 11, *MR13*

Quantum Field Theory

Prof. N. Dorey
Tu. Th. S. 12, *MR2*

Extremal and Probabilistic Combinatorics ‡

Dr J. Sahasrabudhe
Tu. Th. 12, *MR4*

Statistics in Medical Practice +

Dr C. Jackson and colleagues
Tu. Th. 12, *MR11* (twelve lectures)

Perturbation Methods ‡

Dr S. J. Cowley
Tu. Th. 12, *MR12*

Local Fields

Dr R. Zhou
Tu. Th. S. 12, *MR13*

Functional Analysis ‡

Dr A. Zsak
Tu. Th. S. 11, *MR4*

Topological Quantum Matter

Prof. B. Béri
Tu. Th. 11, *MR5*

Analysis of Survival Data +

Dr P. Treasure
Tu. Th. 11, *MR9* (twelve lectures)

Hydrodynamic Stability ‡

Prof. R. R. Kerswell
Tu. Th. 11, *MR12*

Group Cohomology

Dr C. J. B. Brookes
Tu. Th. 11, *MR13*

The Standard Model

Prof. F. Quevedo
Tu. Th. S. 12, *MR3*

Lie Algebras and Their Representations

Prof. I. Grojnowski
Tu. Th. S. 12, *MR9*

Stochastic Processes in Biology

Dr M. Bruna
Tu. Th. 12, *MR12*

Concentration Inequalities

Dr V. Jog
Tu. Th. 12, *MR13*

Laboratory Demonstrations in Fluid Dynamics

Prof. S. Dalziel, Prof. J. Neufeld

W. 2-3:30, *Fluids Laboratory*

+ These two courses constitute the 24-lecture course in Statistics in Medicine. For examination purposes, Statistics in Medicine is considered a Lent term course.

‡ Recordings for these lectures will only be available in exceptional circumstances.