

NATURAL SCIENCES TRIPOS, PART IA

MICHAELMAS 2002

LENT 2003

EASTER 2003

LEARNING DAY

Wednesday, 9 October 2002: *Chemistry Lecture Theatre I, Lensfield Road*, 2–4.15 p.m.

This event will give new undergraduates an introduction to ‘the Cambridge teaching system’, study skills and stress management. The sessions are informal and detailed timetables are available from Senior Tutors.

BIOLOGY OF CELLS

Course Organiser: Dr P. Oliver E-mail: p.oliver@gen.cam.ac.uk

All lectures are in the *Babbage Lecture Theatre, New Museums Site* on M. W. F. 10.

DR S. H. P. MADDRELL
The Living Cell (Four lectures)

PROF. D. J. ELLAR
Macromolecules in the Cell (Five lectures)

DR M. TESTER
Membranes: Molecular Superstructure (Five lectures)

DR A. SMITH AND DR M. BRAND
Energy and Biosynthesis (Ten lectures)

DR A. MULLINGER, DR F. HOLLFELDER AND DR T. MARTIN
Practical Work

DR D. K. SUMMERS
Hunting the Gene (Seven lectures)

DR C. J. HOWE
Genes in Action (Six lectures)

PROF. D. GLOVER
The Genetic Revolution (Six lectures)

PROF. R. A. LASKEY
Cell Proliferation (Five lectures)

DR A. MULLINGER, DR M. SEGAL AND
DR N. STANDART
Practical Work

DR K. JOHNSTONE
Cell Signalling (Six lectures)

PROF. J. SMITH
Development (Six lectures)

DR H. SKAER AND OTHERS

Practical Work: demonstrations and revision

Practical work takes place in the *Zoological Laboratory* at 11–1 and 2–4 on M. or W. or F. For those doing Geology, practical times are 12–1 and 2–5; and for those doing Materials and Mineral Sciences times are 11–12 and 2–5. Students should register for all biological practical courses on Tuesday, 8 October between 2.00 and 3.30 in the *Senate House*.

CHEMISTRY

Course Organiser: Dr J. H. Keeler E-mail: James.Keeler@ch.cam.ac.uk

All lectures will be given in *Lecture Room 1, Department of Chemistry, Lensfield Road* on Tu. Th. S. 10

DR P. D. WOTHERS
Shapes and Structures of Molecules (Sixteen lectures)

DR J. H. KEELER
Introduction to Energetics and Kinetics (Three lectures)

DR S. BALASUBRAMANIAN
Reactions and Mechanisms in Organic Chemistry (Five lectures)

DR S. BALASUBRAMANIAN
Reactions and Mechanisms in Organic Chemistry (Seven lectures, continued)

DR J. H. KEELER
Energetics and Equilibria (Eight lectures)
Kinetics of Reactions (Nine lectures)

DR P. D. WOTHERS
Chemistry of the Elements (Twelve lectures)

Practical Chemistry: M. W. F. 10–12 or 11–1 and 2–5; Tu. Th. 1–1 and 2–5. Students should register in the *Department of Chemistry, Lensfield Road*, between 8.30 and 12.30 or 2 and 4.30 on Tuesday, 8 Oct. when they will be assigned attendance on the morning and afternoon periods of one particular day in either odd weeks (beginning Th. 10 Oct.) or even weeks (beginning Th. 17 Oct.) of the Michaelmas term.

ELEMENTARY MATHEMATICS FOR BIOLOGISTS

Course Organiser: Dr S. Hladky E-mail: sbh1@cam.ac.uk

Elementary Mathematics for Biologists is intended for students who do not have A-level Mathematics. It is to be noted that this course does not provide a qualification for offering Mathematics together with only one other subject in Part IB of the Natural Sciences Tripos.

Lectures will be given at 9 a.m. in the *Rayleigh Lecture Theatre, New Museums Site*

DR S. B. HLADKY
Introduction (One lecture, 11 Oct.) F.

DR S. B. HLADKY AND DR J. ROGERS
Algebra, Graphs and Trigonometry (Four lectures, 16–30 Oct.) W., (Three lectures, 1–11 Nov.) M. F.

PROF. P. A. MCNAUGHTON
Logarithms and Raising to Powers (Two lectures, 15, 18 Nov.) M. F.

DR R. W. BROADHURST
Calculus I. (Four lectures, 22 Nov.–2 Dec.) M. F.

DR S. B. HLADKY AND DR F. H. KING
Introduction to Computing and Excel (Five sessions) (14–28 Oct.) M. F. 8.30–10.00 *Titan Rooms 1 and 2, New Museums Site*

THE LECTURERS
Examples classes (Five classes, 6 Nov.–4 Dec.) W. 9
Large Classroom, Department of Pharmacology

DR R. W. BROADHURST
Calculus II (Six lectures, 17 Jan.–3 Feb.) M. F.

DR M. AITKIN AND DR M. PIMM-SMITH
Statistics (Ten lectures, 7 Feb.–10 Mar.) M. F.

THE LECTURERS
Examples classes (Eight classes, 22 Jan.–12 Mar.) W. 9 *Large Classroom, Department of Pharmacology*

DR S. HLADKY
Curve Fitting (Two lectures, 25, 28 Apr.) M. F.

PROF. P. A. MCNAUGHTON
Frequency Analysis (Two lectures, 2, 5 May) M. F.

THE LECTURERS
Revision lectures (Three lectures, 9–16 May) M. F.

THE LECTURERS
Examples classes (One class, 30 Apr.) W. 8.30–10 *PWF facility, Titan Rooms* (Three classes, 7–21 May) W. 9 *Large Classroom, Department of Pharmacology*

Examples classes: Two of the exercises in each of the Michaelmas and Lent terms and one from the Easter term will be assessed with marks counting towards the examination.

NATURAL SCIENCES TRIPOS, PART IA (continued)

MICHAELMAS 2002

LENT 2003

EASTER 2003

EVOLUTION AND BEHAVIOUR

Course Organiser: Dr M. E. N. Majerus E-mail: m.majerus@gen.cam.ac.uk

All lectures are held at Tu. Th. Sa. 11

DR W. A. FOSTER
Introduction to Evolutionary Biology (Four lectures)

DR M. E. N. MAJERUS
Evolutionary Genetics (Eight lectures)

DR C. J. HOWE
Early Events in Evolution (Three lectures)

PROF. J. PARKER
The Origin and Evolution of Plants (Five lectures)

DR B. J. GLOVER
Diversification of Plants (Four lectures)

PROF. M. E. AKAM
The Evolution and Diversity of Animals (Six lectures)

DR R. S. K. BARNES
Major Changes and Major Constraints in Animal Evolution (Six lectures)

DR N. CLAYTON, PROF. E. B. KEVERNE AND PROF. A. DICKINSON
Evolution of Behaviour (Twelve lectures)

DR P. C. LEE, PROF. A. DICKINSON, DR R. A. FOLEY, DR N. CLAYTON AND PROF. N. MASCIÉ-TAYLOR
Primate and Human Evolution and Behaviour (Twelve lectures)

Practical work: M. 12–5 (alternate weeks) or Tu. 12–5 (alternate weeks) *Department of Zoology*. Students should register for all biological practical courses on Tuesday, 8 October between 2.00 and 3.30 in the *Senate House*.

GEOLOGY

Course Organiser: Dr A. G. Smith E-mail: ags1@esc.cam.ac.uk

All lectures are given in the *Physiology Lecture Room*, adjacent to the *Department of Earth Sciences*, on M. W. F. 11

DR J. A. JACKSON, DR J. BUNBURY AND DR A. G. SMITH
Earth as a Planet and Volcanic Processes (Twenty-four lectures)

PROF. S. CONWAY-MORRIS
Palaeobiology (Eleven lectures)

DR N. HOVIUS
Earth Surface Processes and Sediments (Twelve lectures)

A. N. OTHER
Introduction to Geology of Arran (One lecture)

Field Course in Arran
Party A. 13–21 March
Party B. 20–28 March
Party C. 27 March–4 April

DR N. H. WOODCOCK
Historical Geology of Britain and Ireland (Five lectures)

DR J. A. JACKSON, PROF. S. CONWAY-MORRIS AND DR N. HOVIUS
Global Change and Hazards (Seven lectures)

Practical work: There are three one-hour practicals to be taken per week: students choose one from each set (Set 1: F. 12, S. 10, M. 9, M. 10; Set 2: M. 12, Tu. 10, W. 9, W. 10; Set 3: W. 12, Th. 10, F. 9, F. 10). Students must register for practical classes in the *Department of Earth Sciences* on Tuesday, 8 October between 9.30 and 1 or 2.30 and 5.

Long Vacation Course: A course on Geological Field Methods will be given 22 September–2 October 2003 for students intending to take a geological subject.

MATERIALS AND MINERAL SCIENCES

Course Organiser: Dr J. A. Little E-mail: Part IA@msm.cam.ac.uk

This course is offered jointly by the Department of Materials Science and Metallurgy and the Department of Earth Sciences.

All lectures are held in the *Physiology Lecture Theatre* on M. W. F. 12

PROF. M. A. CARPENTER
Structure of Materials (Twelve lectures)

DR T. J. MATTHAMS
Mechanical Behaviour (Twelve lectures)

DR Z. H. BARBER
Phase Equilibria (Eight lectures)

DR J. A. LITTLE
Diffraction and Imaging (Ten lectures)

DR I. FARNAN
Functional Properties of Materials (Six lectures)

PROF. W. BONFIELD
Bio-Medical Materials (Six lectures)

PROF. A. L. GREER
Materials in Practice (Six lectures)

Practical work: Two two-hour periods each week, one to be taken on M. 2–4, Tu. 11–1, W. 10–12 or W. 2–4; and the other on Th. 11–1, F. 10–12, F. 2–4 or M. 10–12, starting Thursday, 10 October at 11 a.m. Students should register for practical work at the *Tilley Lecture Theatre, Department of Earth Sciences* between 9.30 and 12.30 or 2.30 and 4.30 on Tuesday, 8 October.

Note: Students are advised to leave one or other of the periods Tu. 11–1 and Th. 11–1 available for the Computing Course for Physical Scientists (see p. 186).

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NATURAL SCIENCES TRIPOS, PART IA (continued)

MICHAELMAS 2002

LENT 2003

EASTER 2003

MATHEMATICS

Course Organiser: Email: nst@maths.cam.ac.uk

All students should also attend at least the first lecture of the Computing Course for Physical Scientists given in the Michaelmas Term (see below).

All lectures are held on Tu. Th. S. and will start at 9 a.m. promptly.

Course A

DR C. CLARKE

Mathematics I. *Physiological Laboratory***Examples Class** W. 4.30–6 (Two classes, 13, 27 Nov.)*Arts School, Room A*

DR J. M. RALLISON

Mathematics II. (Sixteen lectures, ending 20 Feb.) *Physiological Laboratory***Examples Class** W. 4.30–6 (Two classes, 5, 19 Feb.) *Arts School, Room A*

DR H. E. MASON

Mathematics III. *Physiological Laboratory***Course B**

DR R. ANSORGE

Mathematics I. *Chemical Laboratory***Examples Class** W. 4.30–6 (Four classes, 23 Oct., 6, 20 Nov., 4 Dec.) *Arts School, Room A*

DR M. G. WORSTER

Mathematics II. (Sixteen lectures, ending 20 Feb.) *Chemical Laboratory***Examples Class** W. 4.30–6 (Two classes, 12, 26 Feb.) *Arts School, Room A*

PROF. J. WILLIS

Mathematics III. *Lady Mitchell Hall, Sidgwick Site*

DR F. H. KING

Computing Techniques and Application. (Six lectures, beginning 22 Feb.) *Chemical Laboratory***Practical work.** see comment below

Associated with the Computing Techniques and Applications course there will be an assessed computing exercise which will be taken into account by the Examiners. The assessments will take place in the afternoons of 5, 6, and 7 May 2003 in the *Foyer of the Babbage Lecture Theatre*. Further details will be issued during the first lecture of the Computing Course for Physical Scientists (see below).

COMPUTING COURSE FOR PHYSICAL SCIENTISTS

Course A is intended to be that which is normally taken. **Course B** takes place outside lecture term and is intended for undergraduates reading Evolution and Behaviour. The two courses will be identical in content.

Course A

DR F. H. KING

Scientific Computing Tu. S. 11 (Six lectures, beginning 12 Nov.) or Th. S. 11 (Six lectures, beginning 14 Nov.) *Chemical Laboratory, Lensfield Road*

Practical work: Registration for a total of one hour of formal practical work will take place in the first lecture. The computing facilities used for the practical work will be available for informal use throughout the year.

Course B

DR F. H. KING

Scientific Computing Th. F. 9 (Two days, beginning 5 Dec.) *Titan Teaching Room, New Museums Site*

Practical work: Formal practical work will be included in the two-day period. The computing facilities used for the practical work will be available for informal use throughout the year.

NATURAL SCIENCES TRIPOS, PART IA (continued)

MICHAELMAS 2002

LENT 2003

EASTER 2003

PHYSICS

Course Organiser: Dr G. A. C. Jones E-mail: IA-physics@phy.cam.ac.uk

Courses A and B are alternatives which cover the same syllabus. Those intending to continue with physics in later years can attend either course without disadvantage. **Course A** may be more suitable for students who took single-subject mathematics at A-level. Students are recommended to attend **course PC** 'Computing Course for Physical Scientists' (see p. 186) unless they are familiar with spreadsheets and computer-aided algebra.

All lectures are on M. W. F. at 9

Course A is given in the *Cockcroft Lecture Theatre, New Museums Site*;*Course B* is given in the *Chemical Laboratory, Lensfield Road* in the Michaelmas and Lent Terms and in the *Lady Mitchell Hall, Sidgwick Site* in the Easter Term.**Course A**

DR D. A. GREEN
Mechanics and Relativity (First twenty lectures)
DR G. A. C. JONES
Fields, Oscillations and Waves (Last four lectures)

DR G. A. C. JONES
Fields, Oscillations and Waves (First sixteen lectures)
PROF. M. S. LONGAIR
Statistical and Quantum Physics (Last eight lectures)

PROF. M. S. LONGAIR
The same continued.

Course B

DR S. R. JULIAN
Mechanics and Relativity (First twenty lectures)
DR J. RILEY
Fields, Oscillations and Waves (Last four lectures)

DR J. RILEY
Fields, Oscillations and Waves (First sixteen lectures)
DR P. ALEXANDER
Statistical and Quantum Physics (Last eight lectures)

DR P. ALEXANDER
The same continued.

Course P

DR C. A. HANIFF AND OTHERS
Experimental Physics M. or Tu. or Th. or F. 2-6
Students attend one afternoon every fortnight.

DR G. A. C. JONES AND OTHERS
The same continued.

DR C. J. B. FORD AND OTHERS
The same continued.

Laboratory Work, course P, takes place at the *Cavendish Laboratory (West Cambridge)*. All students must attend an introductory talk and register for laboratory **course P** at 11.30 a.m. on Wednesday, 9 October at the *Cavendish Laboratory*. The Laboratory may be approached by the Madingley Road, or via the Coton cycle and footpath. For cyclists and pedestrians the latter is strongly recommended. **Laboratory work is continuously assessed.**

PHYSIOLOGY OF ORGANISMS

Course Organiser: Prof. A. C. Crawford

Further details at <http://www.physiol.cam.ac.uk/PartIA/PhysiolOfOrg.html>All lectures take place in the *Physiology Lecture Theatre 1* at Tu. Th. S. 12.

DR C. J. SCHWIENING
Cells in Water (Three lectures, 10-15 Oct.)
PROF. T. D. LAMB
Nerve, Synapse, and Sense Organs (Five lectures, 17-26 Oct.)
DR H. P. C. ROBINSON
The Structure and Function of Muscle (Three lectures, 29 Oct.-2 Nov.)
DR C. J. SCHWIENING
Cardiac Physiology (Three lectures, 5-9 Nov.)
DR M. J. MASON
Animal O₂ Acquisition and Respiration (Three lectures, 12-16 Nov.)
DR S. O. SAGE
Osmo- and Ionic Regulation in Animals (Four lectures, 19-26 Nov.)
DR D. J. TOLHURST
Animal Nutrient Acquisition (Three lectures, 28 Nov.-3 Dec.)

DR D. J. TOLHURST
Homeostatic Control (Five lectures, 16-25 Jan.)
DR M. TESTER
Plant Physiology: an Introduction (Four lectures, 28 Jan.-4 Feb.)
DR D. E. HANKE
Plant Hormones (Four lectures, 6-13 Feb.)
PROF. H. GRIFFITHS
Plant Adaptations and Interactions (Five lectures, 15-25 Feb.)
DR K. JOHNSTONE AND DR J. DAVIES
Physiology of Plant-Microbe Interactions (Six lectures, 27 Feb.-11 Mar.)

DR B. BOUTILIER
Integrative Animal Physiology (Six lectures, 24 Apr.-6 May)
DR D. J. TOLHURST
Food Intake and Energy Metabolism (Three lectures, 8, 13, 15 May)

Practical Work W. or F. 12-1 and 2-5

The same continued.

The same continued.

Practical Work: Students should register for all biological practical courses on Tuesday, 8 October between 2.00 and 3.30 in the *Senate House*.

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NATURAL SCIENCES TRIPOS, PART IA (continued) AND PART IB

MICHAELMAS 2002

LENT 2003

EASTER 2003

QUANTITATIVE BIOLOGY

Course Organiser: Prof. C. A. Gilligan E-mail: chris.gilligan@plantsci.cam.ac.uk

Quantitative Biology is intended for those students who have studied Mathematics at 'A' level. It is to be noted that Quantitative Biology does not provide a qualification for offering Mathematics in Part IB of the Natural Sciences Tripos.

New material, comprising the course syllabus will be presented in the Tuesday and Thursday lectures. Additional worked examples, together with revision to aid the transition from 'A' level will be presented in the Saturday lectures. There will be no more than six Saturday lectures during the Michaelmas and Lent terms and three in the Easter term.

Lectures will be held in the *Large Lecture Theatre, Department of Plant Sciences*, **Computer practicals in the Old Music School, Examples classes in the Arts School, Room B.**

Lectures. Tu. Th. 9

PROF. C. A. GILLIGAN

Introduction to the Growth and Decline of Populations
(Ten lectures, 10 Oct.–12 Nov.)

PROF. C. P. ELLINGTON

Physiological Modelling (Six lectures, 14 Nov.–3 Dec.)

MR J. J. TRAPP

Introduction to Modelling of Interacting
Populations (Seven lectures, 16 Jan.–
6 Feb.)

DR B. T. GRENFELL

Interacting Populations: Ecological
Applications (Four lectures, 11–20 Feb.)

DR W. AMOS

Introduction to Statistical Methods (Five
lectures, 25 Feb.–11 Mar.)

A. N. OTHER

Interacting Populations: Biochemical
Applications (Four lectures, 24 Apr.–
1 May)

DR W. AMOS

Introduction to Statistical Methods (Four
lectures, 6–15 May)**Supplementary lectures.** S. 9

These lectures are to aid the transition from A level, and to present worked examples from the syllabus.

Examples classes and Computer Practicals Th. 2–3.15, 3.30–4.45 or 4.45–6PROF. C. A. GILLIGAN, PROF. C. P. ELLINGTON AND DR R.
JOHNSTONEMR J. J. TRAPP, DR B. T. GRENFELL, DR W. AMOS,
AND DR R. JOHNSTONE

A. N. OTHER AND DR R. JOHNSTONE

PART IB

ADVANCED PHYSICS

Course Organiser: Dr R. D. E. Saunders E-mail IB-advanced-physics@phy.cam.ac.uk

Of the courses listed below, **F** and **G** are not examinable in Part IB. Although others may attend, **course F** is mainly for those expecting to proceed to Part II Experimental and Theoretical Physics and taking NST Part IB Mathematics (p. 193) in addition to Advanced Physics. An understanding of the content of this course will be assumed in discussion of the more theoretical topics in Parts II and III. **Course G** is intended for students who are not taking NST Part IB Mathematics.

