NATURAL SCIENCES TRIPOS, PART IA

MICHAELMAS 2000	LENT 2001	EASTER 2001

LEARNING DAY

Committee for the Natural Sciences Tripos Learning Day for first-year students.

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.

Wednesday, 4 October 2000: *Chemistry Lecture Theatre I, Lensfield Road*, 2–4.15 p.m.

BIOLOGY OF CELLS

Course Co-ordinator: Dr D. K. Summers E-mail dks11@.cam.ac.uk

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

DR S. H. P. MADDRELL
The Living Cell. (Four lectures)
PROF. D. J. ELLAR
Macromolecules in the Cell. (Five lectures)
DR J. DAVIES
Membranes: Molecular Superstructure. (Five lectures)
DR K. V. BRINDLE
Utilisation of Fuel Molecules. (Four lectures)
DR A. G. SMITH
Energy Transduction and Biosynthesis. (Six lectures)
DR A. MULLINGER, DR P. E. REYNOLDS 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 D. K. SUMMERS, DR D. MACDONALD AND DR P. E. REYNOLDS
Practical Work

PROF. J. SMITH
Development. (Six lectures)
DR K. JOHNSTONE
Cell Signalling. (Six lectures)
DR H. SKAER, PROF. J. SMITH AND OTHERS
Practical Work: demonstrations and revision

CHEMISTRY

Course Co-ordinator: 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 S. BALASUBRAMANIAN
Chemical Reactions (Eight lectures)

Practical Chemistry. M. F. 10–12 *or* 11–1 and 2–5; Tu. Th. 11–1 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, 3 Oct. when they will be assigned attendance on the morning and afternoon periods of one particular day in either odd weeks (beginning Th. 5 Oct.) or even weeks (beginning Th. 12 Oct.) of the term

DR S. BALASUBRAMANIAN
Chemical Reactions (Four lectures, continued)
DR J. H. KEELER
Kinetics of Reactions (Ten lectures)
Energetics and Equilibria (Ten lectures)

Practical Chemistry
Attendance days as for Michaelmas Term

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

Practical Chemistry
Attendance days as for Michaelmas Term

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
Science Computing. Tu. S. 11 (Six lectures, beginning 7 Nov.) *or* Th. S. 11 (Six lectures, beginning 9 Nov.) *Chemical Laboratory, Lensfield Road*

Practical work[1]
Registration for a total of one hour of formal practical work will take place in the first lecture

DR F. H. KING
Practical work[1]

DR F. H. KING
Practical work[1]

Course B
DR F. H. KING
Scientific Computing. Th. F. S. 9 (Two and a half days, beginning 30 Nov.) *Old Music School (lower classroom), Downing Place*

Practical work[1]

DR F. H. KING
Practical work[1]

DR F. H. KING
Practical work[1]

[1] The computing facilities used for the practical work will be available for informal use throughout the year.

NATURAL SCIENCES TRIPOS, PART IA (continued)

MICHAELMAS 2000 **LENT 2001** **EASTER 2001**

ELEMENTARY MATHEMATICS FOR BIOLOGISTS

Course Co-ordinator: Dr J. Barrett E-mail: J.Barrett@gen.cam.ac.uk
For information on course lecturers contact Course Co-ordinator

All lectures and examples classes will take place in *the Hopkinson Lecture Room, New Museums Site on* M. W. F. 9

Solving equations (Four lectures, beginning 6 Oct.)
Indicies and logs (Two lectures, beginning 20 Oct.)
Graphs and plotting functions (Six lectures, beginning 27 Oct.)
Laboratory practice (Two lectures, beginning 17 Nov.)
Calculus (Two lectures, beginning 24 Oct.)

Calculus (continued) (Six lectures, beginning 19 Jan.)
Statistics (Ten lectures, beginning 9 Feb.)

Organismal mechanics (Two lectures, beginning 27 Apr.)
Frequency Analysis (Two lectures, beginning 4 May)
Revision (Four lectures, beginning 11 May)

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.

Throughout the year there will be an example class or computing class accompanying each two lectures. Further details will be issued in lectures.

Two designated examples or practical computing classes will be assessed during Michaelmas and Lent Terms, and the marks will contribute to the final examination mark.

EVOLUTION AND BEHAVIOUR

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

All lectures will be given in *the Department of Zoology on* Tu. Th. S. 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)

Practical work: M. 12–1, 2–4 and M. 11–12 (alternate weeks) *or* Tu. 2–5 and Tu. 12–1 (alternate weeks) *Department of Zoology*

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. N. MACKINTOSH
Evolution of Behaviour. (Twelve lectures)

Practical work: as for the Michaelmas Term *Department of Zoology*

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

Practical work: as for the Michaelmas Term *Department of Zoology*

GEOLOGY

Course Co-ordinator: 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 S. GIBSON 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)
DR P. F. FRIEND
Introduction to Geology of Arran (One Lecture)
Field Course in Arran
Party A. 15–23 Mar.
Party B. 22–30 Mar.
Party C. 29 Mar.–6 Apr.