Lectures are given in the *Cockcroft Lecture Theatre, New Museums Site*, unless otherwise stated.

Course D

DR J. ELLIS

Dynamics Tu. S. 9

DR R. D. E. SAUNDERS

Experimental Methods Th. 9

DR D. A. RITCHIE

Waves (First twelve lectures) M. W. F. 12

DR C. J. B. FORD

Electromagnetism (Last twelve lectures) M. W. F. 12

DR H. P. HUGHES

Optics (First twelve lectures) Tu. Th. S. 9

PROF. M. C. PAYNE

Quantum Mechanics I (Last twelve lectures)
Tu. Th. S. 9

PROF. M. C. PAYNE

The same continued

PROF. R. H. FRIEND

Condensed Matter Physics M. W. F. 12

Course F

PROF. P. B. LITTLEWOOD AND OTHERS

Examples Class in Mathematical Physics W. 2.15–4.15
20 Nov., 4 Dec. *Room A, Arts School, Bene't Street*
(Interleaves with the Mathematics examples class, p. 193.)

DR C. J. B. FORD

The same continued (First twelve lectures)

DR W. ALLISON

Thermal Physics (Last twelve lectures) M. W.
F. 12The same continued (22, 29 Jan., 5, 12, 26 Feb.,
5 Mar.)

The same continued (23, 30 Apr.)

Course G

DR S. WITHINGTON

Mathematical Concepts in Physics M. W. F. 11 (First
sixteen lectures) *Room A, Arts School, Bene't Street***Course R**

DR R. D. E. SAUNDERS AND OTHERS

Systems and Measurement. Tu. or Th. 10–6 or F. and
M. 2–6

DR J. R. COOPER AND OTHERS

Physics of Waves. Tu. or Th. 10–6 or F. and M.
2–6

Laboratory Work, course R, takes place at the *Cavendish Laboratory (West Cambridge)*. All students must attend an introductory talk and register for laboratory **course R** at 2.30 p.m. on Wednesday, 9 October at the *Cavendish Laboratory*. Classes are open at the hours listed above. Students are expected to attend for a period of not less than six hours each week. Those who are offering two other experimental sciences besides Advanced Physics may experience some difficulty in meeting this requirement and, if so, should consult Dr R. D. E. Saunders at the Cavendish Laboratory; special arrangements will be made in such cases. **Laboratory work is continuously assessed.**

NATURAL SCIENCES TRIPOS, PART 1B (continued)

MICHAELMAS 2002

LENT 2003

EASTER 2003

ANIMAL BIOLOGY

Course Organiser: Dr B. J. McCabe E-mail: B.j.mccabe@zoo.cam.ac.uk

Candidates who intend to read Part II Zoology and who have not taken Evolution and Behaviour are recommended to attend one of the Easter Vacation Field Courses (if running). Details are posted in the Laboratory.

Lectures will take place at the *Elementary Lecture Theatre Department of Zoology* unless otherwise stated, M. W. F. 11

Behaviour and Ecology

PROF. N. B. DAVIES AND PROF. P. P. G. BATESON
(Twelve lectures, beginning 11 Oct.)

Brains and Behaviour

PROF. S. B. LAUGHLIN AND PROF. M. BURROWS
(Twelve lectures, beginning 8 Nov.)

Adaptation and Evolution

DR S. H. P. MADDRELL AND DR W. A. FOSTER
Insect Biology (Twelve lectures, beginning
17 Jan.)

DR M. MASON AND DR A. E. FRIDAY
Vertebrate Evolutionary Biology (Twelve
lectures, beginning 14 Feb.)

Physiology and the Environment

PROF. C. P. ELLINGTON AND DR R. BOUTILLIER
(Twelve lectures, beginning W. 23 Apr.)
Note the early start of this course

Practical work: Students will be expected to do four hours practical work per week between 12 and 5 on Wednesdays or 11 and 5 on Thursdays. Students should register for all biological practical courses on Wednesday, 9 October between 11.00 and 12.15 in the *Senate House*.

BIOCHEMISTRY AND MOLECULAR BIOLOGY

Course Organiser: Dr T. R. Hesketh E-mail: trh12@mole.bio.cam.ac.uk

Note that some lectures begin earlier in Term, and end later in Term, than is usual. This is to allow more time between the end of the course and the examinations. Dr Hesketh will introduce the course as part of the first lecture on Friday 11 Oct.

Lectures are given in the *lecture theatre of the Sanger Building, Department of Biochemistry, Old Addenbrooke's Site M. W. F. 10.*

Genes and proteins; macromolecules in action

DR C. J. HOWE
Gene Cloning and Manipulation. Genetic Engineering.
(Five lectures, from 11 Oct.)

PROF. J. O. THOMAS
Control of Gene Expression: DNA Structure and
DNA-Protein Interactions (Five lectures, from
23 Oct.)

DR C. W. J. SMITH
Control of Gene Expression: Transcription, RNA
Processing and Translation (Five lectures, from
4 Nov.)

DR S. LOVELL
Protein Structure, Flexibility and Function (Five
lectures, from 15 Nov.)

DR F. HOLLFELDER
Enzyme Catalysis and Protein Engineering (Five
lectures, from 27 Nov.)

Energy transduction, cell signalling and cell proliferation

DR G. C. BROWN
Energy Transduction in Bacteria,
Mitochondria and Chloroplasts (Six
lectures, from 15 Jan.)

DR K. M. BRINDLE
Control of Metabolism (Six lectures, from
29 Jan.)

DR B. R. MARTIN
Transmembrane Signalling; Molecules and
Mechanisms (Six lectures, from 12 Feb.)

DR D. M. CARRINGTON
Control of Eukaryotic Cell Growth (Four
lectures, from 26 Feb.)

DR T. R. HESKETH
Oncogenes, Tumour Suppressor Genes and
Cancer (Four lectures, from 7 Mar.)

Biochemistry of microorganisms

DR H. WEBB
Biochemistry of Protozoa (Four lectures,
from 23 Apr.)

DR M. WELCH AND PROF. G. P. C. SALMOND
Bacterial Chemotaxis, Signalling and
Secretion Systems (Five lectures, from
2 May)

Practical work: Practicals are given at the *Hopkins Building, Department of Biochemistry, Downing Site* four hours from 11 a.m. on M. Tu. W. Th. or F. Students should register for all biological practical courses on Wednesday, 9 October between 11.00 and 12.15 in the *Senate House*.

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NATURAL SCIENCES TRIPOS, PART IB (continued)

MICHAELMAS 2002

LENT 2003

EASTER 2003

CHEMISTRY A

Course Organiser: Dr J. H. Keeler E-mail: James.Keeler@ch.cam.ac.uk

All lectures will be given in *Lecture Room 2, Department of Chemistry, Lensfield Road*, on
 Tu. Th. S. 12 unless indicated.

PROF. J.-P. HANSEN AND DR P. D. WOTHERS
 Quantum Mechanics and Spectroscopy (Seventeen
 lectures)
 DR A. J. STONE
 Symmetry and Bonding (Six lectures)

DR J. D. WALES
 Symmetry and Bonding, continued (Six
 lectures)
 DR J. H. KEELER
 Molecular Energy Levels and Thermodynamics
 (Fourteen lectures)
 DR T. R. RAYMENT
 Electrons in Solids (Four lectures)

DR T. RAYMENT
 Electrons in Solids, continued (Eleven
 lectures)

Practical Chemistry. Michaelmas and Lent Terms M. Tu. W. Th. F. 1.45–5 Students must register in the *Department of Chemistry, Lensfield Road*, between 9 and 1 or 2 and 4 on Tuesday, 8 October, when they will be assigned attendance in the afternoon of a particular day of the week for Chemistry A. All students must attend an introductory talk concerning the Chemistry A practical course on Wednesday, 9 October at 10.45 a.m. in *Lecture Theatre 1*.

CHEMISTRY B

Course Organiser: Dr J. H. Keeler E-mail: James.Keeler@ch.cam.ac.uk

All lectures will be given in *Lecture Room 2, Department of Chemistry, Lensfield Road*, on
 Tu. Th. S. 9 unless indicated.

DR S. G. WARREN AND DR J. W. BURTON
 Key Organic Reactions (Twelve lectures)
 DR J. DIXON
 Structure Determination (Six lectures)
 DR A. E. H. WHEATLEY
 Electron Deficient Compounds (Six lectures)

DR J. M. RAWSON
 Coordination Chemistry (Eight lectures)
 PROF. B. F. G. JOHNSON
 Organometallic Chemistry (Six lectures)
 DR J. M. GOODMAN AND DR W. T. S. HUCK
 Shape and Organic Reactivity (Ten lectures)

DR S. E. JACKSON AND DR F. J. LEEPER
 Introduction to Chemical Biology (Eleven
 lectures)

Practical Chemistry. Michaelmas and Lent Terms M. Tu. W. Th. F. 1.45–6 Students must register in the *Department of Chemistry, Lensfield Road* between 9 and 1 or 2 and 4 on Tuesday, 8 October, when they will be assigned attendance in the afternoon of a particular day of the week for Chemistry B. All students must attend an introductory talk concerning the Chemistry B practical course on Wednesday, 9 October at 10 a.m. in *Lecture Theatre 1*.

ECOLOGY

Course Organiser: Dr E. V. J. Tanner E-mail: edmund.tanner@plantsci.cam.ac.uk

Further details at <http://www.plantsci.cam.ac.uk/Plantsci/Courses.html>

All lectures will take place in the *Elementary Lecture Theatre, Department of Zoology*, on M. W. F. 9

DR R. S. K. BARNES
 The Global Marine Ecosystem (Six lectures, 11–23 Oct.)
 DR E. V. J. TANNER, PROF. H. GRIFFITHS AND
 DR D. A. COOMES
 The Ecology of Change (Eighteen lectures, 25 Oct.–
 4 Dec.)

PROF. N. B. DAVIES
 Predators and Prey (Six lectures, 17–29 Jan.)
 PROF. T. H. CLUTTON-BROCK
 Breeding Systems (Six lectures, 31 Jan.–12 Feb.)
 DR M. E. J. MAJERUS
 Ecological Genetics (Six lectures, 14–26 Feb.)
 DR B. T. GRENFELL
 Ecological Dynamics (Six lectures, 28 Feb.–
 12 Mar.)

DR E. V. J. TANNER
 Biodiversity (Six lectures, 23 Apr.–5 May)
Note the early start of this course
 DR A. P. BALMFORD
 Humans and Ecology (Six lectures, 7–19 May)

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NATURAL SCIENCES TRIPOS, PART 1B (continued)

MICHAELMAS 2002

LENT 2003

EASTER 2003

EXPERIMENTAL PSYCHOLOGY

Course Organiser: Dr J. Russell E-mail: jr111@cus.cam.ac.uk

Lectures will be held in *Lecture Theatre 3, Department of Physiology* at Tu. Th. S. 11.
 Practical work in the *Psychological Laboratory* unless otherwise stated.

PROF. B. C. J. MOORE AND OTHERS

Human Experimental Psychology: Perception; Attention;
 Memory; Action; Psycholinguistics (Twenty-four
 lectures, 10 Oct.–3 Dec.)

DR I. P. L. MCLAREN

Human learning and Memory (Seven lectures,
 16–30 Jan.)

DR H. E. MOSS

Neuropsychology (Two lectures, 1, 4 Feb.)

DR K. C. PLAISTED

Developmental Psychology (Six lectures,
 6–18 Feb.)

Reasoning (Three lectures, 20, 22, 25 Feb.)

Intelligence (Three lectures, 27 Feb., 1, 4 Mar.)

A. N. OTHER

Emotion and Motivation. (Three lectures, 6, 8,
 11 Mar.)

PROF. S. BARON-COHEN

Abnormal Psychology (Seven lectures,
 24 Apr.–8 May).

Practical Work. Tu. 9–11 or W. 10–12 or 2–4 and Th. 2–4 or F. 10–12 or 2–4. Two 2-hour sessions per week, one chosen from Tu. 9–11 or W. 10–12 or 2–4, and the other from Th. 2–4 or F. 10–12 or 2–4. The computing facilities used for the practical work will be available for informal use throughout the year. Students should register for all biological practical courses on Wednesday, 9 October between 11.00 and 12.15 in the *Senate House*.

FLUID MECHANICS

Course Organiser: Dr D. M. Scott E-mail: Tripos@cheng.cam.ac.uk

A detailed timetable will be displayed in the Department.

Lectures will be held in the *Department of Chemical Engineering, Pembroke Street*.

Fluid Mechanics

DR D. M. SCOTT
 M. W. F. 11 (Twenty-four lectures)

Transport Processes

DR D. I. WILSON
 M. W. F. 11 (Sixteen lectures)

Continuous Contacting Processes

PROF. A. N. HAYHURST
 M. W. F. 11 (Eight lectures)

Examples Classes

M. or W. 9–11

Practical Work

M. or W. 9–11 or M. 2–4

Transport Processes (continued)

DR D. I. WILSON
 M. W. F. 11 (Four lectures)

Reactors

DR H. A. CHASE
 M. W. F. 11 (Eight lectures)

Examples Classes

M. or W. 9–11

Examples Classes

M. or W. 9–11

Practical Work

M. or W. 9–11 or M. 2–4

Practical work: An introduction to the course will be given on Tuesday, 8 October, at 2 p.m. at the *Department of Chemical Engineering*, when students should register for practical work.

GEOLOGICAL SCIENCES A

Course Organiser: Dr C. De La Rocha E-mail: christina00@esc.cam.ac.uk

All lectures are in the *Tilley Lecture Room, Department of Earth Sciences* on M. W. F. 10

DR N. H. WOODCOCK

Maps and Structures (Eight lectures)

PROF. R. S. WHITE

Earth Systems (Eight lectures)

DR C. DE LA ROCHA

Evolution of the Hydrosphere (Eight lectures)

DR J. A. D. DICKSON

Biogenic and Chemical Sediments (Eight
 lectures)

PROF. I. N. MCCAVE

Mechanics of Sediment Transport and Clastic
 Sedimentology (Eight lectures)

DR N. J. BUTTERFIELD

Evolutionary Palaeobiology and
 Micropalaeontology (Eight lectures)

Introduction to Southwest England field trip.
 Th. 10 (13 Mar.)

Geological Sciences Field Class. (8–18 April)

DR D. B. NORMAN

Vertebrate Palaeontology (Five lectures)

DR N. H. WOODCOCK

Sedimentary Basins Reviewed (Five lectures)

Practical Work. There are three practicals per week of about 1½ hours: students choose one from each set (Set 1: F. 11–1, F. 2–4; Set 2: M. 11–1, M. 2–4, Tu. 10–1; Set 3: W. 11–1, W. 2–4, Th. 10–1). Students should go to the *Department of Earth Sciences* on Wednesday, 9 October, between 9.30 and 12.30, or 2.30 and 4.30, to register their choice of times from those available.

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NATURAL SCIENCES TRIPOS, PART IB (continued)

MICHAELMAS 2002

LENT 2003

EASTER 2003

GEOLOGICAL SCIENCES B

Course Organiser: Dr T. J. B. Holland E-mail: tjbh@esc.cam.ac.uk

All lectures are held in the *Tilley Lecture Room, Department of Earth Sciences* on M. W. F. 9

DR A. GALY
In the Beginning (Four lectures)

DR R. J. HARRISON
Crystallography and Optical Petrography (Five lectures)

DR R. J. HARRISON
Principles of Mineral Behaviour (Eight lectures)

DR D. M. PYLE
Introductory Igneous Petrology (Four lectures)

DR D. M. PYLE
Chemical Differentiation of the Earth (Three lectures)

PROF. M. J. BICKLE
Magmatic Settings (Five lectures)

DR M. B. HOLNESS
Metamorphic Mineralogy (Five lectures)

DR T. J. B. HOLLAND
Introduction to Metamorphism (Six lectures)

DR M. B. HOLNESS
From Microscopic Structure to Macroscopic Processes (Eight lectures)

Introduction to South West England field trip.
Th. 10 (13 Mar.)

Geological Sciences Field Class (8–18 April)

DR A. GALY
Evolution of the Himalayas (Five lectures)

DR J. BUNBURY
Igneous Case Studies (Four lectures)

Practical Work. There are three practicals per week of about 1½ hours each. Students should go to the *Department of Earth Sciences* on Wednesday, 9 October, between 9.30 and 12.30, or 2.30 and 4.30, to register their choices of times from those available, which are M. W. F. 11–1, Tu. Th. S. 9–12.

HISTORY AND PHILOSOPHY OF SCIENCE

Course Organiser: Dr J. Secord E-mail: jas1010@hermes.cam.ac.uk

All lectures will be delivered in *Mill Lane Lecture Room 1*

PROF. P. LIPTON
Philosophy of Science W. 5 (weeks 5–8); F. 5

DR S. SCHAFFER AND DR L. KASSELL
Natural Philosophy M. 5 (weeks 1–8); W. 5 (weeks 1–4)

DR J. SECORD, PROF. J. FORRESTER AND DR S. HODGES
History of Science and Medicine M. 5 (weeks 1–8); W. 5 (weeks 1–4)

DR T. LEWENS
Philosophy of Science F. 5 (weeks 1–8)

DR J. McMILLAN
The Role of the Mental in Psychological Explanation W. 5 (weeks 5–8)

DR J. SECORD, PROF. J. FORRESTER AND DR S. HODGES
History of Science and Medicine W. 5 (weeks 1–4)

DR R. JENNINGS AND DR A. HATTIANGADI
Ethics in Science and Medicine F. 5 (weeks 1–4)

DR M. KUSCH
Sociology of Scientific Knowledge M. 5 (weeks 1–4)

MATERIALS SCIENCE AND METALLURGY

Course Organiser: Dr J. A. Elliott E-mail: PartIB@msm.cam.ac.uk

All lectures will be delivered in the *Babbage Lecture Theatre* on Tu. Th. S. 10

DR E. R. WALLACH
Metals and Alloys (Twelve lectures)

DR G. T. BURSTEIN
Environmental Behaviour of Materials (Twelve lectures)

DR R. E. CAMERON
Polymers (Nine lectures)

DR S. M. BEST
Ceramics and Ionic Solids (Six lectures)

DR P. A. MIDGLEY
Electrical and Magnetic Properties of Materials (Nine lectures)

DR W. J. CLEGG
Mechanical Behaviour of Materials (Ten lectures)

Industrial Visits
Details to be announced

The same continued

Practical Work: Either Tu. 2–4 or Th. 2–4 or F. 9–11 and one further hour each week between 9–12.45 or 2–5 on any weekday. Students should register for practical classes in the *Department of Materials Science and Metallurgy* between 9.30 a.m. and 12.30 p.m. or 2.30 and 4.30 p.m. on Tuesday, 8 October or Wednesday, 9 October.

NATURAL SCIENCES TRIPOS, PART IB (continued)

MICHAELMAS 2002

LENT 2003

EASTER 2003

MATHEMATICS

Course Organiser: E-mail: nst@maths.cam.ac.uk

Students taking this course must also register electronically for the assessed **Computer Practical Course** before 7 November 2002. Details are given in the course booklet distributed at the first lecture of Mathematical Methods I in October 2002 and can also be found on www.maths.cam.ac.uk/undergrad/tripos/nstcomp/index.html.