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

Practical work: There are three one-hour practicals to be taken per week: one during the periods Tu. 10–1, W. 9–1, one during Th. 10–1, W. 9–1, and the third during S. 10–11, M. 9–1. Students must register for practical classes in the Department of Earth Sciences on Monday, 2 *or* Tuesday, 3 October between 9.30 and 1 *or* 2.30 and 5.

Long Vacation Course: A course on Geological Field Methods will be given 25 June–5 July 2001 for students intending to take a geological subject.

NATURAL SCIENCES TRIPOS, PART IA (continued)

MICHAELMAS 2000 **LENT 2001** **EASTER 2001**

MATERIALS AND MINERAL SCIENCES

Course Co-ordinator: Dr S. A. T. Redfern 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

DR S. A. T. REDFERN
Structure of Materials (Twelve lectures)
DR T. J. MATTHAMS
Mechanical Behaviour (Twelve lectures)

DR D. M. PYLE
Phase Equilibria (Eight lectures)
DR J. A. LITTLE
Diffraction and Imaging (Ten lectures)
DR I. FARNAN
Functional Properties of Materials (Five lectures)

Annual Materials and Minerals Lecture
PROF. E. K. H. SALJE
A public lecture on advances in Materials and Mineral Sciences. W. 12 (14 Mar.) *Physiology Lecture Theatre*

PROF. W. BONFIELD
Bio-Medical Materials (Six lectures)
DR 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, 5 October at 11 a.m.

Students should register for practical work at the *Department of Earth Sciences* between 9.30 and 12.30 or 2.30 and 4.30 on Tuesday, 3 October or Wednesday 4 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. 169).

MATHEMATICS*

All lectures given for this course will start at 9 a.m. promptly

Course A
DR C. CLARKE
Mathematics I. Tu. Th. S. 9 *Physiological Laboratory*
Examples class. W. 4.30–6 (Two classes, 8, 22 Nov.) *Arts School, Room A*

Course B
DR A. T. WINTER
Mathematics I. Tu. Th. S. 9 *Chemical Laboratory*
Examples class. W. 4.30–6 (Four classes, 18 Oct., 1, 15, 29 Nov.) *Arts School, Room A*

Course A
DR P. H. HAYNES
Mathematics II. Tu. Th. S. 9 (Sixteen lectures, ending 22 Feb.) *Physiological Laboratory*
Examples Class. W. 4.30–6 (Two classes, 7, 21 Feb.) *Arts School, Room A*
DR F. H. KING
Computing Techniques and Applications.** Tu. Th. S. 9 (Six lectures, beginning 24 Feb.) *Chemical Laboratory*

Course B
DR M. A. BUCHER
Mathematics II. Tu. Th. S. 9 (Sixteen lectures, ending 22 Feb.) *Chemical Laboratory*
Examples Class. W. 4.30–6 (Two classes, 14, 28 Feb.) *Arts School, Room A*
DR F. H. KING
Computing Techniques and Applications.** Tu. Th. S. 9 (Six lectures, beginning 24 Feb.) *Chemical Laboratory*

Course A
DR A. J. MACFARLANE
Mathematics III. Tu. Th. S. 9 *Physiological Laboratory*

Course B
DR A. BURGESS
Mathematics III. Tu. Th. S. 9 *Chemical Laboratory*

* It is strongly recommended that everyone attending this course should attend at least the first lecture of the Computing Course for Physical Scientists given in the Michaelmas Term (see p. 169).

** Associated with this course there will be an assessed exercise which will be taken into account by the Examiners. The assessments will take place in the afternoons of 7, 8, and 9 May 2001 in the *Foyer of the Babbage Lecture Theatre*. Further details will be issued during the course.

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NATURAL SCIENCES TRIPOS, PART IA (continued)

MICHAELMAS 2000	LENT 2001	EASTER 2001

PHYSICS

Year Group Co-ordinator: Dr G. A. C. Jones E-mail: IA-physics@phy.cam.ac.uk

*Course **A** is given in the Cockcroft Lecture Theatre, New Museums Site.*

*Course **B** is given the Chemical Laboratory, Lensfield Road*

*Laboratory Work, course **P**, takes place at the Cavendish Laboratory (West Cambridge).*

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

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 for Physical Scientists' unless they are familiar with spreadsheets and computer-aided algebra.

All students must attend an introductory talk and register for laboratory course **P** at 11.30 a.m. on Wednesday 4 October at the *Cavendish Laboratory*.

Laboratory work is continuously assessed.
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.

Course A

PROF. M. S. LONGAIR
Foundations of Classical and Statistical Physics

DR J. M. RILEY
Oscillations and Waves (first twelve lectures)
DR D. A. GREEN
Fields, Relativity and Quantum Physics (last twelve lectures)

The same continued

Course B

DR J. R. WALDRAM
Foundations of Classical and Statistical Physics

DR J. R. BATLEY
Oscillations and Waves (first twelve lectures)
DR J. R. CARTER
Fields, Relativity and Quantum Physics (last twelve lectures)

The same continued

Course P

DR T. O. WHITE 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

Course PC

Computing for Physical Scientists (see p. 169)

PHYSIOLOGY OF ORGANISMS

Course Organiser: Prof. R. C. Thomas E-mail: rct26@cam.ac.uk

Lectures. Tu. Th. S. 2 *Anatomy Main Lecture Theatre*

PROF. R. C. THOMAS
Cells in Water (Three lectures, 5–10 Oct.)
DR K. JOHNSTONE
The Physiology of Bacteria (Three lectures, 12–17 Oct.)
DR J. DAVIES
The Physiology of Fungi (Three lectures, 19–24 Oct.)
DR D. HANKE
Plant Nutrient Acquisition and Allocation (Four lectures, 26 Oct.–2 Nov.)
DR M. J. MASON
Animal O_2 Acquisition and Respiration (Four lectures, 4–11 Nov.)
DR C. J. SCHWIENING
Animal Circulatory Systems (Four lectures, 14–21 Nov.)
DR S. O. SAGE
Osmo- and Ionic Regulation in Animals (Three lectures, 23–28 Nov.)

Practical Work
W. Th. *or* F. 12–1 and 2–4

Lectures. Tu. Th. S. 12 *Anatomy Main Lecture Theatre*

DR D. HANKE
Detecting Change: Plant Growth Substances (Four lectures, 18–25 Jan.)
DR D. HANKE
Plant Adaptations to Environmental Change (Five lectures, 27 Jan.–6 Feb.)
PROF. T. D. LAMB
Detecting Change in Animals (Five lectures, 8–17 Feb.)
DR D. J. TOLHURST
Homeostatic Control (Five lectures, 20 Feb.–1 Mar.)
DR H. P. C. ROBINSON
The Structure and Function of Muscle (Three lectures, 3–8 Mar.)
DR M. J. MASON
Respiration in Exercise and Abnormal Pressures (Two lectures, 10–13 Mar.)

Practical Work
The same continued

Lectures. Tu. Th. S. 12 *Anatomy Main Lecture Theatre*

DR B. BOUTILLIER
Integrative Animal Physiology (Six lectures, 26 Apr.–8 May)
DR L. ANNETT
Motivation and Stress (Six lectures, 10–22 May)

Practical Work
The same continued

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

MICHAELMAS 2000 LENT 2001 EASTER 2001

QUANTITATIVE BIOLOGY

Course Organiser: Prof. C. A. Gilligan E-mail: cag1@cam.ac.uk

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*.

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. Tu. Th. 9

PROF. C. A. GILLIGAN
Introduction to the Growth and Decline of Populations. (Ten lectures)

PROF. C. P. ELLINGTON
Physiological Modelling (Six lectures)

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
PROF. C. A. GILLIGAN, PROF. C. P. ELLINGTON AND DR S. GUBBINS
Th. 2–3.15, 3.30–4.45 *or* 4.45–6

Lectures. Tu. Th. 9

MR J. J. TRAPP
Introduction to Modelling of Interacting Populations. (Seven lectures)

DR B. T. GRENFELL
Interacting Populations: Ecological Applications. (Four lectures)

DR J. A. BARRETT
Introduction to Statistical Methods. (Five lectures)

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
MR J. J. TRAPP. DR B. T. GRENFELL AND DR J. A. BARRETT
Th. 2–3.15, 3.30–4.45 *or* 4.45–6

Lectures. Tu. Th. 9

MRS E. A. ALDWORTH
Interacting Populations: Biochemical Applications. (Four lectures)

DR W. AMOS
Introduction to Statistical Methods. (Four lectures)

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
MRS E. A. ALDWORTH AND DR W. AMOS
Th. 2–3.15, 3.30–4.45 *or* 4.45–6

Note: 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 with only one other subject in Part IB of the Natural Sciences Tripos.

PART IB

ADVANCED PHYSICS

The Year Group Co-ordinator: Dr S. F. Gull E-mail: IB-advanced-physics@phy.cam.ac.uk

*Lectures are given in the Cockcroft Lecture Theatre, New Museums Site, unless otherwise stated. Laboratory Work, course **R**, takes place at the Cavendish Laboratory (West Cambridge)*

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 Mathematics (p. 177) 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 Mathematics.