All lectures will be delivered in the *Chemical Laboratory, Lensfield Road* on M. W. F. 11 unless otherwise stated

DR S. J. COWLEY
Mathematical Methods I.

Examples Class W. 2.15–4.15 (Two classes, 13, 27 Nov.)
Arts School Room A

DR M. SPIVACK
Mathematical Methods II.

Examples Class W. 2.15–4.15 (Two classes,
19 Feb., 12 Mar.) *Arts School Room A*

DR R. M. WILLIAMS
Mathematical Methods III. (Ten lectures)

Examples Class W. 2.15–4.15 (Two classes,
7, 14 May) *Arts School Room A*

The Examples Class interleaves with the Examples Class in Mathematical Physics (Part IB Advanced Physics Course F) (p. 188).

MINERAL SCIENCES

Course Organiser: Dr I. Farnan E-mail: i.farnan@esc.cam.ac.uk

All lectures are in the *New Seminar Room, Department of Earth Sciences* on Tu. Th. S. 11

DR M. WELCH
Degrees of Order in Solids (Fourteen lectures)
DR I. FARNAN
Transport Properties of Minerals (Ten lectures)

DR S. RIOS BANOS
Bonding and Lattice Dynamics (Six lectures)
DR S. A. T. REDFERN
Phase Transitions (Eight lectures)
PROF. M. A. CARPENTER
Symmetry and Physical Properties (Ten lectures)

DR E. ARTACHO
Applications of Mineral Sciences (Nine lectures)

Practical Work. M. F. 10–2 or 2–4. Students should register for practical work in the *Department of Earth Sciences (South Entrance)* between 9.30 a.m. and 1 p.m. or between 2.30 and 5 p.m. on Wednesday, 9 October.

MOLECULAR CELL BIOLOGY

Course Organiser: Prof. J. C. Gray E-mail: john.gray@plantsci.cam.ac.uk

Further details at: <http://www.bio.cam.ac.uk/teaching/MCB/>**Molecular Biology of the Cell Nucleus**

DR T. KRUDE
(Six lectures, 10–22 Oct.)
PROF. S. P. JACKSON
(Three lectures, 24–29 Oct.)

Genetic Systems of Prokaryotes

DR D. SUMMERS
(Three lectures, 31 Oct.–5 Nov.)
DR P. OLIVER
(Three lectures, 7–12 Nov.)

Genome Structure and Evolution

DR C. O'KANE
(Five lectures, 14–23 Nov.)

Molecular Genetics of Yeast Cells

DR D. M. MACDONALD
(Four lectures, 26 Nov.–3 Dec.)

Organelle Biogenesis

PROF. J. C. GRAY
(Six lectures, 14–25 Jan.)
Please note the early start of this course

Cytoskeleton

DR D. BRAY
(Four lectures, 28 Jan.–4 Feb.)

Membrane Traffic

DR S. MUNRO
(Four lectures, 6–13 Feb.)

Intracellular Communication

DR K. JOHNSTONE
(Two lectures, 15–18 Feb.)
DR H. SKAER
(Two lectures, 20–22 Feb.)

Development I

PROF. J. SMITH
(Four lectures, 25 Feb.–4 Mar.)

Development II

DR H. SKAER
(Four lectures, 6–13 Mar.)

Development III

PROF. M. AKAM
(Four lectures, 22–29 Apr.)
Please note the early start of this course

Development IV

DR J. HASELOFF
(Three lectures, 1–6 May)
DR D. E. HANKE
(Three lectures, 8–13 May)

Practical work will take place in the *Department of Zoology*. Students are expected to do up to four hours practical work per week between 11 a.m. and 5 p.m. on Tuesday or Fridays. Practical classes start at several different times to allow students to attend lectures in other subjects. Students should register for all biological practical courses on Wednesday, 9 October between 11.00 and 12.15 in the *Senate House*.

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NATURAL SCIENCES TRIPOS, PART IB (continued)

MICHAELMAS 2002

LENT 2003

EASTER 2003

NEUROBIOLOGY

Course Organiser: Professor T. D. Lamb E-mail: TDL1@cam.ac.uk

Further details at <http://www.physiol.cam.ac.uk/ib/nst/neurobiology/>All lectures take place in *Physiology Lecture Theatre 3* at Tu. Th. S. 12

PROF. W. A. HARRIS
Introduction to the Brain (One lecture, 10 Oct.)

PROF. T. D. LAMB
G-Protein Coupled Receptors (One lecture, 12 Oct.)

DR H. P. C. ROBINSON
Electrical Properties of Neurons (Four lectures, 15–22 Oct.)

DR A. A. GENAZZANI
Chemical Properties of Neurons (Four lectures, 24–31 Oct.)

PROF. W. A. HARRIS
Neural Determination (Four lectures, 2–9 Nov.)

DR R. H. S. CARPENTER
Vision (Six lectures, 12–23 Nov.)

DR H. R. MATTHEWS
Olfaction and Taste (Two lectures, 26, 28 Nov.)

DR I. M. WINTER
Hearing (Three lectures, 30 Nov.–5 Dec.)

PROF. P. A. MCNAUGHTON
Somatosensation and Pain (Four lectures, 14–21 Jan.)

DR S. A. EDGLEY
Motor System (Seven lectures, 23 Jan.–6 Feb.)

DR H. G. KRAPP
Sensorimotor Integration (Three lectures, 8–13 Feb.)

Language and the Brain (Two lectures, 8, 10 May)

DR M. LANDGRAF
Development of Neural Connections (Four lectures, 15–22 Feb.)

PROF. B. J. EVERITT
Motivation and Emotion (Four lectures, 25 Feb.–4 Mar.)

DR B. J. McCABE
Synaptic Efficacy (Four lectures 6–13 Mar.)

DR T. J. BUSSEY
Learning and Memory (Four lectures, 22–29 Apr.)

DR T. J. BUSSEY
Higher Functions of the Nervous System (Three lectures, 1–6 May)

PROF. L. K. TYLER
Language and the Brain (Two lectures, 8–10 May)

Practical Work: 3 hour practical classes Th. 2–5 or Tu. 2–5; 1 hour practical classes M. 12–1 or 2–3. Students should register for all biological practical courses on Wednesday, 9 October between 11.00 and 12.15 in *the Senate House*.

PATHOLOGY

Course Organiser: Dr B Kingston E-mail: ibk@mole.bio.cam.ac.uk

All lectures take place in *Chemical Laboratory Lecture Theatre 1* at M. W. F. 12, unless otherwise stated

PROF. A. H. WYLLIE
Cell Injury (One lecture, 11 Oct.)

DR A. MOFFETT
Innate Immune System; Acute Inflammation: Defence Mechanisms; Healing and Chronic Inflammation (Three lectures, 14–18 Oct.)

DR A. KELLY
The Adaptive Immune System; B Cells and Antibodies; The Major Histocompatibility Complex; T Cells (Four lectures, 21–28 Oct.)

PROF. J. TROWDALE
Tolerance; Autoimmunity; Hypersensitivity; Transplantation. (Four lectures, 30 Oct.–6 Nov.)

DR D. DUNNE
Introduction to Parasitic Diseases: Key Examples of Parasitic Diseases: Malaria; Key Examples of Parasitic Diseases: Schistosomiasis (Three lectures, 8–13 Nov.)

PROF. A. C. MINSON
Nature of Viruses; Viral Multiplication in the Host Cell; Responses to Viral Infection; Acute and Chronic Infection; Epidemiology of Viral Infection; Combatting Viral Infection; Prion Diseases (Seven lectures, 15–29 Nov.)

DR A. CARMICHAEL
Opportunistic Infections (One lecture, 2 Dec.)

PROF. C. HUGHES
Bacterial Disease Past, Present and Reemerging; Bacteria: Prokaryotic Pathogens; Bacterial–Host Interaction: Pathogenicity; Consequences of Bacterial Infection–Host Damage; Bacterial Pathogenicity in the Respiratory Tract; Bacterial Pathogenicity in the Gastrointestinal Tract; Combatting Bacterial Disease (Seven lectures, 15–29 Jan.)

PROF. M. A. STANLEY
The Regulation of Tissue Growth and Organisation; Clinical Pathology of Tumours; Epidemiology of Tumours; Genetic Basis of Neoplasia; Causes of Cancer (Five lectures, 31 Jan.–10 Feb.)

DR C. PRINT
Thrombosis, Platelet Function and Blood Coagulation; Atherogenesis; Infarction (Three lectures, 12–17 Feb.)

The following lectures take place in the *Department of Pathology* at M. W. F. 12.

DR N. AFFARA
Mendelian Inheritance; Molecular Analysis of Mendelian Disorders; Genotype/Phenotype Correlations; Chromosomal Abnormalities; Complex Inheritance: Imprinting and Multifactorial Disease (Five lectures, 21 Feb.–3 Mar.)

A. N. OTHER
Complex Inheritance: Immunogenetics of Autoimmune Disease (One lecture, 5 Mar.)

DR N. AFFARA
The Genome Project and Its Impact on Biology and Medicine (One lecture, 7 Mar.)

DR P. EDWARDS
Hereditary Predisposition to Cancer; Mutations in Human Cancer (Two lectures, 10–12 Mar.)

The following lectures take place in the *Department of Pathology* at M. W. F. 12.

DR S. EFSTATHIOU
Host Resistance Factors; Mechanisms of Viral Latency; Viral Immune Evasion Mechanisms; HIV (Four lectures, 25 Apr.–2 May)

PROF. M. A. STANLEY
Tuberculosis; Vaccination. (Two lectures, 5–7 May)

Practical Work. *Department of Pathology* Tu. 10–12 and Th. 2–4, or Tu. 2–4 and Th. 10–12, or Tu. 10–12 and Th. 10–12, or Tu. 2–4 and Th. 2–4, or W. and F. 10–12, or W. and F. 2–4. Revision classes are offered in the Easter Term at these times. Students should register for all biological practical courses on Wednesday, 9 October between 11.00 and 12.15 in *the Senate House*.

NATURAL SCIENCES TRIPOS, PART 1B (continued)

MICHAELMAS 2002

LENT 2003

EASTER 2003

PHARMACOLOGY

Course Organiser: Dr T. P. Fan E-mail: tpf1000@cus.cam.ac.uk

All lectures take place in the *Pharmacology Lecture Theatre* at M. W. F. 11.

PROF. C. W. TAYLOR
Drugs and Receptors (Seven lectures, 11–25 Oct.)

PROF. R. F. IRVINE
Intracellular Messengers. Diabetes Mellitus (Four lectures, 28 Oct.–4 Nov.)

DR E. K. MATTHEWS
Synaptic Pharmacology (Five lectures, 6–15 Nov.)

PROF. M. J. WARING
Chemotherapy (Seven lectures, 18 Nov.–2 Dec.)

DR P. J. RICHARDSON
Drug Discovery and Pharmacogenomics (One lecture, 4 Dec.)

DR J. M. YOUNG
Pharmacokinetics, Drug Metabolism and General Anaesthetics (Six lectures, 15–27 Jan.)
Note the earlier start of this course

DR R. M. HENDERSON
Cardiovascular and Renal Pharmacology (Twelve lectures, 29 Jan.–24 Feb.)

DR T. P. FAN
Inflammation and Peripheral Control of Pain (Six lectures, 26 Feb.–10 Mar.)

DR P. J. RICHARDSON
Drug Discovery and Pharmacogenomics (One lecture, 12 Mar.)

DR A. GENAZZANI
Central Nervous System: Neurodegeneration, Psychoses, Affective Disorders, Central Control of Pain and Opiates (Seven lectures, 23 Apr.–7 May)
Note the earlier start of this course

DR D. R. FERGUSON
Toxicology (Two lectures 9, 12 May)

Practical Work. Tu. 1–2 or W. 1–2 and Tu. 2–5 or W. 2–5. A detailed timetable will be posted in the Department. Students should register for all biological practical courses on Wednesday, 9 October between 11.00 and 12.15 in the *Senate House*.

PHYSICS

Course Organiser: Dr E. H. Linfield E-mail: IB-single-physics@phy.cam.ac.uk

Lectures, **course C**, are given in the *Maxwell Lecture Theatre, New Museums Site*, M. W. F. 12

Course C
DR D. F. BUSCHER
Waves and Imaging Instruments

DR E. H. LINFIELD
Quantum Physics in Action

PROF. R. E. HILLS
Applications of Physics to Astronomical Systems

Course Q
DR M. M. CHAUDHRI
Waves M. or Tu. or Th. or F. 2–5

MR P. J. WARNER
Electronics and Systems M. or Tu. or Th. or F. 2–5

Laboratory Work, course Q, takes place at the *Cavendish Laboratory (West Cambridge)*. All students must attend an introductory talk and register for laboratory **course Q** at 2.30 p.m. on Wednesday, 9 October at the *Cavendish Laboratory*. **Laboratory work is continuously assessed.**

PHYSIOLOGY

Course Organiser: Dr R. J. Barnes E-mail: rjb4@cam.ac.uk

Further details at <http://www.physiol.cam.ac.uk/Partib-nst/Physiology/Index.html>All lectures take place in the *Main Physiology Lecture Theatre* at M. W. F. 9.

DR R. J. BARNES
Introduction, the Autonomic Nervous System and the Cardiovascular System (Six lectures, 11–23 Oct.)

DR M. MASON
Respiration (Six lectures, 25 Oct.–6 Nov.)

DR D. J. TOLHURST
Endocrinology (Three lectures, 8–13 Nov.)

DR S. O. SAGE
Renal Physiology and Body Fluid Homeostasis (Nine lectures, 15 Nov.–4 Dec.)

DR T. TIFFERT
Digestion and Absorption (Seven lectures, 17–31 Jan.)

DR M. P. MAHAUT-SMITH
Weight Regulation and Nutrition (Two lectures, 3, 5 Feb.)

DR A. J. FORHEAD
Reproduction (Six lectures, 7–19 Feb.)

DR S. K. L. ELLINGTON
Development (Two lectures, 21, 24 Feb.)

DR J. C. D. HICKSON
Fetal and Maternal Physiology (Five lectures, 26 Feb.–7 Mar.)

DR A. L. FOWDEN
Neonatal Physiology (Two lectures, 10, 12 Mar.)

DR J. JENNER AND DR C. SPEED
Muscle in Exercise (Three lectures, 25–30 Apr.)

DR R. J. BARNES
Cardiovascular and Respiratory Systems in Exercise (Two lectures, 2, 5 May)

A. N. OTHER
Man in the Arctic (One lecture, 7 May)

DR S. O. SAGE
Man in the Desert (One lecture, 9 May)

DR S. L. DICKSON
Man on a Diet (One lecture, 12 May)

DR M. MASON
Man in Space (One lecture, 14 May)

Practical Work Th. 2–4(5) or Tu. 2–4(5)

The same continued.

The same continued.

Practical Work: Students should register for all biological practical courses on Wednesday, 9 October between 11.00 and 12.15 in the *Senate House*.

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NATURAL SCIENCES TRIPOS, PART IB (continued)

MICHAELMAS 2002

LENT 2003

EASTER 2003

PLANT AND MICROBIAL SCIENCES

Course Organiser: Dr Beverley Glover E-mail: beverley.glover@plantsci.cam.ac.ukFurther details at <http://www.plantsci.cam.ac.uk/Plantsci/teaching/content.html>

All lectures will take place in the *Large Lecture Theatre of the Department of Plant Sciences*
on Tu. Th. S. 11

PROF. R. A. LEIGH

Introduction and Overview (One lecture, 10 Oct.)

DR M. A. TESTER

Modern Biological Tools and Techniques (Two lectures,
12–15 Oct.)

DR J. M. HIBBERD AND DR A. G. SMITH

Photosynthesis and Management of Reserves (Eight
lectures, 17 Oct.–2 Nov.)

PROF. R. A. LEIGH, PROF. H. GRIFFITHS AND DR E. V. J.

TANNER

Plants in the Abiotic Environment: Water, Nutrients and
Temperature (Thirteen lectures, 5 Nov.–3 Dec.)

DR K. JOHNSTONE

Environmental Microbiology (Four lectures,
14–21 Jan.)*Please note the early start of this course*

DR J. M. DAVIES

Beneficial Plant-Microbe Interactions (Five
lectures, 23 Jan.–1 Feb.)

DR J. P. CARR

Plant Pathology (Seven lectures, 4–18 Feb.)

DR A. G. SMITH

Plants and Animals (Three lectures, 20–25 Feb.)

DR B. J. GLOVER

Plant Development (Six lectures, 27 Feb.–
11 Mar.)

DR D. A. COOMES

Conservation of Plants (Five lectures,
22 Apr.–1 May)*Please note the early start of this course*

DR A. NEWTON

Plant Variation and Evolution (Three
lectures, 3–8 May)

PROF. J. C. GRAY

Exploitation of Plants (Three lectures,
10–15 May)

Practical Work: Students will be expected to do four hours' **practical work** per week, between 12 noon and 5 p.m. on M. or Tu. A field course may take place in the Easter Vacation 2003; places are limited and are allocated in order of application. Students should register for all biological practical courses on Wednesday, 9 October between 11.00 and 12.15 in *the Senate House*.

NATURAL SCIENCES TRIPOS, PART II (GENERAL)

MICHAELMAS 2002

LENT 2003

EASTER 2003

A candidate may offer

- either (a) Advanced Physics and one other subject from Part IB excluding Geological Sciences A of the Natural Sciences Tripos which he/she has not previously offered;
 or (b) one subject from Part IB of the Natural Sciences Tripos which he/she has not previously offered and one Special Subject;
 or (c) two Special Subjects

Details of the permissible combination of subjects, within the scheme set out above, and also of restrictions on the offering of certain subjects may be found in Regulation 26 for the Natural Sciences Tripos.

The time-tables of teaching for the Special Subjects are set out below. For the times of teaching for subjects in Part IB please see the relevant entries on the other pages.

SPECIAL SUBJECT CHEMISTRY

Course Organiser: Dr J. H. Keeler E-mail: James.Keeler@ch.cam.ac.uk

The course consists of lectures and practical work selected from the courses available for Part II Option A Chemistry (see p. 201). Further details can be obtained from Dr J. H. Keeler in the *Department of Chemistry*.

SPECIAL SUBJECT HUMAN IMPACT ON THE ENVIRONMENT

Course Organiser: Dr J. R. Flowerdew E-mail: j.r.flowerdew@zoo.cam.ac.uk

The course consists of lectures and candidates will also be required to submit a 5,000 word essay on a subject proposed by the candidates and approved by the Head of Department of Zoology or chosen from a list of approved subjects. The essay to be handed in by the second week of the Easter Term.

All lectures are held in the *Department of Zoology*.

DR B. T. GRENFELL, DR T. N. COULSON, DR W. AMOS AND
 DR R. JOHNSTONE
 Population Biology M. W. F. 5 (Twenty-four lectures)

DR M. BROOKE, DR D. COOMES, DR W. AMOS,
 DR A. BALMFORD, DR E. V. TANNER AND
 OTHERS
 Conservation Biology M. W. F. 4 (Twenty-
 four lectures)

DR J. R. FLOWERDEW AND A. N. OTHER
 Human Impact on the Environment
 M. W. F. 5 (Twelve lectures)

SPECIAL SUBJECT PATHOLOGY

Course Organiser: Dr I. Brierley E-mail: ib103@mole.bio.cam.ac.uk

This course consists of the lectures in Cellular and Genetic Pathology available in Part II Pathology (see p. 208). Candidates will also be required to attend some practical classroom work. It is important that all candidates attend the Introduction Lecture to Part II Pathology on Wednesday, 9 October at 5 p.m. in the *Department of Pathology*.