All students must attend an introductory talk and register for laboratory course **R** at 2.30 p.m. on Wednesday 4 October at the *Cavendish Laboratory*

Classes are open at the hours listed below. 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.

Course D

DR D. J. C. MACKAY
Dynamics. Tu. S. 9

DR R. D. E. SAUNDERS
Experimental Methods. Th. 9

DR W. ALLISON
Waves (first twelve lectures). M. W. F. 12

DR S. F. GULL
Electromagnetism (last twelve lectures). M. W. F. 12

Course F

PROF. P. B. LITTLEWOOD AND OTHERS
Examples Class in Mathematical Physics. W. 2.15–4.15 (Two classes, 15 Nov., 29 Nov.) *Room A, Arts School, Bene't Street*
This class interleaves with the Mathematics examples class.

Course G

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

DR H. P. HUGHES
Optics (first twelve lectures). Tu. Th. S. 9

DR M. C. PAYNE
Quantum Mechanics I (last twelve lectures). Tu. Th. S. 9

DR S. F. GULL
Electromagnetism (first twelve lectures). M. W. F. 12

PROF. A. HOWIE
Thermal Physics (last twelve lectures). M. W. F. 12

PROF. P. B. LITTLEWOOD AND OTHERS
The same continued (Seven classes beginning 24 Jan.)

The same continued. Tu. Th. S. 9

PROF. R. H. FRIEND
Condensed Matter Physics. M. W. F. 12

The same continued (One class, 2 May)

continued >

NATURAL SCIENCES TRIPOS, PART IB (continued)

MICHAELMAS 2000 LENT 2001 EASTER 2001

ADVANCED PHYSICS (continued)

Course R

DR R. D. E. SAUNDERS AND OTHERS
Systems and Measurement. Tu. *or* Th. 10–6 *or* F. and M. 2–6

DR R. J. BUTCHER AND OTHERS
Physics of Waves. Tu. *or* Th. 10–6 *or* F. and M. 2–6

ANIMAL BIOLOGY

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

Lectures will take place at the *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 6 Oct.)

Brain and Behaviour

PROF. S. B. LAUGHLIN AND PROF. M. BURROWS
(Twelve lectures, beginning 3 Nov.)

Adaptation and Evolution

DR S. H. P. MADDRELL AND DR A. BALMFORD
Insects (Twelve lectures, beginning 19 Jan.)

DR J. A. CLACK AND DR A. E. FRIDAY
Vertebrates (Twelve lectures, beginning 16 Feb.)

Environmental Physiology

PROF. C. P. ELLINGTON AND DR R. BOUTILIER
(Twelve lectures, beginning W. 25 Apr.)
Note the early start of this course

Students will be expected to do four hours practical work per week between 12 and 5 on Wednesdays *or* 11 and 5 on Thursdays.

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. Details are posted in the Laboratory.

BIOCHEMISTRY AND MOLECULAR BIOLOGY

Course Organiser: Dr T. R. Hesketh E-mail: t.r.hesketh@bioc.cam.ac.uk

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

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 6 Oct.

Genes and proteins; macromolecules in action

DR C. J. HOWE
Gene cloning and manipulation. Genetic engineering (Five lectures, from 6 Oct.)

PROF. J. O. THOMAS
Control of gene expression: DNA Structure and DNA–Protein Interactions (Five lectures, from 18 Oct.)

DR C. W. J. SMITH
Control of gene expression; Transcription, RNA processing and translation (Five lectures, from 30 Oct.)

PROF. SIR TOM BLUNDELL
Protein structure, flexibility and function (Five lectures, from 10 Nov.)

PROF. R. N. PERHAM
Enzyme catalysis and protein engineering (Five lectures, from 22 Nov.)

Energy transduction, cell signalling and cell proliferation

(First lecture on 17 Jan., last lecture on 16 Mar.)

DR G. C. BROWN
Energy transduction in bacteria, mitochondria and chloroplasts (Six lectures, from 17 Jan.)

DR K. M. BRINDLE
Control of metabolism (Six lectures, from 31 Jan.

DR R. W. FARNDALE
Transmembrane signalling; molecules and mechanisms (Six lectures, from 14 Feb.)

DR T. R. HESKETH
Control of Eukaryotic cell growth; oncogenes, tumour suppressor genes, and cancer (Eight lectures, from 28 Feb.)

Biochemistry of prokaryotes

(First lecture on 25 Apr., last lecture on 11 May)

PROF. G. P. C. SALMOND AND OTHERS
Biochemistry of prokaryotes (Eight lectures, from 25 Apr.)

CHEMISTRY A

Course Co-ordinator: 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. N. C. HANDY
Quantum Mechanics (Twelve lectures)

DR R. D. AMOS
Mathematics for Chemists (first three weeks). M. F. 9 (non examinable course for those not attending IB Mathematics for Natural Sciences)

DR R. D. AMOS AND DR M. J. DUER
Symmetry and Bonding (Twelve lectures)

Practical Chemistry. 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, 3 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, 4 October at 10.45 a.m. in *Lecture Theatre 1*

DR J. H. KEELER
Molecular Energy Levels and Thermodynamics (Twelve lectures)

PROF. D. A. KING
Solids and Surfaces (Twelve lectures)

Practical Chemistry. Attendance days as for Michaelmas Term

DR J. A. PYLE AND DR P. D. WOTHERS
Reactivity and Solutions (Twelve lectures)

NATURAL SCIENCES TRIPOS, PART IB (continued)

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CHEMISTRY B

Course Co-ordinator: 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
Key Organic Reactions (Twelve lectures)
PROF. I. FLEMING AND DR N. BAMPOS
Molecules-Structures and Spectra (Twelve lectures)

Practical Chemistry. 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, 3 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, 4 October at 10.45 a.m. in *Lecture Theatre 1*.

DR J. M. GOODMAN AND DR W. T. S. HUCK
Shape and Organic Reactivity (Twelve lectures)
PROF. B. F. G. JOHNSON AND DR A. E. H. WHEATLEY
Chemistry of the Metallic Elements (Twelve lectures)

Practical Chemistry. Attendance days as for Michaelmas Term

DR W. JONES AND DR J. P. ATTFIELD
Chemistry beyond Molecules (Twelve lectures)

ECOLOGY

Course co-ordinator: 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 Department of Zoology,* on M. W. F. 9

DR E. V. J. TANNER
Introduction to the course (One lecture, 6 Oct.)
DR R. S. K. BARNES
The marine ecosystem (Six lectures, 9–20 Oct.)
DR E. V. J. TANNER AND DR N. BARSOUM
Freshwater communities (Five lectures, 23 Oct–1 Nov.)
DR E. V. J. TANNER
World climates and vegetation; climate change (Four lectures, 3–10 Nov.)
DR P. J. GRUBB
European vegetation and soils; pre-industrial human impacts (Four lectures, 13–20 Nov.)
PROF. H. GRIFFITHS
Impacts of rising CO_2 and other pollutants (Four lectures, 22–29 Nov.)

PROF. N. B. DAVIES
Predators and prey (Six lectures, 19–31 Jan.)
DR R. A. RUSSELL AND DR T. COULSON
Evolution of social behaviour (Six lectures, 2–14 Feb.)
DR M. E. J. MAJERUS
Ecological genetics (Six lectures, 16–28 Feb.)
DR B. GRENFELL
Ecological dynamics (Six lectures, 2–14 Mar.)

DR E. V. J. TANNER
Biodiversity (Six lectures, 25 Apr.–7 May)
Note the early start of this course
DR A. BALMFORD
Humans and ecology (Six lectures, 9–21 May)

EXPERIMENTAL PSYCHOLOGY

Course Organiser: Prof. A. Dickinson E-mail: ad15@cus.cam.ac.uk

Lectures will be held *in Lecture Theatre 3, Department of Physiology, Practical work in the Psychological Laboratory* unless otherwise stated

PROF. B. C. J. MOORE AND OTHERS
Human Experimental Psychology: Perception; Memory; Action; Psycholinguistics (Twenty-four lectures, 5 Oct.–28 Nov.). Tu. Th. S. 11

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

PROF. A. DICKINSON
Learning and Memory (Nine lectures, 18 Jan.–6 Feb.). Tu. Th. S. 11
DR R. A. MCCARTHY
Neuropsychology (Three lectures, 8, 10, 13, Feb.). Tu. Th. S. 11
PROF. N. J. MACKINTOSH
Intelligence (Three lectures, 15, 17, 20 Feb.). Tu. Th. S. 11
DR K. C. PLAISTED
Reasoning (Three lectures, 22, 24, 27 Feb.). Tu. Th. S. 11
DR K. C. PLAISTED
Developmental Psychology (Six lectures, 1–13 Mar.). Tu. Th. S. 11

Practical Work. The same continued

DR M. A. O'RIORDAN
Abnormal Psychology (Six lectures, 26 Apr.–8 May). Tu. Th. S. 11

Practical Work. The same continued

[1] The computing facilities used for the practical work will be available for informal use throughout the year.