SPECIAL SUBJECT PHYSICS

Course Organiser: Prof. M. Warner E-mail: II-physics@phy.cam.ac.uk

This course consists of about half the lectures and classwork of a candidate offering Part II Experimental and Theoretical Physics (see p. 201). Two options, A and B, are available. All candidates should take 32 hours of lectures from course H in the Michaelmas Term and experiment E1. Those offering option A should take 32 hours of lectures from course H in the Lent Term and one of the following units of further work; the Computational Physics course and assessment, pre-approved Vacation Work, experiment E2, course TP1, course TP2, a Literature Review. Neither of the courses TP1 and TP2 may be taken unless Mathematics was offered in Part IB of the Natural Sciences Tripos. Those offering option B take 16 hours of lectures from course H in the Lent Term together with the lectures and classwork of course K. Guidance on suitable combinations of lecture courses will be provided by the Department. A prior knowledge of Physics equivalent to the material covered in Advanced Physics in Part IB will be assumed.

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NATURAL SCIENCES TRIPOS, PART II

MICHAELMAS 2002

LENT 2003

EASTER 2003

ANATOMY OPTION A: RESEARCH IN DEVELOPMENTAL BIOLOGY AND NEUROSCIENCE

Course Organiser: Dr R. J. Keynes Email: rjk10@cam.ac.uk

All teaching will be in the *Anatomy Part II Seminar Room, the Experimental Psychology Room or Room 78, Department of Anatomy*

Course units (Cu): Each unit comprises two 2½ hour and one 3 hour session

DR R. J. KEYNES AND DR R. C. HARDIE
General Introduction Tu. 10–12 (8 Oct.)
Course Introduction W. 10–12 (9 Oct.)

Research in Developmental Biology

DR R. PADINJAT AND DR S. JONES (Cu)
Experimental Approaches: Cells and Molecules (10, 11, 16 Oct.)
MRS P. HENDERSON
Working in Groups 2–4 (11 Oct.)
DR G. BURTON AND PROF. W. SCHULTZ (Cu)
Experimental Approaches: Systems (17, 18, 23 Oct.)
PROF. M. H. JOHNSON
Making an Embryo (25, 30 Oct.)

Study Week (31 Oct.–6 Nov.)

DR S. BRAY (Cu)
Axis Formation and Organizers (7, 8, 12 Nov.)
PROF. W. A. HARRIS AND DR N. PAPALOPULU (Cu)
Making a Neuron (14, 15, 20 Nov.)
DR N. J. BROWN, DR A. FERGUSON-SMITH AND
DR N. PAPALOPULU
Techniques Workshop 2–5 (19 Nov.)
DR R. J. KEYNES AND DR D. TANNAHILL
Patterning the Nervous System (21, 22, 27 Nov.)
DR G. M. W. COOK AND DR C. E. HOLT
Guiding Axons (28, 29 Nov., 5 Dec.)
DR G. BURTON
Data Handling (I) (3 Dec.)

Research into Neuroscience

DR R. PADINJAT AND DR S. JONES (Cu)
Experimental Approaches: Cells and Molecules (10, 11, 16 Oct.)
MRS P. HENDERSON
Working in Groups 2–4 (11 Oct.)
DR G. BURTON AND PROF. W. SCHULTZ (Cu)
Experimental Approaches: Systems (17, 18, 23 Oct.)
PROF. W. A. HARRIS, DR C. E. HOLT AND DR R. ADAMS (Cu)
The Neuron (24, 25, 30 Oct.)

Study Week (31 Oct.–6 Nov.)

DR S. A. EDGLEY AND DR S. JONES (Cu)
Brain Organisation (7, 8, 12 Nov.)
PROF. W. A. HARRIS AND
DR N. PAPALOPULU (Cu)
Making a Neuron (14, 15, 20 Nov.)
DR N. J. BROWN, DR A. FERGUSON-SMITH AND
DR N. PAPALOPULU
Techniques Workshop 2–4 (19 Nov.)
DR R. J. KEYNES AND DR D. TANNAHILL (Cu)
Patterning the Neurons System (21, 22, 27 Nov.)
DR G. M. W. COOK AND DR C. E. HOLT (Cu)
Guiding Axons (28, 29 Nov., 5 Dec.)
DR G. BURTON
Data Handling (I) (3 Dec.)

DR C. BAKER (Cu)
Cell Migration and Fate (16, 17, 22 Jan.)
DR N. J. BROWN AND DR A. BRAND (Cu)
Organogenesis and Morphogenesis (23, 24, 29
Jan.)
DR A. PHILPOTT AND DR S. OHNUMA
Tissue Diversity (30, 31 Jan. 5 Feb.)
DR S. J. BRAY AND DR R. A. H. WHITE (Cu)
Stem Cells (6, 7, 12 Feb.)
DR S. A. EDGLEY
Data Handling (II) (11 Feb.)

Study Week (13–19 Feb.)

DR A. FERGUSON-SMITH
Epigenetic Control of Development (20, 21, 26
Feb.)
DR R. J. KEYNES AND DR M. SPILLANTINI (Cu)
The Degenerating and Regenerating Brain (27,
28 Feb. 5 Mar.)
DR A. WILKINS
Evolution and Development (11, 12 Mar.)

DR R. C. HARDIE (Cu)
Phototransduction (16, 17, 22 Jan.)
DR S. N. BAKER (Cu)
Encoding Information in Neurons (23, 24, 29
Jan.)
DR S. A. EDGLEY (Cu)
Cerebellum (30, 31 Jan. 5 Feb.)
DR J. PARKINGSON (Cu)
Emotion (6, 7, 12 Feb.)
DR S. A. EDGLEY
Data Handling (II) (11 Feb.)

Study Week (13–19 Feb.)

DR S. JONES AND DR W. SCHULTZ (Cu)
Addiction (20, 21, 26 Feb.)
DR R. J. KEYNES AND DR M. SPILLANTINI (Cu)
The Degenerating and Regenerating Brain (27,
28 Feb., 5 Mar.)

DR R. ADAMS
Critique of Papers (30 Apr.)
DR R. ADAMS
Experimental Design (7 May)
DR C. E. HOLT
Critique of Papers (14 May)
DR C. BAKER
Experimental Design (21 May)

DR S. JONES
Critique of Papers (30 Apr.)
PROF. J. HERBERT
Experimental Design (7 May)
DR R. C. HARDIE
Critique of Papers (15 May)
DR R. C. HARDIE
Experimental Design (21 May)

Seminars As Announced in the Department

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2002

LENT 2003

EASTER 2003

ANATOMY OPTION B

Course Organiser: Prof. M. H. Johnson E-mail afsmith@mole.bio.cam.ac.ukAll teaching will be in the *Anatomy Part II Seminar Room* unless otherwise stated

The course consists of a series of workshops, lectures seminars and problem-solving skills sessions around a framework of three areas:

HIV and AIDS
 Neurobiology of Behaviour and Emotion
 Reproduction and Gender Science

Complete course information can be found at the Department of Anatomy's website: <http://www.anat.cam.ac.uk/pages/teach.html>**Workshops, Seminars and Journal Clubs** As announced in the Department (beginning 8 Oct.)

ASTROPHYSICS

All lectures will be delivered in the *Raymond and Beverly Sackler Lecture Theatre, Hoyle Building, Institute of Astronomy* unless otherwise stated

DR I. R. PARRY

Introductory Astrophysics Tu. Th. 11, F. 9

PROF. G. F. GILMORE

Statistical Physics M.W. 9, Th. 10

DR R. F. CARSWELL

Astrophysical Fluid Dynamics M. 10, Tu. Th. 12

PROF. G. P. EFSTATHIOU

Theory of Relativity Tu. W. F. 10

DR A. J. MACFARLANE

Electromagnetism M.W. F. 11, 15 *Centre for
Mathematical Sciences, Clarkson Road, MR 2***Computational projects**

DR N NIKIFORAKIS

M. W. F. 2 (Six lectures beginning 11 Oct.) *Mill Lane
Lecture Room 9.*

DR M. I. WILKINSON

Stellar Dynamics and Structure of Galaxies

M. W. F. 10

DR M. HAEHNELT

Physical Cosmology M. 12, Tu. Th. 11

DR P. C. HEWETT

Topics in Contemporary Astrophysics Tu. Th.
10, F. 12

DR R. G. McMAHON

Structure and Evolution of Stars M. W. F. 11

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2002

LENT 2003

EASTER 2003

BIOCHEMISTRY

Course Organiser: Prof. D. J. Ellar E-mail: dje1@mole.bio.cam.ac.uk

Lectures are given in the *Department of Biochemistry, Downing Site building*

The course starts with an introductory lecture by Prof. O. J. Thomas at 9 a.m. on Monday 7 October.

Core course lectures take place at 9 a.m. and 10.30 a.m. Option course lectures take place throughout the day in Lent Term. Detailed time-tables will be posted in the Department of Biochemistry.

Core lectures

- PROF. E. D. LAUE
Aspects of Protein Structure: Genome to Proteome (Five lectures, beginning 7 Oct.)
- DR M. WELCH
Thermodynamics for Biochemists (One lecture, 11 Oct.)
- DR C. W. SMITH
Mechanisms and Control of Transcription in Eukaryotes (Five lectures, beginning 14 Oct.)
- DR T. R. HESKETH
Intramolecular Signalling in Mammalian Cells (Four lectures, beginning 14 Oct.)
- DR N. M. STANDART AND OTHERS
Protein Synthesis and Translation Control (Five lectures, beginning 21 Oct.)
- DR C. J. HOWE
Gene Expression in Plants (Four lectures, beginning 22 Oct.)
- DR E. TIMMERS
Bioinformatics: Genome Projects (One lecture, 28 Oct.)
- DR K. MIZUGUCHI
Bioinformatics: Polypeptide Similarities (One lecture, 29 Oct.)
- DR R. DURBIN
Bioinformatics: Large Scale Sequencing Projects (Two lectures, beginning 30 Oct.)
- DR K. ROMISCH
Protein Targeting to the ER (Three lectures, beginning 28 Oct.)
- DR F. HOLLFELDER
Chemistry for Biochemists (One lecture, 31 Oct.)
- DR D. OWEN
G Protein-Based Signalling (Three lectures, beginning 1 Nov.)
- DR A. A. GRACE
Disease Genes: Function and Manipulation (Three lectures, beginning 4 Nov.)
- DR K. M. BRINDLE
Molecular Imaging (Three lectures, beginning 6 Nov.)
- A. N. OTHER
Genome Mapping and Identification of Disease Genes (Two lectures, beginning 7 Nov.)
- DR F. HOLLFELDER
Enzyme Structure and Function (Five lectures, beginning 11 Nov.)
- PROF. J. O. THOMAS
Protein-DNA Interactions and Gene Expression (Five lectures, beginning 11 Nov.)
- DR R. W. FARNDAL
Adhesive and Immune Receptor Signalling (Four lectures, beginning 18 Nov.)
- DR M. CARRINTON
DNA Recombination in Genetic Exchange and Gene Expression (Five lectures, beginning 18 Nov.)
- DR A. P. JACKSON
Protein Sorting (Six lectures, beginning 22 Nov.)
- DR R. CLARKSON
Transcriptional Control of Apoptosis in Mammalian Development (Three lectures, beginning 25 Nov.)
- DR J. A. H. MURRAY
Eukaryotic Chromosome Replication (Three lectures, beginning 29 Nov.)
- DR G. C. BROWN
Bioenergetics of the Cell (Five lectures, beginning 2 Dec.)
- DR S. E. JACKSON
Protein Folding *in vivo* (Three lectures, beginning 4 Dec.)

Data handling classes W. 2.30-4.30 from 30 Oct.

Option Lectures

- PROF. D. J. ELLAR AND OTHERS
Option Organiser: Prof. D. J. Ellar
Bacterial Virulence and Antimicrobial Chemotherapy (Fifteen lectures)
- PROF. J. O. THOMAS AND OTHERS
Option Organiser: Prof. J. O. Thomas
Proteins, Nucleic Acids and Their Interactions (Fifteen lectures)
- DR M. D. BRAND AND OTHERS
Option Organiser: Dr M. D. Brand
Mitochondria and Bioenergetics (Fifteen lectures)
- DR C. J. HOWE AND OTHERS
Option Organiser: Dr C. J. Howe
Plant Cell and Molecular Biology (Fifteen lectures)
- PROF. R. J. JACKSON AND OTHERS
Option Organisers: Prof. R. J. Jackson and Dr T. Krude
Control of Gene Expression in Eukaryotes (Fifteen lectures in part joint with Part II Zoology)
- PROF. K. SIDDLE AND OTHERS
Option Organiser: Prof. K. Siddle
Medical Biochemistry (Fifteen lectures)
- DR F. HOLLFELDER AND OTHERS
Option Organiser: Dr F. Hollfelder
Enzyme Mechanisms and the Evolution of Enzyme Function (Fifteen lectures)
- PROF. J. C. METCALFE AND OTHERS
Option Organisers: Prof. J. C. Metcalfe and Dr A. A. Grace
Cardiovascular Molecular and Cellular Biology (Fifteen lectures)
- DR T. R. HESKETH AND OTHERS
Option Organisers: Dr T. R. Hesketh and Dr N. Affara
Oncogenes, Tumour Suppressor Genes and Carcinogenesis (Fifteen lectures in part joint with Option E of Part II Pathology)
- DR S. LUMMIS AND OTHERS
Option Organiser: Dr S. Lummis
Perspectives in Molecular Neurobiology (Fifteen lectures)
- DR N. J. GAY AND OTHERS
Option Organiser: Dr N. J. Gay
Biotechnology (Fifteen lectures)
- DR D. M. CARRINGTON AND OTHERS
Option Organiser: Dr D. M. Carrington
Regulation of the Eukaryotic Cell Cycle (Fifteen lectures)
- PROF. R. N. PERHAM AND OTHERS
Option Organisers: Prof. R. N. Perham and Dr S. E. Jackson
Protein Folding and Assembly (Fifteen lectures)

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2002

LENT 2003

EASTER 2003

CHEMISTRY
(OPTION A AND OPTION B)

Course Organiser: Dr J. H. Keeler E-mail: James.Keeler@ch.cam.ac.uk

All lectures will be given in the *Department of Chemistry, Lensfield Road*

Students must register for the course in the *Department of Chemistry, Lensfield Road*, between 9 and 1 or 2 and 4 on Tuesday, 8 October. A booklet containing details of the times of the lecture courses will be given out on registration. Others interested in the lecture courses can obtain a copy of this booklet on application to the Course Co-ordinator. This information is also available from the website, www-teach.ch.cam.ac.uk

All students must attend an introductory talk concerning the practical course at 12 noon on Wednesday, 9 October in *Lecture Theatre 3*.

EXPERIMENTAL AND THEORETICAL PHYSICS

Course Organiser: Prof. M. Warner E-mail: II-physics@phy.cam.ac.uk

Students offering option A must take the whole of **course H** in the Michaelmas Term and 32 hours of lectures in that course in the Lent Term. They must in addition take **course K**, Concepts in Physics from **course I** and a suitable selection from the material of **courses J** and **S**.

Students offering option B must take the whole of **course H**. In addition they must take a suitable selection from the material of **courses J** and **S**. **Course I** is non-examinable.

The material of **course J** is examined at the start of the term following that in which each block, TP1 and TP2, is given.

The course will begin with a meeting on the first Wednesday of Full Term (9 Oct.) at 9.30 a.m. in the *Pippard Lecture Theatre*.

Lectures are given at the *Cavendish Laboratory (West Cambridge)*, in the *Pippard Lecture Theatre* unless otherwise stated.

Course H

DR C. G. SMITH
Solid State Physics M. Th. 9
DR R. J. NEEDS
Thermal and Statistical Physics Tu. Th. 10
DR D. R. WARD
Quantum Mechanics II. W. F. 9
DR P. ALEXANDER AND OTHERS
Computational Physics M.W.F. 10 (First twelve lectures)
Classes weekdays 2–5 (24 Oct.–4 Dec.). Students attend one day per week
DR N. R. COOPER
Relativity and Electrodynamics Tu. 9 (First four lectures); M. W. F. 10 (Last twelve lectures)

Course I

DR R. T. PHILLIPS
Atoms and Light Tu. Th. 9
DR R. PADMAN
Systems Tu. Th. 10 (First eight lectures)
DR V. GIBSON
Nuclear Physics M. W. F. 9 (First twelve lectures)
DR M. A. THOMSON
Particle Physics M. W. F. 9 (Last twelve lectures)
PROF. M. WARNER
Fluids M. W. F. 10 (First sixteen lectures)

PROF. M. S. LONGAIR
Concepts in Physics Tu. Th. 10 (Last eight lectures)
DR S. MAHAJAN
Order of Magnitude Physics (Eight lectures beginning 24 Feb.) M. W. F. 10
THE STAFF OF THE CAVENDISH LABORATORY
Current Research Work in the Cavendish Laboratory (not examinable). See Part III Experimental and Theoretical Physics (p. 215)

Course J

DR E. TERENTJEV AND DR S. F. GULL
Theoretical Physics TP1. Tu. Th. 12–1 (Twelve lectures beginning 15 Oct.); Tu. 2–4 (Four classes, 22 Oct., 5 Nov., 19 Nov., 3 Dec.)

PROF. B. R. WEBBER AND DR N. R. COOPER
Theoretical Physics TP2 Tu. Th. 12–1 (Twelve lectures, beginning 21 Jan.); Tu. 2–4 (Four classes, 28 Jan., 11 Feb., 25 Feb., 11 Mar.)

Course K

DR S. F. GULL AND DR J. R. BATLEY
Physics in Action F. 11.30 *Mott Seminar Room*
Group Project Work. F. 2–4 *Ryle Seminar Room*

Course S

PROF. W. Y. LIANG AND OTHERS
Experiment E1: Registration W. 9.30 (9 Oct.)
DR H. SIRRINGHAUS AND OTHERS
Literature Review

PROF. W. Y. LIANG AND OTHERS
Experiment E2: Registration W. 2.30 (15 Jan.)
DR H. SIRRINGHAUS AND OTHERS
The same continued

PROF. W. Y. LIANG AND OTHERS
General Examples Class M. W. 2–4

DR H. SIRRINGHAUS AND OTHERS
The same continued

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2002

LENT 2003

EASTER 2003

GENETICS

Course Organiser: Dr Michael Majerus and Dr Christine Farr E-mail partII.organisers@gen.cam.ac.uk
A detailed timetable for this course will be available in the Department of Genetics.

DR D. SUMMERS AND DR P. OLIVER
Prokaryote Genetics M. Tu. W. Th. F. 9 (Fifteen lectures, beginning 11 Oct.)

DR D. MACDONALD AND OTHERS
Plant Genetics M. Tu. W. Th. F. 10.30 (Fifteen lectures, beginning 11 Oct.)

PROF. M. ASHBURNER AND OTHERS
Animal Genetics 1. M. Tu. W. Th. F. 9 (Fifteen lectures, beginning 1 Nov.)
Animal Genetics 2. M. Tu. W. Th. F. 10.30 (Fifteen lectures, beginning 1 Nov.)

DR C. FARR AND DR D. MACDONALD
Human Genetics and Genomics M. Tu. W. Th. F. 9 and M. Tu. W. Th. F. 10.30 (Fifteen lectures, beginning 22 Nov.)

Journal sessions. M. 11.30 (Six sessions, beginning 21 Oct.)

Social Aspects of Genetics. W. F. 2 (Six sessions, beginning 19 Oct.)

DR M. MAJERUS AND OTHERS
Evolutionary Genetics 1. M. Tu. W. Th. F. 9 (Fifteen lectures, beginning 16 Jan.)