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NATURAL SCIENCES TRIPOS, PART IB (continued)

MICHAELMAS 2000 **LENT 2001** **EASTER 2001**

FLUID MECHANICS

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

(A detailed timetable will be displayed in the Department)

The Teaching Co-ordinator is Dr D. M. Scott E-mail: Tripos@cheng.cam.ac.uk

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

Examples Classes
M. *or* W. 9–11

Practical Work
M. *or* W. 9–11 *or* M. 2–4

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

Continuous Contacting Processes
DR R. B. THORPE
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 (cont'd)
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

Students should register for practical work on Tuesday 3 October, between 2 and 4 p.m. at the *Department of Chemical Engineering*

GEOLOGICAL SCIENCES A

Course Co-ordinator: Dr J. A. D. Dickson E-mail: jadd1@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 (Ten lectures)
PROF. R. S. WHITE
Tectonics and Seismology (Eight lectures)
PROF. H. ELDERFIELD
Evolution of the Hydrosphere (Six lectures)

DR J. A. DICKSON
Biogenic and Chemical Sediments (Eight lectures)
DR P. F. FRIEND
Classic, Sedimentology (Eight lectures)
DR J. N. BUTTERFIELD
Palaeontology (Eight lectures)
Introduction to Southwest England field trip. Th. 10 (15 Mar.)
Geological Sciences Field Class. (16–28 Mar.)

DR P. BARRÉTT
Vertebrate Palaeontology (Five lectures)
DR N. J. WHITE
Sedimentary Basins Reviewed (Five lectures)

Practical Work. There are three practicals per week of about 1½ hours, to be taken between successive lectures. Students should go to the *Department of Earth Sciences* on Wednesday, 4 October, between 9.30 and 12.30, or 2.30 and 4.30, to register their choice of times from those available, which are M. W. F. 11–1, 2–4; Tu. Th. S. 10–1.

GEOLOGICAL SCIENCES B

Course Co-ordinator: Dr D. M. Pyle E-mail: dmp11@esc.cam.ac.uk

All lectures are held in the *Tilley Lecture Room, Department of Earth Sciences* on Tu. Th. S. 9

DR D. M. PYLE
In the Beginning ... (Three lectures)
DR A. H. SHEN
Rock Forming Minerals (Twelve lectures)
DR D. M. PYLE
Introductory Igneous Petrology (Six lectures)
DR M. J. BICKLE
Deep Structure and Composition of the Earth (Three lectures)

DR D. M. PYLE
Magmatic Settings (Five lectures)
DR T. J. B. HOLLAND
Introduction to metamorphism (Seven lectures)
DR M. B. HOLNESS
From Microscopic Structure to Macroscopic Processes (Nine lectures)
DR M. J. BICKLE
Evolution of the Himalayas (Three lectures)
Introduction to South West England field trip. Th. 10 (15 Mar.)
Geological Sciences Field Class (16–28 Mar.)

DR M. J BICKLE
Evolution of the Himalayas (Five lectures)
DR S. GIBSON
Igneous Case Studies (Four lectures)

Practical Work. There are three practicals per week of about 1½ hours, to be taken between successive lectures. Students should go to the *Department of Earth Sciences* on Wednesday, 4 October, between 9.30 and 12.30, or 2.30 and 4.30, to register their choice of times from those available, which are M. W. F. 11–1, Tu. Th. S. 10–12, M. Tu. 2–4.

NATURAL SCIENCES TRIPOS, PART IB (continued)

MICHAELMAS 2000	LENT 2001	EASTER 2001

HISTORY AND PHILOSOPHY OF SCIENCE

B.A. Manager: Dr J. Secord E-mail: jas1010@hermes.cam.ac.uk

All lectures will be delivered in *the Rayleigh Lecture Theatre, Free School Lane*

PROF. P. LIPTON
Philosophy of Science. W. F. 5 (weeks 5–8)
DR S. SCHAFFER
Natural Philosophy. M. W. 5 (weeks 1–4)

DR J. SECORD, DR J. FORRESTER AND DR N. HOPWOOD
History of Science and Medicine. M. W. 5 (weeks 1–4)
PROF. P. LIPTON
Philosophy of Science. F. 5 (weeks 5–8)
DR K. RIDDERBOS
Philosophy of Physics. W. 5 (weeks 5–8)

DR J. SECORD, DR J. FORRESTER AND DR N. HOPWOOD
History of Science and Medicine. W. 5 (weeks 1–4)
DR R. JENNINGS
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 Co-ordinator: Dr P. A. Midgley E-mail: Part IB@msm.cam.ac.uk

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

PROF. H. K. D. H. BHADESHIA
Metals and Alloys (Twelve lectures)
DR G. T. BURSTEIN
Environmental Behaviour of Materials (Twelve lectures)

DR R. E. CAMERON
Polymers (Nine lectures)
DR R. V. KUMAR
Ceramics and Ionic Solids (Six lectures)
DR P. D. BRISTOWE
Electrical and Magnetic Properties of Materials (Nine lectures)

DR R. C. REED
Mechanical Behaviour of Materials (Ten lectures)

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

The same continued

The same continued

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, 3 October or Wednesday 4 October.

Industrial Visits
Details to be announced

The same continued

MATHEMATICS

DR M. R. E. PROCTOR
Mathematical Methods I. M. W. F. 11 *Chemical Laboratory*

Examples Class* W. 2.15–4.15 (Two classes, 8, 22 Nov.) *Arts School Room A*

DR R. E. HUNT
Mathematical Methods II. M. W. F. 11 *Chemical Laboratory*

Example Class M. *or* W. 2.15–4.15 (Two classes, 26 Feb., 14 Mar.) *Arts School Room A*

DR R. M. WILLIAMS
Mathematical Methods III. M. W. F. 11 (Ten lectures) *Chemical Laboratory*

Examples Class W. 2.15–4.15 (Two classes, 25 Apr., 9 May) *Arts School Room A*

*This Examples Class interleaves with the Examples Class in Mathematical Physics, Advanced Course F, (p. 173).

MINERAL SCIENCES

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

Lectures will be given in the *New Seminar Room, Department of Earth Sciences* on M. W. F. 9

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

Practical Work. M. F. 10–12 *or* 2–4

DR M. A. CARPENTER
Symmetry and Physical Properties (Ten lectures)
DR S. A. T. REDFERN
Ferroelectric Phase Transitions in Oxides and Ceramics (Six lectures)
PROF. E. SALJE
Stability of Crystal Structures (Eight lectures)

DR I. FARNAN, DR M. T. DOVE AND DR S. A. T. REDFERN
Applications of mineral sciences (Nine lectures)

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, 4 October.

NATURAL SCIENCES TRIPOS, PART IB (continued)

MICHAELMAS 2000 **LENT 2001** **EASTER 2001**

MOLECULAR CELL BIOLOGY

Course Co-ordinator: Prof. J. C. Gray E-mail: jcg2@mole.bio.cam.ac.uk

Lectures will be held in the *Large Lecture Theatre, Department of Plant Sciences* on Tu. Th. S. 10

Molecular Biology of the Cell Nucleus
DR T. KRUDE
(Six lectures, 5–17 Oct.)
DR A. BANNISTER
(Three lectures, 19–24 Oct.)

Genetic Systems prokaryotes
DR D. SUMMERS
(Three lectures, 26–31 Oct.)
DR P. OLIVER
(Three lectures, 2–4 Nov.)

Genome Structure and Evolution
DR C. O'KANE
(Five lectures, 7–18 Nov.)

Molecular Genetics of Yeast Cells
DR D. M. MACDONALD
(Four lectures, 21–28 Nov.)

Organelle Biogenesis
PROF. J. C. GRAY
(Six lectures, 16–27 Jan.)

Cytoskeleton
DR D. BRAY
(Four lectures, 30 Jan.–6 Feb.)

Membrane Traffic
DR P. DUPREE
(Four lectures, 8–15 Feb.)

Intracellular Communication
DR K. JOHNSTONE
(Two lectures, 17–20 Feb.)
DR S. LAUGHLIN
(Two lectures, 22–24 Feb.)

Development I
DR H. SKAER
(Four lectures, 27 Feb.–6 Mar.)

Development II
PROF. J. B. GURDON
(Four lectures, 8–14 Mar.)

Development III
PROF. M. AKAM
(Four lectures, 24 Apr.-1 May)

Development IV
DR J. HASSELOFF
(Three lectures, 3–8 May)
DR D. E. HANKE
(Three lectures, 10–15 May)

Practical work will take place in the *Department of Zoology*. Students will be expected to do four hours practical work per week between 11 a.m. and 1 p.m., 2 and 5 p.m. on Tuesday or Fridays.

PATHOLOGY

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

Lectures. M. W. F. 12 *Chemical Laboratory Lecture Theatre*
PROF. A. H. WYLLIE
Introduction (One lecture, 6 Oct.)
PROF. A. H. WYLLIE
Cell Injury
Mechanisms of Acute Inflammation
Healing
Persistent Inflammation (Four lectures, 9 Oct.–16 Oct.)
DR N. HOLMES
The Immune System: Organs and Cells
B Cells and Antibodies
The Major Histocompatibility Complex
T Cells
Cellular Interactions: Cytokines
The Complement System
Tolerance
Autoimmunity
Hypersensitivity and Chronic Inflammation
Transplantation. Blood Groups
Immunity and Immunisation (Eleven lectures, 18 Oct.–10 Nov.)
PROF. A. C. MINSON
The Structure and Replication of Viruses
Effects on the Host Cell
Acute Virus Infection
The Response to Infection
Persistent and Latent Infection
Mechanisms of Viral Pathogenesis
Control of Virus Infection
Prions and Transmissible Spongiform Encephalopathies (Eight lectures, 13 Nov.–29 Nov.)