PROF. D. GLOVER AND DR M. SEGAL
Cell Biology. M. Tu. W. Th. F. 10.30 (Fifteen lectures, beginning 16 Jan.)

DR F. BALLOUX, DR J. BROWN AND DR M. MAJERUS
Evolutionary Genetics 2. M. Tu. W. Th. F. 9 (Fifteen lectures, beginning 17 Feb.)

DR A. MARTINEZ ARIAS AND OTHERS
Genetics of Development. M. Tu. W. Th. F. 10.30 (Twelve lectures, beginning 17 Feb.)

Journal sessions. M. 11.30 (Eight sessions, beginning 20 Jan.)

Revision Seminars. (Five sessions)
Dates to be announced

GEOLOGICAL SCIENCES AND MINERAL SCIENCES

Students offering Option A (leading to the three year degree-Part IIA) must take two core courses in the Michaelmas Term and two options in the Lent and Easter Terms. They must in addition attend the Skills course S1 in the Michaelmas Term.

Students offering Option B (leading to Part IIB and to the four year degree-Part III) must take two core courses in the Michaelmas Term and three options in the Lent and Easter Terms. They must in addition attend the Skills course S1 in the Michaelmas Term.

Core C1 Geophysics

DR J. A. JACKSON, DR N. J. WHITE AND PROF. D. P. MCKENZIE
Convenor: Dr J. A. Jackson
Lectures. Tu. Th. 9 *Harker Room*
Practicals. Tu. Th. 10-12 *Petrology Laboratory*

Core C2 Petrology and Geochemistry

DR D. M. PYLE AND DR T. J. B. HOLLAND
Convenor: Dr T. J. B. Holland
Lectures. M. F. 9 *Harker Room*
Practicals. M. F. 10-12 *Petrology Laboratory*

Core C3 Sedimentology and Palaeontology

PROF. I. N. MCCAVE, DR N. HOVIUS,
PROF. R. B. RICKARDS AND DR R. WOOD
Convenor: Prof. I. N. McCave
Lectures. W. 9, F. 12 *Harker Room*
Practicals. W. 10-12, F. 2-4 *Palaeontology Laboratory*

Core C4 Mineralogy

DR S. A. T. REDFERN, PROF. M. A. CARPENTER
AND DR R. J. HARRISON
Convenor: Prof. M. A. Carpenter
Lectures. M. W. 2 *Oxburgh Room*
Practicals. W. Th. 3-4.30 *IB Mineralogy Laboratory*

Core C5 Mineral Physics

DR M. T. DOVE AND MR P. WELCHE
Convenor: Dr M. T. Dove
Lectures. W. 9, F. 2 *Oxburgh Room*
Practicals. W. 10-11.30, F. 3-4.30 *IB Minerals Laboratory*

Skills Course S1

DR N. H. WOODCOCK AND DR A. G. SMITH
Convenor: Dr N. H. Woodcock Tu. Th. 2-5 *Harker Room and Computer Room* (First three weeks)

Field Course to Greece 6-14 December 2002

DR J. A. JACKSON AND DR A. G. SMITH

Option 6 Continental Tectonics and Mountains

DR J. A. JACKSON, DR N. HOVIUS AND
DR M. ALLEN
Convenor: Dr J. A. Jackson
Lectures. Tu. Th. 9 *Tilley Room*
Practicals. Tu. 10-11.30, Th. 10-11.30
Petrology Laboratory

The same continued. (Eight revision sessions)

Option 7 Oceanic and Continental Margins

PROF. R. S. WHITE, DR J. HAINES AND
A. N. OTHER
Convenor: Prof. R. S. White
Lectures. Tu. F. 2 *Harker Room*
Practicals. Tu. F. 3-4.30 *Petrology Laboratory*

The same continued. (Eight revision sessions)

Option 8 Metamorphic and Igneous Processes

PROF. M. J. BICKLE, DR T. J. B. HOLLAND AND
DR A. GALY
Convenor: Prof. M. J. Bickle
Lectures. M. Th. 2 *Harker Room*
Practicals. M. Th. 3-4.30 *Palaeontology Laboratory*

The same continued. (Eight revision sessions)

Option 9 Quaternary Oceans and Climate Change

PROF. I. N. MCCAVE, PROF. N. J. SHACKLETON,
PROF. H. E. ELDERFIELD AND A. N. OTHER
Convenor: Prof. H. E. Elderfield
Lectures. M. 9, W. 2 *Harker Room*
Practicals. M. 10-11.30, W. 3-4.30
Structural Laboratory

The same continued. (Eight revision sessions)

Option 10 Ancient Ecosystems

PROF. S. CONWAY-MORRIS AND
DR N. J. BUTTERFIELD
Convenor: Prof. S. Conway-Morris
Lectures. W. F. 9 *Harker Room*
Practicals. W. F. 10-11.30 *Palaeontology Laboratory*

The same continued. (Eight revision sessions)

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2002

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GEOLOGICAL SCIENCES AND MINERAL SCIENCES (continued)

Option M6 Diffraction, Electron Microscopy and Microanalysis

DR G. LUMPKIN, DR M. WELCH,
DR S. A. T. REDFERN AND DR M. T. DOVE
Convenor: Dr I. Farnan
Lectures. M. F. 9 *Oxburgh Room*
Practicals. M. F. 10–11.30 *IB Minerals Laboratory*

Option M4 Properties of Crustal Materials

DR S. A. T. REDFERN, DR M. WELCH AND
PROF. M. A. CARPENTER
Convenor: Dr S. A. T. Redfern
Lectures. M. W. 2 *Oxburgh Room*
Practicals. M. W. 3–4.30 *IB Harker 2*

The same continued. (Eight revision sessions)

Option M5 Computational Methods in Crystal Physics

DR E. ARTACHO, DR C. J. PICKARD AND
DR M. CALLEJA
Convenor: Dr E. Artacho
Lectures. W. F. 9 *Oxburgh Room*
Practicals. W. F. 10–11.30 *IB Minerals Laboratory*

The same continued. (Eight revision sessions)

HISTORY AND PHILOSOPHY OF SCIENCE

A detailed timetable and course handbook are available from the Department. For further details E-mail: hps-admin@lists.cam.ac.uk

Prof. Lipton and Dr Secord would like to see all Part II students taking HPS on Wednesday 9 October at 11 a.m. in *Seminar Room 2, Department of History and Philosophy of Science.*

Unless otherwise stated lectures, classes and seminars will be held in the *History and Philosophy of Science Seminar Rooms, Free School Lane*

Primary Sources Seminar

W. F. 4 (weeks 1–6, starting 11 Oct.)
It is essential that all HPS Part II students attend this part of the course
PROF. J. FORRESTER
Sigmund Freud, 'The Psychogenesis of a Case of Female Homosexuality' (1920)
DR S. HODGES
A Gessell and J A Singh, *Wolf Child and Human Child*
New York: Harper and Bros., 1941.
PROF. N. JARDINE
David Hume, "Of Miracles" in *Enquiry Concerning Human Understanding*, (1748).
DR M. KUSCH
Saul A. Kripke, *Wittgenstein on Rules and Private Language*, Chapter 2 (Oxford, 1982).
DR L. KASSELL
The miraculous revival of Anne Green, as described in a pamphlet from 1651.
DR S. SCHAFFER AND DR R. NOAKES
Tyndall, Crookes and Wallace, *Spiritualism and science*, 1864–1874.
DR J. SECORD
Charles Darwin, 'On the Origin of Species', 1859 edition
DR L. TAUB
Claudius Ptolemy, *The Almagest*, Book 1, chaps 1–9.
DR T. LEWENS
W. Payley, *Natural Theology*, 1802, Ch. 1–6
DR J. McMILLAN
Franz Bretana, *Physiology from an Empirical Standpoint*, 1874

Dissertation Seminar

W. F. 4 (weeks 1–4)
It is essential that each HPS Part II student attends at least two of these seminars

(Paper 1) Classical Traditions in the Sciences

Course Organisers: Dr L. Taub,
E-mail: lct1001@hermes.cam.ac.uk and Prof. N. Jardine, E-mail: nj103@cam.ac.uk
PROF. N. JARDINE, PROF. R. McKITTERICK AND DR L. TAUB
Introduction. Th. 10 (weeks 1–4) (*Essential. No supervisions*).
DR L. KASSELL
Astrology, Alchemy and Magic: Part I (Part II in Paper 2). Tu. 10 (weeks 1–4)
DR S. KUSUKAWA
Early Modern Nature. M. 2 (weeks 1–4)
DR B. MUSALLAM AND DR A. SILVERSTEIN
Arabic Science. M. 2 (weeks 5–8)
DR L. TAUB, DR L. KASSELL AND DR A. MOSLEY
Instruments, Books and Collections: Part I (Part II in Paper 2). Tu. 11 (weeks 1–8)
DR L. TAUB, DR J. WARREN, DR C. SALAZAR, DR S. CONNELL, DR K TYBJERG
Ancient Greek and Roman Science. F. 11 (weeks 1–8)

DR A. CUNNINGHAM
The Creation of the 'Scientific Revolution'. M. 3 (weeks 1–4)
PROF. N. JARDINE, DR A. MOSLEY
Astronomy, Maths, Mechanics. Tu. 11 (weeks 1–6)
DR S. KUSUKAWA AND DR A. CUNNINGHAM
The Rise, Flourishing and Fall of Natural Philosophy, 1300–1650. Th. 3 (weeks 5–8)
PROF. SIR GEOFFREY LLOYD
Greek and Chinese Science. Th. 11 (weeks 5–8)
DR R. SERJEANTSON
Proof and Persuasion. F. 3 (weeks 5–8)

continued >

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2002

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HISTORY AND PHILOSOPHY OF SCIENCE (continued)

(Paper 2) Natural And Moral Philosophies

Course Organiser: Dr S. Schaffer,

E-mail: sjs16@hermes.cam.ac.uk

DR P. FARA, MR S. MANDELBROTE, DR S. SCHAFFER AND
DR F. WILLMOTH
Natural Philosophy and Exact Sciences. W. 3 (weeks
1-8)

DR M. FRASCA SPADA

Human Nature and Knowledge: Locke, Berkeley and
Hume. W. 10 (weeks 1-8)

DR L. KASELL

Astrology, Alchemy and Magic: Part II (Part I on Paper
1). Tu. 10 (weeks 5-8)**(Paper 3) Science, Industry And Empire**

Course Organiser: Dr J. Secord,

E-mail: jas1010@cam.ac.uk

DR J. SECORD

Introduction. Th. 11 (weeks 1-2)

DR H. BLACKMAN

The Rise of Academic Biology. M. 3 (weeks 1-4)

DR J. ENDERSBY

The Evolutionary Synthesis. M. 3 (weeks 5-8)

DR P. FARA

Images of Science. Th. 10 (weeks 5-8)

DR S. SCHAFFER, PROF. N. JARDINE AND

DR S. DE CHADAREVIAN

Laboratories and Disciplines from the Napoleonic Wars
to National Socialism. F. 2 (weeks 1-8)

DR J. SECORD

Creation and the Laws of Nature. Th. 11 (weeks 3-8)

(Paper 4) Metaphysics, Epistemology, and the Sciences

Course Organisers: Prof. P. Lipton,

E-mail: pl112@hermes.cam.ac.uk and Dr T.

Lewens, E-mail: tml1000@hermes.cam.ac.uk

DR A. HATTIANGADI

Realism and Representation. W. 9 (weeks 1-4)

DR R. JENNINGS

Recent History of the Philosophy of Science. M. 10
(weeks 1-8)

PROF. P. LIPTON

Explanation, Causation and Law. W. 12 (weeks 1-8)

(Paper 5) Science and Technology Studies

Course Organiser: Dr M. Kusch;

E-mail: mphk2@cam.ac.uk

PROF. N. JARDINE

Historiography of the Sciences. F. 3 (weeks 1-8)

DR M. KUSCH AND DR S. SCHAFFER

Sociology of Scientific Knowledge. Tu. 12 (weeks 1-8)

DR T. LEWENS AND DR O. O'NEILL

Bioethics-Genes, Autonomy and Health. W. 2 (weeks
1-8)

DR J. SECORD

Science Communication. F. 10 (weeks 1-8)

(Paper 6) History and Philosophy of Mind

Course Organiser: Prof. J. Forrester,

E-mail: jpf11@hermes.cam.ac.uk

PROF. J. FORRESTER

Freud, Psychoanalysis and the Twentieth Century. W.
11 (weeks 1-8); M. 11 (weeks 1-4). *Maxwell Lecture
Theatre*

DR M. KUSCH

On Rule-Following. Th. 9 (weeks 1-8)

DR D. THOM

Some theories and Practices in British Psychology,
1869-1979. Th. 3 (weeks 1-8)

DR P. FARA, MR S. MANDELBROTE,

DR S. SCHAFFER AND DR F. WILLMOTH

The same continued. W. 3 (weeks 1-8)

DR M. FRASCA SPADA AND PROF. N. JARDINE

Human Nature and Knowledge: Kant. Th.
11 (weeks 1-4)

PROF. N. JARDINE, DR J. SECORD AND DR P. WHITE

Natural Histories. W. 12 (weeks 1-8)

DR L. TAUB AND DR F. WILLMOTH

Instruments, Models and Tools: Part II (Part I
Paper 1). M. 10 (weeks 1-8)

DR S. SCHAFFER AND DR R. NOAKES

Classical Physics and its Contexts. W. 10
(weeks 1-8), F. 11 (weeks 5-8)

DR J. SECORD

Science and Imperialism. M. 11 (weeks 1-8)

DR L. TAUB AND DR J. SECORD

Instruments and Exhibitions: Part III (Part I
on Paper 1, Part II on Paper 2). F. 11
(weeks 1-4)

PROF. J. FORRESTER

Thinking in Cases. W. 11 (weeks 1-8)

DR T. LEWENS

Philosophy of Biology. Th. 10 (weeks 1-8)

DR M. KUSCH

Epistemology of Testimony. Tu. 12 (weeks
1-8)

DR S. DE CHADAREVIAN

Science and War in the Twentieth Century.
Tu. 10 (weeks 5-8)

DR M. KUSCH AND DR S. SCHAFFER

The same continued. Tu. 10 (weeks 1-4)

PROF. J. FORRESTER AND OTHERS

Gender and Science. F. 9, W. 2 (weeks 1-8)

DR S. SIVASUNDARAM

Science and Race. Th. 3 (weeks 1-4)

DR J. McMILLAN

Reproductive Medicine and Death. W.
(weeks 1-8)

DR G. BERRIOS

History of Psychopathology and Psychiatry.
F. 3 (weeks 1-4)

DR N. MANSON

Unconscious Mentality and Freud's
Methodology. Th. 9 (weeks 1-8)

DR I. SINGH

Psychopharmacology in History and Culture.
M. 2 (weeks 1-8)

DR J. McMILLAN

Mental Health, Compulsory Treatment and
Ethics. F. 10 (weeks 1-4)

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2002

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HISTORY AND PHILOSOPHY OF SCIENCE (continued)

(Paper 7) History of Medicine from Antiquity to the Enlightenment

Course Organiser: Dr L. Kassell,
E-mail: ltk21@hermes.cam.ac.uk

DR L. KASSELL

Medicine and Society in Europe, 1250–1750. Th. 12
(weeks 1–4), F. 12 (weeks 1–4)

DR A. CUNNINGHAM

Eighteenth-century Medicine. Th. 12 (weeks
1–4)

DR F. GETZ

Medical Education in the Medieval West. F. 2
(weeks 1–4)

DR S. KUSUKAWA

Renaissance Anatomy. Th. 12 (weeks 5–8)

PROF. SIR GEOFFREY LLOYD

Medicine and Society in the Ancient World.
F. 12 (weeks 1–8)

DR S. DE RENZI

Medicine and the Law, 1300–1800. Tu. 2
(weeks 1–4)

DR M. SATCHELL

Medical Spaces and Places, 1100–1650. F. 2
(weeks 5–8)

DR M. SATCHELL

Field Trip to Medieval Hospitals. 13 March

(Paper 8) Modern Medicine and Biomedical Sciences

Course Organiser: Dr S. Hodges,

E-mail: seh52@cam.ac.uk

DR S. HODGES, DR S. DE CHADAREVIAN AND

DR H. KAMMINGA

Making Modern Medicine. M. 12, Tu. 2, Th. 2 (weeks
1–8)

DR A. CUNNINGHAM

Dissection and the Body in the Age of
Revolutions. Th. 2 (weeks 1–4)

PROF. J. FORRESTER

Social and Institutional History of Psychiatry.
M. 12 (weeks 5–8)

DR S. HODGES

Medicine and the Colonial World. Th. 2
(weeks 5–8)

DR J SCHICKORE

Medical Microscopy, 1780–1900. M. 12
(weeks 1–4)

Attention is drawn to courses announced by other authorities. Students are particularly advised to attend other relevant courses in the Faculties of History, Philosophy, and Social and Political Sciences.

DR N. WRIGHT

Latin for Beginners (see Classics lecture list)

DR P. BURSILL-HALL

Topics in the History of Mathematics. M.W.F. 4 *Mill Lane Lecture Room 9*

DR M. BRAVO AND OTHERS

Cultures of the field (times to be announced)

DR B. HILTON AND DR J. SECORD

Science and Religion in Early Victorian Britain (times to be announced)

DR N. WRIGHT

The same continued.

PROF. E. J. CRAIG

Causality from Descartes to Hume. (2 slots a
week – weeks 5–8) Tu. 11, W. 12
[Philosophy]

DR J. MARENBNON

Medieval Logic

DR B. HILTON AND DR J. SECORD

The same continued.

DR P. SMITH

Scientific Realism. F. 12 (weeks 5–8)
[Philosophy]

DR N. WRIGHT

The same continued.

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NATURAL SCIENCES TRIPOS, PART II (continued)

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MATERIALS SCIENCE AND METALLURGY

Course Organiser: Dr S. M. Best E-mail: PartII@msm.cam.ac.uk

A detailed timetable is available in the Department.

All lectures will be given in the *Seminar Room (T001)*

DR K. M. KNOWLES

C3 Mathematical Methods (Six lectures)

DR P. A. MIDGLEY

C4 Tensor Properties (Twelve lectures)

DR J. A. LEAKE

C6 Crystallography (Nine lectures)

PROF. A. L. GREER

C7 Kinetics (Nine lectures)

DR J. A. LITTLE

C8 Chemical Stability (Nine lectures)

PROF. H. K. D. H. BHADSHIA

C9 Alloys (Nine lectures)

PROF. A. H. WINDLE

C10 Structure and Properties of Polymers (Nine lectures)

DR G. T. BURSTEIN

C11 Surfaces and Interfaces (Six lectures)

PROF. T. W. CLYNE

C16 Composite Materials (Twelve lectures)

INDUSTRIAL VISITORS

(M. 11–12, 2 Dec.)

Visit to Industry

Half day (date to be announced)

Examples Classes

Timetable available in the Department

Practical Classes

M. Tu. W. 2–5 (two sessions to be chosen each week)

Management Option

DR G. T. BURSTEIN

F. 2–3 (eight lectures)

Language Option(Two hours per week) M. 4–6 or Tu. 4–6 or W. 2–4 or
Th. 2–4 or Th. 4–6 or F. 2–4

DR R. V. KUMAR

C1 Phase Equilibria (Six lectures)

PROF. J. E. EVETTS

C5 Physical Properties (Twelve lectures)

DR K. M. KNOWLES

C12 Plasticity and Deformation (Nine lectures)

DR W. J. CLEGG

C13 Ceramics (Nine lectures)

DR C. RAE

C15 Fracture and Fatigue (Twelve lectures)

DR R. V. KUMAR

C17 Heat and Mass Transfer (Six lectures)

DR S. M. BEST

C18 Biomaterials (Six lectures)

INDUSTRIAL VISITORS

(Th. 11–12, 6 Mar.)

Visit to Industry

Half day (12 Feb.)

Examples Classes

Timetable available in the Department

ProjectsDesign project
Materials project**Management Option**

PROF. D. J. FRAY

F. 2–3 (four lectures)

A. N. OTHER

Th. 2–3 (eight lectures)

Language Option

The same continued.

DR J. A. LITTLE

C2 Selection of Materials (Six lectures)

DR M. S. P. SHAFFER

C14 Polymer Processing (Six lectures)

NEUROSCIENCE

Course Organiser: Dr E. K. Matthews Email: ekm1000@cus.cam.ac.uk

All lectures will be held in *Lecture Room 2 Austin Building*, unless otherwise stated**Module 1: Development, Degeneration and Regeneration****Lectures.** M. Th. 9

PROF. M. BATE

Early Development of the Nervous System (Six lectures,
10–28 Oct.)

DR G. COOK

Axonal Growth (Four lectures, 31 Oct., 4, 7, 18 Nov.)

READING WEEK (11–15 Nov.)

PROF. W. HARRIS

Development of Connections (Four lectures, 21 Nov.–
2 Dec.)

PROF. E. B. KEVERNE

Development of Brain and Behaviour (Three
lectures, 13–20 Jan.)*Note the early start of this course.*

MR P. KIRKPATRICK

Ischaemia, Excitotoxicity, and Stroke (Two
lectures, 23, 27 Jan.)

DR M.-G. SPILLANTINI

Neural Degeneration (Four lectures, 30 Jan.–
10 Feb.)

READING WEEK (17–22 Feb.)

DR R. BARKER

Neural Regeneration (Four lectures, 13 Feb.,
24 Feb.–3 Mar.)

DR R. FRANKLIN

Glial Degeneration and Repair (Three lectures,
6–13 Mar.)

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2002

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NEUROSCIENCE (continued)

Module 2: Cellular and molecular neurobiology**Lectures.** W. F. 9, unless otherwise stated

DR R. MURRELL-LAGNADO

Membrane-Located Voltage Sensors and Control of
Neurone Function (Five lectures, 9–23 Oct.)*Note the early start of this course.*

DR J. A. KOENIG

Receptor-Control of Neuronal Excitability: (a) Fast
Neurotransmitters (Five lectures, 25 Oct.–8 Nov.)

READING WEEK (11–15 Nov.)

DR J. A. KOENIG

Receptor-Control of Neuronal Excitability: (b) Slow
Neurotransmitters (Four lectures 20–29 Nov.)

DR P. J. RICHARDSON

Genomics of Neuronal Systems (Two lectures 4, 6 Dec.)

Module 3: Control of action**Lectures.** W. F. 10, unless otherwise stated

DR B. HEDWIG

Synaptic, Cellular and Network Properties (Four
lectures, 9–18 Oct.)*Note the early start of this course.*

DR D. PARKER

Vertebrate Locomotion (Three lectures, 23–30 Oct.)

DR T. MATHESON

Limb Targeting (Four lectures, 4 Nov. (M. 12) and
1–8 Nov.)

READING WEEK (11–15 Nov.)

DR P. EVANS

Modulating a System (Four lectures, 20–29 Nov.)

Module 4: Sensory systems**Lectures.** Tu, 9, Th, 10

DR R. HARDIE

Photoreceptors (Four lectures, 10–22 Oct.)

PROF. E. B. KEVERNE

Olfactory Receptors (Two lectures, 24, 29 Oct.)

DR L. LAGNADO

Visual Processing in the Retina (Four lectures, 31 Oct.–
7 Nov., 19 Nov.)

READING WEEK (11–15 Nov.)

DR B. HEDWIG

Auditory Mechanisms (Four lectures, 21 Nov.–3 Dec.)

Module 5: Learning, Memory and Cognition**Lectures.** M. Tu, 10 *Zoology Main Lecture Theatre*

DR B. J. McCABE

Cellular Mechanisms of Learning and Memory (Four
lectures, 14–22 Oct.)

DR T. BUSSEY

Conditioning and Associative Learning (Four lectures,
28 Oct.–5 Nov.)

READING WEEK (11–15 Nov.)

DR L. SAKSIDA

Computational Neuroscience I: Conditioning and
Associative Learning (Two lectures, 18, 19 Nov.)

DR P. BRENNAN

Olfactory Learning (Four lectures, 25 Nov.–3 Dec.)

DR M. SCHELL

Synaptic Mechanisms (Three lectures, 29 Jan.–
5 Feb.)

DR B. McCABE

Synaptic Plasticity (Three lectures, 7–14 Feb.)

PROF. R. F. IRVINE

Calcium Signalling (Four lectures, 15–24 Feb.)

DR J. M. EDWARDSON

Intracellular Signalling and Neurotransmitter
Release (Four lectures, 26 Feb.–7 Mar.)

DR S. CHAWLA

Regulation of Gene Expression (Three lectures,
11 Mar. (Tu. 12) and 12, 14 Mar.)

DR M. HASTINGS

Neural Control of Circadian Rhythms (Four
lectures, 15–24 Jan.)*Note the early start of this course.*

DR S. EDGLEY

Cerebellum (Four lectures, 31 Jan.–12 Feb.)

READING WEEK (17–22 Feb.)

DR R. H. S. CARPENTER

Neural Decisions (Three lectures, 26 Feb.–
5 Mar.)

DR S. JONES

Striatum (Four lectures, 10 Mar. (M. 12) and
7–14 Mar.)

PROF. P. A. McNAUGHTON

Pain (four lectures, 14–23 Jan.)

Note the early start of this course.

DR H. KRAPP

Echolocation and Electric Senses (Four
lectures, 28 Jan.–6 Feb.)

PROF. A. CRAWFORD

Auditory Hair Cells (Two lectures, 11, 13 Feb.)

READING WEEK (17–22 Feb.)

DR J. ALCANTARA

Hearing (Six lectures, 25 Feb.–13 Mar.)

DR R. CARDINAL

Brain Mechanisms of Memory and Cognition
(Six lectures, 13, 20, 27 Jan., 3, 10, 24 Feb.)*Note the early start of this course.*

DR R. A. McCARTHY

Cognitive Neuropsychology (Eight lectures,
14, 21, 28 Jan., 4, 11, 25 Feb., 4, 11 Mar.)*Note the early start of this course.*

READING WEEK (17–22 Feb.)

DR L. SAKSIDA

Computational Neuroscience II: Memory and
Cognition (Two lectures, 3, 10 Mar.)

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NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2002

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PATHOLOGY

Course Organiser: Dr I. Brierley E-mail: ib103@mole.bio.cam.ac.uk

At the Department of Pathology further details will be posted in our Department and are also available at <http://www.path.cam.ac.uk/>

Introductory lecture

All options. W. 3 (One lecture, 9 Oct.) *It is important that all students attend the introductory lecture*

Option A – Cellular and Genetic Pathology**Lectures:** M. W. F. 5

DR I. FURNER, DR D. GRIFFIN, DR J. YATES, DR C. SARGENT,
DR N. AFFARA, DR D. SARGAN, DR J. AJOIKA, DR D.
RUBINSZTEIN, DR M. HURLES AND DR D. MACDONALD

Part I: Genes, Genomes and Disease

DR N. AFFARA, DR C. PRINT, DR A. SHARKEY AND DR L. HILL

Part II: Biology and Pathology of Reproduction

Option B – Immunology**Lectures:** Tu. Th. Sa. 9

DR N. HOLMES, DR M. CLARK, PROF. A. R. GREEN, PROF. A.
COOKE, DR S. WAGNER, DR K. SMITH,
PROF. J. TROWSDALE, DR A. KELLY, DR P. LEHNER, DR
H. REYBURN, DR D. ALEXANDER, PROF. D. T. FEARDON
AND PROF. I McCONNELL

Haemopoiesis and Leukocyte Populations

Lymphocyte Signalling

Immunoglobulins and T-cell Receptors

Major Histocompatibility Complex and Antigen
Presentation**Option C – Microbial and Parasitic Disease****Lectures:** M. W. F. 9

PROF. C. HUGHES, DR V. KORONAKIS, DR R. HAYWARD,
PROF. D. MASKELL, DR G. FRASER, DR D. BROWN,
PROF. P. MASTROENI, DR N. BROWN AND DR A. LEVER

Bacterial Disease and Pathogenicity

Combatting Bacterial Disease

Fungal Infections

Journal Research Seminars

Option D – Virology**Lectures:** Tu. Th. 5, Sa. 10.15

DR T. BROWN, DR S. WYNNE, DR P. DIGARD, DR J. GRAY,
DR I. BRIERLEY, PROF. A. MINSON, DR H. BROWNE AND
DR J. SINCLAIR

Basic Principles

Molecular Biology of Animal Virus Multiplication

DR P. EDWARDS, DR A. PHILPOTT, PROF. A. WYLLIE,
DR R. HESKETH, DR A. BANNISTER,
DR R. CLARKSON, PROF. V. COLLINS,
DR C. CALDAS AND DR C. WATSON

Part III: Defects in Cellular Growth and
Differentiation: Cancer

DR N. HOLMES, DR B. BLACKLAWS, DR A. ALCAMI,
DR J. BONAME, PROF. P. MASTROENI,
DR H. REYBURN, DR D. PALMER, PROF. A.
COOKE, PROF. D. T. FEARDON, DR G.
BUTCHER AND PROF. I McCONNELL

Lymphoid Architecture and Lymphocyte
Recirculation

The Complement System

Mechanisms of Immunity

Autoimmunity

Transplantation

DR B. KINGSTON, DR J. AJOIKA, DR M. SHIRLEY,
DR C. PEACOCK, DR S. MELVILLE,
DR D. DUNNE, DR K. HOFFMAN AND
DR E. MICHAEL

Major Protozoal Diseases

Major Helminth Diseases

Journal Research Seminars

DR T. BROWN, DR B. BLACKLAWS, DR A. ALCAMI,
DR J. BONAME, PROF. A. MINSON,
DR P. BORROW, PROF. A. LEVER,
DR S. EFSTATHIOU, DR P. DIGARD,
DR J. STERLING, DR H. BROWNE,
DR G. DARBY AND DR P. STEVENSON

Virus Interactions with Cellular Regulatory
Mechanisms

Viruses in the Multicellular Host

Viruses in the Community – 1

Intervention

DR P. EDWARDS, DR C. PRINT AND
DR S. CHARNOCK-JONES

Part IV: Angiogenesis

PROF. C. FFRENCH-CONSTANT

Part V: Neurodevelopmental Biology and
Genetic Disease

DR M CLARK, PROF. H. GASTON AND DR H.
REYBURN

Animal Immunodeficiency Viruses

Monoclonal Antibody Therapy: Tumour
Immunity

Arthritis

DR B. KINGSTON, DR S. CROFT AND
DR M. BOOTH

Parasite Vaccines and Chemotherapy

Epidemiology

DR T. BROWN, DR P. DIGARD, DR S. EFSTATHIOU,
PROF. P. SOSSONS, DR M. BOOTH AND
DR B. GRENFELL

Project Seminars

Virus Portraits

Viruses in the Community – 2

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2002

LENT 2003

EASTER 2003

PHARMACOLOGY

Course Organiser: Dr R. M. Henderson E-mail: rhm1003@cam.ac.uk

The introductory session for NST and MVST Part II (Two Paper and Four Paper) students will be at 9 a.m., Wednesday, 9 October in the *Lecture Theatre, Department of Pharmacology*. It is expected to last all morning with a break for coffee.

Lectures will be given in the *Lecture Theatre, Department of Pharmacology*

Pharmacology of Integrated Systems**(also MVST Part II Pharmacology of Integrated Systems)**

- DR D. R. FERGUSON AND DR A. GENAZZANI
Pharmacology of Psychiatric Disorders (Eight lectures,
10 Oct.–5 Nov.) Tu. Th. 11
- DR R. M. HENDERSON
Cardiovascular Pharmacology (Four lectures, 11–18
Oct.) M. W. F. 9
- DR M. A. BARRAND AND DR H. W. VAN VEEN
Resistance to Antibacterial, Antiparasitic and
Anticancer Agents (Six lectures, 21 Oct.–1 Nov.)
M. W. F. 9
- DR T. P. FAN
Pharmacology of Inflammation and Angiogenesis (Six
lectures, 4–15 Nov.) M. W. F. 9
- PROF. P. A. MCNAUGHTON
Cellular and Molecular Aspects of Pain (Four lectures,
12–21 Nov.) Tu. Th. 11
- DR L. MACVINISH
Pharmacology of Cystic Fibrosis and the Lung
Epithelium (Four lectures, 18–25 Nov.) M. W. F. 9
- DR E. K. MATTHEWS
Apoptosis (Three lectures, 26 Nov.–3 Dec.) Tu. Th. 11
- DR M. A. BARRAND
Blood Brain Barrier (Three lectures, 27 Nov.–2 Dec.)
M. W. F. 9

Molecular and Cellular Pharmacology

- PROF. M. J. WARING AND PROF. V. K. K. CHATTERJEE
G-protein Coupled Receptors; Calcium
Signalling (Five lectures, 10–24 Oct.)
Tu. Th. 9
- DR M. A. BARRAND
Aquaporins (Two lectures, 11–14 Oct.) M. F. 10
- DR H. W. VAN VEEN
Carriers and Pumps as Targets for Drug Development
(Four lectures, 16–23 Oct.) M. W. F. 10
- DR J. M. EDWARDSON
Mechanisms of Exocytosis and Endocytosis (Six
lectures, 25 Oct.–6 Nov.) M. W. F. 10
- DR J. M. YOUNG
Quantitative Receptor Pharmacology (Five lectures,
29 Oct.–12 Nov.) Tu. Th. 9
- DR R. MURRELL-LAGNADO, DR S. B. HLADKY AND DR A. R.
RANDALL
Potassium, Sodium and Calcium channels (Nine
lectures, 8–27 Nov.) M. W. F. 10, (Two lectures,
28 Nov.) Tu. 9, 10, (One lecture, 3 Dec.) Th. 9
- DR A. GENAZZANI
Excitatory Amino Acids (Three lectures, 19–26 Nov.)
Tu. Th. 9
- DR P. J. RICHARDSON
Genomics (Two lectures, 29 Nov.–2 Dec.) M. F. 10

- DR R. M. HENDERSON
Hyperlipidaemias and the Pharmacology of
the Liver (Four lectures, 17–24 Jan.)
M. W. F. 9
- DR A. J. MORTON
Neurodegeneration (Six lectures, 27 Jan.–
7 Feb.) M. W. F. 9
- DR W. R. FORD
Cardiac Pharmacology (Four lectures, 10–17
Feb.) M. W. F. 9
- DR S. B. HLADKY
General Anaesthetics (Three lectures, 19–24
Feb.) M. W. F. 9

- PROF. C. W. TAYLOR
G-protein Coupled Receptors; Calcium
Signalling (Six lectures, 16 Jan.–4 Feb.)
Tu. Th. 9
- DR J. A. KOENIG
Ligand Gated Ion Channels (Three lectures,
17–22 Jan.) M. W. F. 10
- DR S. B. HLADKY
pH Regulation (Three lectures, 24–29 Jan.)
M. W. F. 10
- PROF. R. F. IRVINE
Phosphoinositide Derived Messengers (Four
lectures, 6–18 Feb.) Tu. Th. 9
- PROF. D. COOPER
cAMP Signalling (Four lectures, 20 Feb.–4
Mar.) Tu. Th. 9
- DR D. R. FERGUSON
Pharmacology of Epithelial Ion Transport
(Four lectures, 26 Feb.–5 Mar.) W. F. 9,
M. 10

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NATURAL SCIENCES TRIPOS, PART II (continued)

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LENT 2003

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PHYSIOLOGY

Course Organiser: Dr C. L.-H. Huang E-mail: clh11@cus.cam.ac.uk

Further details see: <http://www.physiol.cam.ac.uk/PARTII/timetable.html>**Common Module**

Module organiser: Dr M. J. Mason

Orientation DayWed. 9 Oct. *Main Physiology Lecture Theatre*

MRS C. RATCLIFF

Cambridge Libraries and Searchable Databases Th. 2
(10 Oct.) (One lecture) *Main Physiology Lecture Theatre*

DR A. SILVER

Introduction to scientific writing M. 9 (14 Oct.) (One lecture) *Bryan Matthews Room*

DR V. L. LEW

Reading and evaluating a scientific paper F. 9 (18 Oct.)
(One lecture) *Bryan Matthews Room*

Other sessions to be announced

Module 1: Sensory Systems W. Th. 9 *Physiology Lecture Theatre 3*

Module organiser: Dr I. M. Winter

PROF. T. D. LAMB

Photoreceptors (Six lectures, 16, 23, 30 Oct., 6, 13, 14 Nov.)

PROF. A. C. CRAWFORD

Peripheral Auditory System (Four lectures, 17, 24, 31 Oct., 7 Nov.)

DR D. J. TOLHURST

Visual Cortex (Four lectures, 20, 21, 27, 28 Nov.)

Module 2: Motor Systems F. 9, 11 *Physiology Lecture Theatre 3*

Module organiser: Dr R.H.S. Carpenter

DR C. L.-H. HUANG

Activation of Skeletal Muscle (Three lectures, F.9 (11 Oct.); F. 11 (11, 18 Oct.))

PROF. A. C. CRAWFORD

Muscle Spindles (Two lectures, F. 9, 11 (25 Oct.))

DR A. PELAH

Visuomotor Adaptation and Control (Two lectures, F. 9, 11 (1 Nov))

DR A. L. FOWDEN

Information regarding the Part II Exam
Tu. 9 (18 Feb.) (One lecture) *Physiology Canteen*

Other sessions to be announced

Journal Clubs *Bryan Matthews Room*

DR I. M. WINTER

Module One Journal Club Th. F. M. 4.30
(Three sessions, 23, 31 Jan., 10 Feb.)

DR R. H. S. CARPENTER.

Module Two Journal Club M. Tu. 2 (Two sessions, 27 Jan., 11 Feb.)

DR S. O. SAGE

Module Three Journal Club Tu. F. 4.30 (Two sessions, 4, 14 Feb.)

DR A. J. FORHEAD

Module Four Journal Club Th. M. 4.30
(Two sessions, 30 Jan., 17 Feb.)

DR C. J. SCHWIENING

Module Five Journal Club M. Tu. 4.30 (Two sessions, 3, 18 Feb.)

DR J. H. ROGERS

Module Six Journal Club Th. M. 4.30 (Three sessions, 6, 13, 14 Feb.)

Venue to be announced

DR I. M. WINTER

Central Auditory System (Four lectures, 16, 22, 23, 29 Jan.)

DR S. BLEECK

Central Auditory System (Two lectures, 30 Jan., 5 Feb.)

DR R. D. PATTERSON

Higher Auditory Processing (Four lectures, 6, 12, 13, 19 Feb.)

PROF. H. B. BARLOW

Higher Visual Functions (Three lectures, 20, 26, 27 Feb.)

DR M. JUUSOLA

Information Coding in Sensory Systems (Four lectures, 5, 6, 12, 13 Mar.)

Venue to be announced

DR R. H. S. CARPENTER

Introduction to Eye Movements (Two lectures, F. 9, 11 (17 Jan))

DR R. H. S. CARPENTER

Oculomotor Neurophysiology (Five lectures, F. 9 (24, 31 Jan., 7, 14 Feb); F. 11 (24 Jan.))

DR H. R. MATTHEWS

Long-Latency Reflexes (Three lectures, F. 11 (31 Jan., 7, 14 Feb.))

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2002

LENT 2003

EASTER 2003

PHYSIOLOGY (continued)

Module 2: Motor Systems (*cont.*)

PROF. R. N. LEMON

Corticospinal Organisation (Four lectures, F. 9, 11 (8, 15 Nov))

DR S. EDGLEY

Cerebellum (Three lectures, F. 9 (22, 29 Nov); F.11 (22 Nov))

Module 3: Systems & Clinical Physiology W. F. 10*Physiology Lecture Theatre 3***(MVST Part II Topics in Clinical Physiology)**

Module organiser: Dr S. O. Sage

DR A. V. EDWARDS

Autonomic Peptides (Four lectures, 11, 16, 18, 23 Oct.)

DR R. J. BARNES

Circulation in Exercise (Four lectures, 25, 30 Oct., 1, 6 Nov.)

DR N. W. MORRELL

Pulmonary Circulation (Two lectures, 8, 13 Nov.)

PROF. J. T. FITZSIMONS

Thirst and Sodium Appetite (Six lectures, 15, 20, 22, 27, 29 Nov., 4 Dec.)

Module 4: Developmental & Fetal Physiology Th. F. 12*Bryan Matthews Room*

Module organiser: Dr A. J. Forhead

DR A. J. FORHEAD

Fetal Development: Organ Systems (Four lectures, 10, 11, 17, 18 Oct.)

DR S. K. L. ELLINGTON

Embryogenesis (Four lectures, 24, 25 Oct., 1, 7 Nov.)

DR D. A. GIUSSANI

Fetal Control Mechanisms (Four lectures, 8, 14, 15, 21 Nov.)

DR A. L. FOWDEN

Fetal Development: Growth and Development (Three lectures, 22, 28, 29 Nov.)

Module 5: Cellular Physiology M. 10, Tu. 9 *Bryan**Matthews Room*

Module organiser: Dr C. J. Schwiening

DR V. L. LEW

Energetics of Calcium Transport (Three lectures, 14, 15, 21 Oct.)

DR M. J. MASON

Techniques Lecture: Fluorescence Measurements of Ion Activities (Two lectures, 22, 28 Oct.)

DR M. P. MAHAUT-SMITH

Calcium Signalling (Three lectures, 29 Oct., 4, 5 Nov.)

DR S. O. SAGE

Store Mediated Calcium Entry (Two lectures, 12, 18 Nov.)

DR S. CHAWLA

Techniques Lecture: Elementary Molecular Biology (One lecture, 19 Nov.)

DR S. CHAWLA

Regulation of Gene Expression in Neurones and the Immune System (Two lectures, 25, 26 Nov.)

DR S. HLADKY

Calcium pH Interactions (Two lectures, 2, 3 Dec.)

PROF. J. C. ROTHWELL

Cortical and Subcortical Control of Movement (Six lectures, F. 9, 11 (21, 28 Feb., 7 Mar.))

Venue to be announced

DR S. O. SAGE

Renal Physiology (Five lectures, 17, 22, 24, 29, 31 Jan.)

DR J. BRADLEY

Chronic Renal Failure (Two lectures, 5, 7 Feb.)

DR J. FIRTH

Acute Renal Failure (Three lectures, 12, 14, 19 Feb.)

DR S. L. DICKSON

Hypothalamic Control of Body Weight (Three lectures, 21, 26, 28 Feb.)

DR A. J. VIDAL-PUIG

Molecular Mechanisms Controlling Energy Homeostasis (Two lectures, 5, 7 Mar.)

Venue to be announced

PROF. M. A. H. SURANI

Developmental Biology (Four lectures, 16, 17, 23, 24 Jan.)

DR W. H. COLLEDGE

Transgenesis (Four lectures, 30, 31 Jan., 7, 13 Feb.)

DR A. L. FOWDEN

Fetal Development: Growth and Metabolism (Four lectures, 14, 20, 21, 27 Feb.)

DR D. A. GIUSSANI

Parturition (One lecture, 28 Feb.)

DR A. J. FORHEAD

Fetal Maturation and Programming of Adult Disease (Two lectures, 6, 7 Mar.)

Venue to be announced

DR C. J. SCHWIENING

Intracellular pH Regulation (Two lectures, 20, 21 Jan.)

DR J. W. FAWCETT

Neural Development (Three lectures, 27, 28 Jan., 3 Feb.)

DR J. H. ROGERS

Signal Transduction in Neural Development (Five lectures, 4, 10, 11, 17, 24 Feb.)

DR P. WOODING

Techniques Lecture: Electron Microscopy (One lecture, 25 Feb.)

DR H. P. C. ROBINSON

Synaptic Mechanisms (Four lectures, 3, 4, 10, 11 Mar.)

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NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2002

LENT 2003

EASTER 2003

PHYSIOLOGY (continued)

Module 6: Medical Aspects of Neurobiology Tu. Th. 10
Physiology Lecture Theatre 3
 Module organiser: Dr J. H. Rogers

DR C. L-H. HUANG
 Neurological Imaging (Two lectures, 10, 15 Oct.)
 PROF. J. D. PICKARD, MR P. KIRKPATRICK AND DR R. TASKER
 Cerebrospinal Fluid, Stroke, Intracranial Pressure and
 CNS Injury (Four lectures, 17, 22, 24, 29 Oct.)
 DR M.-G. SPILLANTINI
 Neural Degeneration (Four lectures, 31 Oct., 5, 7, 21
 Nov.)
 DR J. H. ROGERS
 Neural Regeneration (Three lectures, 12, 14, 19 Nov.)
 DR J. HUNTER
 Development of CNS Pharmaceuticals (One lecture, 26
 Nov.)
 DR R. BARKER
 Brain Grafting (Two lectures, 28 Nov., 3 Dec.)

Venue to be announced.

DR R. FRANKLIN
 Demyelination and Remyelination (Two
 lectures, 16, 21 Jan.)
 DR A. LEE
 Cognitive Disorders in Neurological Disease
 (Two lectures, 23, 28 Jan.)
 DR D. J. TOLHURST
 Disorders of the Visual System (Three
 lectures, 30 Jan., 4, 6 Feb.)
 DR I. M. WINTER
 Disorders of the Auditory System (Three
 lectures, 11, 13, 18 Feb.)
 PROF. P. A. MCNAUGHTON
 Pain (Two lectures, 20, 25 Feb.)
 DR E. WEISBLATT, DR P. BOLTON AND DR A.
 HOLLAND
 Scientific Basis and Treatment of Psychiatric
 Disorders (Four lectures, 27 Feb., 4, 6, 11
 Mar.)

PLANT SCIENCES

Course Organiser: Dr Alison Smith E-mail: alison.smith@plantsci.cam.ac.uk
 Module organisers appear below. E-mail: firstname.surname@plantsci.cam.ac.uk unless otherwise specified

Further details at <http://www.plantsci.cam.ac.uk/Plantsci/teaching/content.html>

All lectures take place in the *Tom ap Rees Lecture Room of the Department of Plant Sciences* unless
 otherwise stated

Core Knowledge in Plant Sciences

PROF. J. PARKER
 S. (12 Oct.) 10–12 Botanic Garden
 DR J. HASELOFF
 F. (18 Oct.) 2–4

Seminars and Workshops

M. 2–5 (Seven sessions, 21 Oct.–2 Dec.)

Module M1

Frontiers in Plant-Microbe Interactions
 Module organiser: Dr John Carr
 DR J. CARR (sessions 1–8), DR K. JOHNSTONE (sessions 9–16),
 PROF. C. GILLIGAN (sessions 17–24) M. W. F. 9 (11 Oct.–4
 Dec.)

Module M2

Plant Genes and Organelles
 Module organiser: Prof. John Gray
 DR A. SMITH (sessions 1–5), DR T. MARTIN (session 6),
 PROF. J. GRAY (sessions 7–9), DR T. LOVE (sessions 10–12),
 DR Y.-L. CHUA (sessions 13–15) PROF. J. GRAY (sessions
 16–18), DR K. WILLEY (session 19), PROF. J. GRAY (sessions
 20–24) M. W. F. 10 (11 Oct.–4 Dec.)

Module M3

Dynamics, History and Future of Vegetation
 Module organiser: Prof. Howard Griffiths
 PROF. H. GRIFFITHS (sessions 1–7), DR E. TANNER (sessions
 8–11), DR D. COOMES (sessions 12–18) AND DR O. RACKHAM
 (sessions 19–24) M. Tu. F. 12 (11 Oct.–3 Dec.)

Seminars and Workshops

M. 2–5 (Eight sessions, 20 Jan.–10 Mar.)

Module L1

Development of Plants and Fungi
 Module organiser: Dr David Hanke
 DR J. DAVIES (sessions 1–3), DR J. HASELOFF
 (sessions 4–10), DR D. HANKE (sessions 11–17)
 AND DR B. GLOVER (sessions 18–24) M. W. F. 9
 (17 Jan.–12 Mar.)

Module L2

Plant Responses to the Environment
 Module organiser: Dr Edmund Tanner
 DR E. TANNER (sessions 1–4), DR R. DAVENPORT
 (sessions 5–7), PROF. H. GRIFFITHS (sessions
 8–11), DR E. TANNER (sessions 12–16), PROF. H.
 GRIFFITHS (sessions 17–19), DR D. COOMES
 (sessions 20–22) AND DR E. TANNER (sessions
 23–24) M. W. F. 10 (17 Jan.–12 Mar.)

Module L3

Variation and Evolution
 Module organiser: Prof. John Parker
 PROF. J. PARKER (sessions 1–18) AND DR T. UPSON
 (sessions 19–24) M. 11, Tu. Th. 9 (16 Jan.–
 11 Mar.)

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2002

LENT 2003

EASTER 2003

PLANT SCIENCES (continued)

Module M4

Transport and Signal Transduction

Module organiser: Prof. Roger Leigh

DR V. DEMIDCHIK (sessions 1–5), ALL LECTURERS (session 6),
 PROF. R. LEIGH (sessions 7–13), DR C. CHEFFINGS (sessions
 14–17), DR A. WEBB (sessions 18–23) AND ALL LECTURERS
 (session 24) Tu. Th. 9, W. 12 (10 Oct.–4 Dec.)

Module L4

Plant Metabolism

Module organiser: Dr Thomas Martin

DR T. MARTIN (sessions 1–11), DR A. SMITH
 (sessions 12–16), PROF. J. GRAY (sessions 17–20),
 DR P. DUPREE (sessions 21–23), DR A. SMITH AND
 DR T. MARTIN (sessions 21–24) Tu. Th. 10, W. 11
 (16 Jan.–12 Mar.)

Module L5

Frontiers in Microbial Physiology and Ecology

Module organiser: Dr Keith Johnstone

DR K. JOHNSTONE (sessions 1–6), DR A.
 TUNNACLIFFE (sessions 7–10), DR J. DAVIES
 (sessions 11–16), DR K. MAXWELL (sessions
 17–20) AND DR S. ROSSER (sessions 21–24)
 M. W. F. 12 (17 Jan.–12 Mar.)

The modules below may also be offered in Part II Plant Sciences:

Population Biology*Department of Zoology*

Module organiser: Dr Bryan Grenfell

(Email: b.t.grenfell@zoo.cam.ac.uk)

DR B. T. GRENFELL, DR T. COULSON, DR W. AMOS, AND
 DR R. A. JOHNSTONE M. W. F. 5 (Twenty-four lectures)

Conservation Biology*Department of Zoology*

Module organiser: Dr Andrew Balmford

(Email: apb12@cam.ac.uk)

DR M. BROOKE, DR D. A. COOMES, DR W. AMOS, DR
 A. P. BALMFORD, DR E. V. J. TANNER AND OTHERS
 M. W. F. 4 (Twenty-four lectures)

Aquatic Ecology*Department of Zoology*

Module organiser: Dr Richard Barnes

(Email: r.s.k.barnes@cats.cam.ac.uk)

DR M. BROOKE, DR D. C. ALDRIDGE, DR R. S. K. BARNES, DR P.
 HERRING AND DR A. CLARKE M. W. F. 11 (Twenty-four
 lectures)

Behavioural Ecology*Department of Zoology*

Module organiser: Dr Rufus Johnstone

(Email: r.a.johnstone@zoo.cam.ac.uk)

PROF. N. B. DAVIES, DR R. A. JOHNSTONE, PROF. T. H.
 CLUTTON-BROCK AND DR W. A. FOSTER Tu. Th. S 11
 (Twenty-four lectures)

The following non-examined module is compulsory in Part II Plant Sciences:

Statistics for Part II and Graduate Biologists*Large Lecture Theatre, Department of Plant Sciences*

DR B. J. McCABE

Ten lectures, 7 Oct. at 9 and 2, and 8, 9, 10, 11, 14, 15, 16,
 17 Oct. at 2

Practical work in Statistics for Part II and Graduate Biologists*The Old Music School, Downing Place*

M. W. F. 10–12 or 3–5 (7, 9, 11 Oct.), M. W. F. 3–5 (14,
 16, 18, 21 Oct.)

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2002

LENT 2003

EASTER 2003

PSYCHOLOGY

Course Organiser: Dr J. Russell E-mail: jr111@cus.cam.ac.uk

Lectures will be held in the *Lecture Theatre, Department of Experimental Psychology* unless otherwise stated

General Courses

PROF. T. W. ROBBINS

General Introduction Th. 9 (One lecture, 10 Oct.)

DR M. R. F. AITKEN

Statistics Lectures M. Tu. Th. F. 2 (Ten lectures, 10–15 Oct.)

Practical Classes M. 2–4 (Four classes, 28 Oct–18 Nov.)
Practical Classroom

DR G. J. DIGIROLAMO AND DR I. P. L. McLAREN

Experimental Design M. 2–4 (One class, 25 Nov.)

DR T. C. ROUDACE

Seminars on Computer-Based Statistics Th. 5 (Two meetings, 14, 21 Nov.) *Practical Classroom***Section A**

PROF. B. C. J. MOORE

Hearing Tu. W. 10 (Sixteen lectures, beginning 15 Oct.)

DR G. J. DIGIROLAMO

Attention, Cognition and Control M. 10 (Eight lectures, beginning 14 Oct.)

Section B

DR I. P. L. McLAREN

Learning, Memory and Cognition. Th. F. 10 (Fourteen lectures, 10–18 Oct., 31 Oct.–29 Nov.)

DR I. P. L. McLAREN

Connectionism M. 12 (Seven lectures, 14, 21 Oct., 4 Nov.–2 Dec.)

Section C

PROF. A. DICKINSON

Comparative Psychology Tu. F. 12 (Fifteen lectures, 11 Oct.–3 Dec., not 29 Oct.)

PROF. B. J. EVERITT, PROF. T. W. ROBBINS AND A. N. OTHER

Brain Mechanisms of Motivation M. 11, W. 12 (Fourteen lectures, 14–30 Oct., 11 Nov.–4 Dec.)

Section D

PROF. S. BARON-COHEN AND DR C. SHARP

Abnormal Psychology Th. 12 (Eight lectures, beginning 10 Oct.)

DR J. STEVENSON-HINDE AND OTHERS

Temperament and Attachment W. 5 (Eight lectures beginning 16 Oct.)

Attention is drawn to lectures given by Prof. J. Forrester on Freud, Psychoanalysis and the Twentieth-Century M. 11 (Four lectures beginning 14 Oct.) and W. 11 (Eight lectures beginning 16 Oct.), *Maxwell Lecture Theatre*.

PROF. A. DICKINSON

Writing a Project Report M. 5 (One class, 3 Feb.)

DR G. DAVIS

Vision and Visual Attention Th. 9 (Eight lectures, 16 Jan.–13 Mar., 27 Feb.–13 Mar.)

DR H. E. MOSS

Language, Mind and Brain M. 12, W. 10 (Sixteen lectures, 13 Jan.–12 Feb., 24 Feb.–12 Mar.)

Note the early start of this course.

PROF. N. J. MACKINTOSH

Intelligence F. 11 (Eight lectures, 17 Jan.–14 Feb., 28 Feb.–14 Mar.)

PROF. A. MANSTEAD

Human Emotion M. 11 (Four lectures, 20 Jan.–10 Feb.)

DR L. M. SAKSIDA

Connectionism Th. 12 (Eight lectures, 16 Jan.–13 Feb., 27 Feb.–13 Mar.)

DR N. S. CLAYTON

Comparative Psychology F. 12 (Eight lectures, 17 Jan.–14 Feb., 28 Feb.–14 Mar.)

DR R. A. MCCARTHY

Cognitive Neuropsychology Tu. 10 (Eight lectures, 14 Jan.–11 Feb., 25 Feb.–11 Mar.) *Zoology Main Lecture Theatre*; Th. 10 (Eight lectures, 16 Jan.–13 Feb., 27 Feb.–13 Mar.) *Psychology Lecture Theatre*

PROF. T. W. ROBBINS AND A. N. OTHER

Brain Mechanisms of Memory and Cognition M. 10 (Six lectures, 13 Jan.–10 Feb., 24 Feb.) *Zoology Main Lecture Theatre*

DR J. RUSSELL AND DR S. BUTTERFIELD

Cognitive Development. Tu. 12, F. 10 (Sixteen lectures, 14 Jan.–14 Feb., 25 Feb.–14 Mar.)

Note the early start of this course.

PROF. B. J. EVERITT AND DR L. BROSNAN

Abnormal Psychology W. 11 (Eight lectures, 15 Jan.–12 Feb., 26 Feb.–12 Mar.)

DR K. C. PLAISTED

Social and Emotional Development W. 12 (Seven lectures, 15 Jan.–12 Feb., 26 Feb., 5 Mar.)

DR P. L. APPLETON

Clinical Aspects of Abnormal Psychology Seminars Th. 5 (Six meetings, 27 Feb.–13 Mar.)

Attention is drawn to lectures given by Prof. R. A. Hinde on the Psychology of Relationships W. Th. 10 (Six lectures, 16 Jan.–5 Feb.) *Maxwell Lecture Theatre*.

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2002

LENT 2003

EASTER 2003

ZOOLOGY

Course Organiser: Dr R. S. K. Barnes E-mail: rsb1001@cam.ac.uk

Lectures will be given in the *Department of Zoology* unless otherwise stated**Topics in Vertebrate Evolution**

DR J. A. CLACK, DR A. E. FRIDAY, DR PER E. AHLBERG,
DR M. RUTA, DR P. M. BARRETT, DR E. RAYFIELD,
DR P. UPCHURCH, DR A. C. MILNER AND
DR A. C. MILNER
Module Organiser: Dr P. Upchurch M. W. F. 10
(Twenty-four lectures)

Aquatic Ecology

DR M. BROOKE, DR D. ALDRIDGE, DR R. S. K. BARNES,
DR P. HERRING AND DR A. CLARKE
Module Organiser: Dr R. S. K. Barnes M. W. F. 11
(Twenty-four lectures)

Population Biology

DR B. T. GRENFELL, DR T. N. COULSON, DR W. AMOS AND
DR R. A. JOHNSTONE
Module Organiser: Dr B. T. Grenfell M. W. F. 5
(Twenty-four lectures)

Neural Mechanisms of Behaviour

PROF. S. LAUGHLIN, PROF. M. BURROWS, DR B. HEDWIG,
DR B. McCABE, PROF. E. B. KEVERNE AND
PROF. M. BATE
Module Organiser: Dr B. Hedwig Tu. Th. S. 11
(Twenty-five lectures)

Behaviour

PROF. P. BATESON, DR K. LALAND, DR N. EMERY,
PROF. E. B. KEVERNE AND DR B. McCABE
Module Organiser: Prof. E. B. Keverne Tu. Th. S. 9
(Twenty-four lectures)

Organisation of the Cell

DR H. SKAER, DR J. RAFF, DR R. DUDEN, DR M. ROBINSON,
DR P. LUZIO, DR J. P. VINCENT AND DR H. BAYLIS
Module Organiser: Dr H. Skaer M. W. F. 4 (Twenty-
four lectures)

Control of Cell Growth and Genome Stability

PROF. S. P. JACKSON, DR J. RAFF, DR J. PINES, DR M. JACKMAN,
DR M. MADINE, DR T. KRUDE, PROF. S. P. JACKSON,
DR J. ROUSE, DR F. D'ADDA DI FAGAGNA, PROF. M.
RAFF AND DR N. MCCARTHY
Module Organiser: Prof. S. P. Jackson M. W. F. 9
(Twenty-five lectures)

Statistics for Part II Biologists

DR B. J. McCABE
(7 Oct.) M. 9 and (7 Oct.) M. Tu. W. Th. F. 2 (Ten
lectures) *Large Lecture Theatre, Department of
Plant Sciences*
Please note early start of course.

Practical work

Module Organiser: Dr B. J. McCabe
(Ten classes) (7 Oct.) M. W. F. 10–12 or 3–5 (14 Oct.)
M. W. F. 3–5 *The Titan Teaching Rooms, Computing
Service, New Museums Site*
Please note early start of course

Mammalian Evolution and Faunal History

DR A. E. FRIDAY, DR E. M. WESTON AND
DR R. C. PREECE
Module Organiser: Dr A. E. Friday
M. W. F. 10 (Twenty-four lectures)

Conservation Biology

DR M. BROOKE, DR D. COOMBES, DR W. AMOS,
DR A. BALMFORD, DR E. TANNER AND
OTHERS
Module Organiser: Dr A. Balmford
M. W. F. 4 (Twenty-four lectures)

Behavioural Ecology

PROF. N. B. DAVIES, DR R. BSHARY, DR O. KRUDE,
PROF. T. H. CLUTTON-BROCK,
DR W. A. FOSTER AND DR R. A. JOHNSTONE
Module Organiser: Dr R. A. Johnstone
Tu. Th. S. 11 (Twenty-four lectures)

Animal Energetics: the cost of living

DR R. G. BOUTILIER, PROF. C. ELLINGTON,
DR L. PECK AND PROF. A. CLARKE
Module Organiser: Dr R. G. Boutilier
Tu. Th. S. 10 (Twenty-four lectures)

Molecular and Developmental Approaches to Evolution

PROF. M. AKAM, DR W. AMOS, DR N. GOLDMAN
AND OTHERS
Module Organiser: Prof. M. Akam
M. W. F. 11 (Twenty-four lectures)

Developmental Biology

DR P. SIMPSON, PROF. J. GURDON, DR H. SKAER,
DR H. BAYLIS, DR J. CASTELLI-GAIR AND
OTHERS
Module Organiser: Dr P. Simpson M. W. F. 5
(Twenty-four lectures)

Control of Gene Expression

DR T. KRUDE, DR R. SCHNEIDER, DR A.
BANNISTER, DR S. SCOTT-DREW,
DR D. SZÜTS, DR C. SMITH AND
PROF. R. JACKSON
Module Organiser: Dr T. Krude M. W. F. 9
(Twenty-four lectures) First line lectures
in the *Department of Zoology*; the
following fifteen lectures take place in the
Department of Biochemistry

Human Biology

STAFF OF THE ZOOLOGY DEPARTMENT
Module Organiser: Prof. T. H. Clutton-
Brock M. W. F. 10 (Seven lectures)

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NATURAL SCIENCES TRIPOS, PART III

MICHAELMAS 2002

LENT 2003

EASTER 2003

BIOCHEMISTRY

Course Organiser: Prof. D. J. Ellar E-mail: dje1@mole.bio.cam.ac.uk

The course starts with an introductory lecture by Prof. Ellar at 9 a.m. on Monday 7 October in the lecture theatre in the *Sanger Building, Department of Biochemistry, Old Addenbrooke's Site*.

Option Course lectures take place throughout the day in Lent Term. Detailed time-tables will be posted in the Department of Biochemistry

Lectures are given in the *Department of Biochemistry*

Research project support

DR R. W. FARNDALE AND OTHERS

Laboratory Safety, preparation of scientific figures and scientific reports, record keeping, experimental design, seminar presentation. 7–11 Oct.

Data Handling Classes W. 2.30–4.30 from 30 Oct.

Research Project Colloquium

PROF. D. J. ELLAR AND DR T. R. HESKETH (Joint chairs)

Presentation of interim reports. 9–10 Dec.

Research Project Colloquium

PROF. D. J. ELLAR AND DR T. R. HESKETH (Joint chairs)

Presentation of final reports. 8–9 May

Option Lectures

1. PROF. D. J. ELLAR AND OTHERS
Option Organiser: Prof. D. J. Ellar
Bacterial Virulence and Antimicrobial Chemotherapy (Fifteen lectures)
2. PROF. J. O. THOMAS AND OTHERS
Option Organiser: Prof. J. O. Thomas
Proteins, Nucleic Acids and Their Interactions (Fifteen lectures)
3. DR M. D. BRAND AND OTHERS
Option Organiser: Dr M.D. Brand
Mitochondria and Bioenergetics (Fifteen lectures)
4. DR C. J. HOWE AND OTHERS
Option Organiser: Dr C. J. Howe
Plant Cell and Molecular Biology (Fifteen lectures)
5. PROF. R. J. JACKSON AND OTHERS
Option Organisers: Prof. R. J. Jackson and Dr T. Krude
Control of Gene Expression in Eukaryotes (Fifteen lectures in part joint with Part II Zoology)
6. PROF. K. SIDDLER AND OTHERS
Option Organiser: Prof. K. Siddle
Medical Biochemistry (Fifteen lectures)
7. DR F. HOLLFELDER AND OTHERS
Option Organiser: Dr F. Hollfelder
Enzyme Mechanisms and the Evolution of Enzyme Function (Fifteen lectures)
8. PROF. J. C. METCALFE AND OTHERS
Option Organisers: Prof. J. C. Metcalfe and Dr A. A. Grace
Cardiovascular Molecular and Cellular Biology (Fifteen lectures)
9. DR T. R. HESKETH AND OTHERS
Option Organisers: Dr T. R. Hesketh and Dr N. Affara
Oncogenes, Tumour Suppressor Genes and Carcinogenesis (Fifteen lectures in part joint with Option E of Part II Pathology)
10. DR S. LUMMIS AND OTHERS
Option Organiser: Dr S. Lummis
Perspectives in Molecular Neurobiology (Fifteen lectures)
12. DR N. J. GAY AND OTHERS
Option Organiser: Dr N. J. Gay
Biotechnology (Fifteen lectures)
13. DR D. M. CARRINGTON AND OTHERS
Option Organiser: Dr D. M. Carrington
Regulation of the Eukaryotic Cell Cycle (Fifteen lectures)
14. PROF. R. N. PERHAM AND OTHERS
Option Organisers: Prof. R. N. Perham and Dr S. E. Jackson
Protein Folding and Assembly (Fifteen lectures)

NATURAL SCIENCES TRIPOS, PART III (continued)

MICHAELMAS 2002

LENT 2003

EASTER 2003

CHEMISTRY

Course Organiser: Dr J. H. Keeler E-mail: James.Keeler@ch.cam.ac.uk

Students must register for the course in the *Department of Chemistry, Lensfield Road*, between 9 and 1 or 2 and 4 on Tuesday 8 October. A booklet containing details of the times of the lecture courses will be given out on registration. Others interested in the lecture courses can obtain a copy of this booklet on application to the Course Co-ordinator. This information is also available on the website, www-teach.ch.cam.ac.uk

All students must attend an introductory talk concerning the course at 10 a.m. on Wednesday, 9 October in *Lecture Theatre 2*.

All lectures will be given in the *Department of Chemistry, Lensfield Road* unless otherwise stated

EXPERIMENTAL AND THEORETICAL PHYSICS

Course Organiser: Dr B. D. Simons E-mail: III-physics@phy.cam.ac.uk

Students must take **course L, M** and **T**. **Course N** is non-examinable.

Students must offer three Major Options from the Michaelmas Term courses, together with three Minor Options chosen from the Lent Term courses (or two Minor Options if a Long Vacation Project has been offered). The material of **course L** is examined at the start of the term following that in which each block, Major Options and Minor Options, is given.

The course will begin with a meeting on the first Wednesday of Full Term (9 Oct.) at 12.30 p.m. in the *Small Lecture Theatre*.

Lectures are given at the *Cavendish Laboratory (West Cambridge)* unless otherwise stated
The lecture rooms are indicated as follows: (P) Pippard Lecture Theatre, (S) Small Lecture Theatre, (M) Mott Seminar Room

All Part III Mathematics courses are given in the *Centre for Mathematical Sciences, Clarkson Road* in the rooms indicated in parentheses.

Course L

Major Options

- PROF. P. B. LITTLEWOOD (*P*)
 Principles of Quantum Condensed Matter Physics
 Tu. Th. S. 11
- PROF. A. M. DONALD (*S*)
 Structure and Properties of Condensed Matter
 M. W. F. 9
- PROF. A. C. FABIAN, PROF. A. N. LASENBY AND
 PROF. M. J. REES (*P*)
 Gravitational Astrophysics and Cosmology M. W. F. 11
- DR J. R. BATLEY (*P*)
 Particle Physics M. W. F. 12
- DR K. F. PRIESTLEY AND PROF. D. MCKENZIE (*S*)
 Physics of the Earth as a Planet M. W. F. 10
- DR B. D. SIMONS (*S*)
 Concepts in Theoretical Physics Tu. Th. S. 12

Minor Options

- PROF. B. R. WEBBER (*S*)
 Gauge Field Theory Tu. Th. 9
- DR D. J. C. MACKAY (*P*)
 Information Theory, Pattern Recognition and
 Neural Networks W. F. 11
- DR M. P. HOBSON (*S*)
 General Relativity M. W. 9
- DR M. A. PARKER (*S*)
 The Frontiers of Particle Physics M. 12, F. 9
- PROF. G. G. LONZARICH AND DR J. R. COOPER (*M*)
 Experimental Aspects of Superconductivity
 and Generalised Quantum Order
 M. W. 10
- PROF. M. PEPPER AND DR C. H. W. BARNES (*M*)
 Quantum Effects in Low-dimensional
 Semiconductor Devices M. 12, F. 9
- DR D. HASKO (*M*)
 Microelectronics and Semiconductor
 Materials M. W. 9
- DR H. SIRRINGHAUS (*M*)
 Optoelectronics Tu. Th. 10
- PROF. J. E. FIELD AND OTHERS (*S*)
 Shock Waves and Explosives W. F. 12
- DR E. M. TERENTJEV (*M*)
 Polymers and Colloids Tu. Th. 9
- PROF. A. N. LASENBY AND DR C. J. L. DORAN (*S*)
 Physical Applications of Geometric Algebra
 M. W. 10
- DR C. A. HANIFF (*S*)
 The Frontiers of Experimental Astrophysics
 Tu. Th. 10
- DR S. THOMAS AND OTHERS (*S*)
 Medical Physics Tu. Th. 12
- DR W. G. REES (*S*)
 Physics of Remote Sensing Tu. F. 2
- PROF. M. C. PAYNE (*P*)
 Quantum Information W. F. 12
- DR T. A. J. DUKE AND DR C. MACPHEE (*S*)
 Biological Physics Tu. Th. 11
- DR S. VYAKARNAM AND OTHERS (*S*)
 Entrepreneurship M. Th. 4

NATURAL SCIENCES TRIPOS, PART III (continued)

MICHAELMAS 2002

LENT 2003

EASTER 2003

EXPERIMENTAL AND THEORETICAL PHYSICS (continued)

Not more than one of the following courses from Part III Mathematics (p. 160) may be offered for examination.
 PROF. I. T. DRUMMOND
 Quantum Field Theory Tu. Th. S. 9 (MR3)
 DR C. A. TOUT
 Structure and Evolution of Stars M. W. F. 12 (MR11)

Course M

Course N

THE STAFF OF THE CAVENDISH LABORATORY (S)
 Themes of Cavendish Research Tu. 10

PROF. J. A. C. BLAND AND OTHERS
 Cavendish Physical Society seminars W. 4.30

Course T

DR R. PADMAN AND OTHERS
 Project Work

The following course from Part III Mathematics (p. 160) may be offered for examination.
 DR J. M. EVANS
 Advanced Quantum Field Theory
 Tu. Th. S. 11 (MR4)

DR M. MASSIMI (S)
 Philosophy of Physics F. 10 (first four lectures)
 DR M. D. SEGALL AND OTHERS (S)
 Modelling with Supercomputers F. 10 (last four lectures)
 THE STAFF OF THE CAVENDISH LABORATORY
 Current Research Work in the Cavendish Laboratory
 Open Days for students reading Part II or Part III
 Physics W. 2–5 The Open Days will start with introductory talks at 2 p.m. in the *Cavendish Laboratory*
 Research in the *Rutherford Building* (29 Jan. in *Small Lecture Theatre*)
 Research in the *TCM Group* (5 Feb. 2.15 in *TCM Seminar Room*)
 Research in the *Mott Building I* (12 Feb. in *Small Lecture Theatre*)
 Research in the *Mott Building II* (19 Feb. in *Small Lecture Theatre*)

PROF. J. A. C. BLAND AND OTHERS
 The same continued.

DR R. PADMAN AND OTHERS
 The same continued.

PROF. M. WARNER AND OTHERS (P)
 Examples Class in General Physics
 Tu. F. 2–4 (Eight classes)

PROF. J. A. C. BLAND AND OTHERS
 The same continued.

DR R. PADMAN AND OTHERS
 The same continued.

GEOLOGICAL SCIENCES AND MINERAL SCIENCES

Students attend the seminar course in the Michaelmas Term and take three options in the Lent and Easter Term.

Seminar Course

A series of seminars will be run during the Michaelmas Term. Tu. 5 *Tilley Lecture Theatre*; Th. 12 *Harker Room*

Option M6 Diffraction, Electron Microscopy and Microanalysis

DR G. LUMPKIN, DR M. WELCH, DR S. A. T. REDFERN AND DR M. T. DOVE
 Convenor: Dr I. Farnan
 Lectures. M. F. 9 *Oxburgh Room*
 Practicals. M. F. 10–11.30 *IB Minerals Laboratory*

Option 6 Continental Tectonics and Mountains

DR J. A. JACKSON, DR N. HOVIUS AND DR M. ALLEN
 Convenor: Dr J. A. Jackson
 Lectures. Tu. Th. 9 *Tilley Room*
 Practicals. Tu. 10–11.30, Th. 10–11.30
Petrology Laboratory

Option 7 Oceanic and Continental Margins

PROF. R. S. WHITE, DR J. HAINES AND A. N. OTHER
 Convenor: Prof. R. S. White
 Lectures. Tu. F. 2 *Harker Room*
 Practicals. Tu. F. 3–4.30 *Petrology Laboratory*

Option 8 Metamorphic and Igneous Processes

PROF. M. J. BICKLE, DR T. J. B. HOLLAND AND DR A. GALY
 Convenor: Prof. M. J. Bickle
 Lectures. M. Th. 2 *Harker Room*
 Practicals. M. Th. 3–4.30 *Palaeontology Laboratory*

Option 9 Quaternary Oceans and Climate Change

PROF. I. N. McCAYE, PROF. N. J. SHACKLETON, PROF. H. E. ELDERFIELD AND A. N. OTHER
 Convenor: Prof. H. E. Elderfield
 Lectures. M. 9, W. 2 *Harker Room*
 Practicals. M. 10–11.30, W. 3–4.30 *Structural Laboratory*

The same continued. (Eight revision sessions)

The same continued. (Eight revision sessions)

The same continued. (Eight revision sessions)

The same continued. (Eight revision sessions)

NATURAL SCIENCES TRIPOS, PART III (continued)

MICHAELMAS 2002

LENT 2003

EASTER 2003

GEOLOGICAL SCIENCES AND MINERAL SCIENCES (continued)

Option 10 Ancient Ecosystems

PROF. S. CONWAY-MORRIS AND

DR N. J. BUTTERFIELD

Convenor: Prof. S Conway-Morris

Lectures. W. F. 9 *Harker Room**Practicals.* W. F. 10–11.30 *Palaeontology*
Laboratory

The same continued. (Eight revision sessions)

Option M4 Properties of Crustal Materials

DR S. A. T. REDFERN, DR M. WELCH AND

PROF. M. A. CARPENTER

Convenor: Dr S. A. T. Redfern

Lectures. M. W. 2 *Oxburgh Room**Practicals.* M. W. 3–4.30 *IB Harker 2*

The same continued. (Eight revision sessions)

Option M5 Computational Methods in Crystal Physics

DR E. ARTACHO, DR C. J. PICKARD AND

DR M. CALLEJA

Convenor: Dr E. Artacho

Lectures. W. F. 9 *Oxburgh Room**Practicals.* W. F. 10–11.30 *IB Minerals*
Laboratory

The same continued. (Eight revision sessions)

MATERIALS SCIENCE AND METALLURGY

Course Organiser: Dr B. A. Glowacki E-mail: PartIII@msm.cam.ac.uk

A detailed timetable is available in the Department

All lectures will be given in the *Austin Lecture Room*

PROF. A. L. GREER

C19 Thermal Analysis (Four lectures)

DR P. A. MIDGLEY

C20 Electron Microscopy and Analysis (Eight lectures)

DR M. G. BLAMIRE

C21 Optical, X-Ray and Neutron Techniques (Six lectures)

PROF. C. J. HUMPHREYS

M1 Electron and Photons in Solids (Twelve lectures)

PROF. T. W. CLYNE

M2 Solidification and Powder Processing (Twelve lectures)

DR W. J. CLEGG

M5 High Temperature Materials (Twelve lectures)

DR K. M. KNOWLES

M7 Electronic Ceramics (Twelve lectures)

DR R. E. CAMERON

M11 Biomaterials (Twelve lectures)

DR Z. H. BARBER

M12 Thin Films (Twelve lectures)

DR E. R. WALLACH

M14 Joining (Twelve lectures)**Speakers from Industry**

(29 Oct., 2 Dec.)

Visit to Industry

Half day (4 Dec.)

Examples Classes

Timetable available in the Department

Project

Teamwork project

Management Option

(Details to be announced.)

Language Option(Two hours per week) M. 4–6 or Tu. 4–6 or W. 2–4 or
Th. 2–4 or Th. 4–6 or F. 2–4**Interactive Materials Consultancy**

(4 Dec.)

DR R. V. KUMAR

M3 Extraction and Recycling (Twelve lectures)

DR Z. H. BARBER AND OTHERS

M4 Ferroelectrics (Twelve lectures)

PROF. A. H. WINDLE AND DR J. A. ELLIOTT

M6 Polymeric Materials (Twelve lectures)

DR J. A. LEAKE

M8 Glasses and Nanomaterials (Twelve lectures)

PROF. D. J. FRAY

M9 Ionic Materials (Twelve lectures)

DR M. G. BLAMIRE

M10 Materials Aspects of Microdevices
(Twelve lectures)

DR B. A. GLOWACKI

M13 Magnetic and Superconducting Materials
(Twelve lectures)

PROF. D. J. FRAY AND OTHERS

Patent, Innovation and Entrepreneurship
(Four lectures)**Speakers from Industry**

(30 Jan., 6 Mar.)

Visit to Industry

Half day (18 Mar.)

Examples Classes

Timetable available in the Department

Project

Individual research project

Management Option

(Details to be announced.)

Language Option

The same continued.

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