Lectures. M. W. F. 12 *Chemical Laboratory Lecture Theatre*
DR R. W. LE PAGE
Bacterial Agents of Infectious Disease
Bacterial Cells and Populations
Transmission of Bacterial Infections
Bacterial Pathogenicity: Concepts
Bacterial Diseases: Mechanisms of Pathogenicity I
Bacterial Diseases: Mechanisms of Pathogenicity II
Bacterial Diseases: Mechanisms of Pathogenicity III
Combating Bacterial Diseases (Eight lectures, 17 Jan.–2 Feb.)
DR N. COLEMAN
Tuberculosis: Granulomatous Disease (One lecture, 5 Feb.)
DR D. DUNNE
Introduction to Parasite Infections
Host-Parasite Interactions
Metazoan Parasite Diseases
Protozoan Parasite Diseases (Four lectures, 7 Feb.–14 Feb.)
DR N. COLEMAN
Disorders of Red Blood Cells
Thrombosis and Embolism
Arterial Disease
Heart Failure and Hypertension
Ischaemia and Infarction (Five lectures, 16 Feb.–26 Feb.)
DR M. ARENDS
Principles of Growth Dysregulation
Nomenclature and Behaviour of Neoplasms
Invasion, Angiogenesis and Metastasis
Carcinogenesis: Population and Molecular Epidemiology (Four lectures, 28 Feb.–7 Mar.)

Lectures. M. W. F. 12 *Department of Pathology Lecture Theatre*
DR N. AFFARA
Genetic Pathology: Introduction
Molecular Analysis of Mendelian Disorders
Genotype-Phenotype Correlations
Chromosomal Imbalance
Complex Mechanisms: The Genome Mapping Project (Five lectures, 25 Apr.–4 May)

NATURAL SCIENCES TRIPOS, PART IB (continued)

MICHAELMAS 2000	LENT 2001	EASTER 2001

PATHOLOGY (continued)

	PROF. A. H. WYLLIE Genetic Basis of Neoplasia: oncogenes Genetic Basis of Neoplasia: oncosuppressor genes Genetic Basis of Neoplasia: multistage carcinogenesis Molecular Basis of Tumour Therapy (Four lectures, 9 Mar.–16 Mar.)	
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* 2–4	**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* 2–4	**Practical Work**. *Department of Pathology* Revision classes. 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* 2–4

PHARMACOLOGY

Course organiser: Dr B. A. Callingham E-mail: bac5@cam.ac.uk

Lectures. M. W. F. 11 *Pharmacology Lecture Theatre* DR C. W. TAYLOR Drugs and Receptors: Receptor Mechanisms (Five lectures, 6–16 Oct.) DR J. M. EDWARDSON Drugs and Receptors: Integration of Signalling Pathways (Six lectures, 18–30 Oct.) DR C. W. TAYLOR Diabetes and Receptor Operated Ion Channels (Five lectures, 1–10 Nov.) PROF. R. F. IRVINE Drugs and Receptors: Local and Intracellular Messengers (Five lectures, 13–22 Nov.) PROF. P. A. McNAUGHTON Inflammation and pain (Three lectures, 24–29 Nov.)	**Lectures.** M. W. F. 11 *Pharmacology Lecture Theatre* DR R. D. MURRELL-LAGNADO[1] Pharmacokinetics, Drug Metabolism and General Anaesthetics (Six lectures, 17–29 Jan.) PROF. M. J. WARING Chemotherapy (Seven lectures, 31 Jan.–14 Feb.) DR R. M. HENDERSON Cardiovascular and Renal Pharmacology (Twelve lectures, 16 Feb.–14 Mar.)	**Lectures.** M. W. F. 11 *Pharmacology Lecture Theatre* DR P. J. RICHARDSON[1] Central Nervous System: Neurodegeneration, Psychoses, Affective Disorders. Pain and Opiates (Seven lectures, 25 Apr.–9 May) DR D. R. FERGUSON Toxicology (Two lectures, 11, 14 May)
Practical Work. Tu. 12–1 *or* W. 12–1 and Tu. 2–5 *or* W. 2–5. A detailed timetable will be posted in the Department	**Practical Work.** The same continued	**Practical Work.** The same continued

[1] Note: Lectures in the Lent and Easter terms begin on Wednesday rather than Friday. These changes allow more time between the end of the course and examinations.

PHYSICS

Year Group Co-ordinator: Dr E. H. Linfield E-mail: to IB-single-physics@phy.cam.ac.uk

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

*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 4 October at the *Cavendish Laboratory*.

Laboratory work is continuously assessed.

Course C DR D. F. BUSCHER Waves and Imaging Instruments. M. W. F. 12	DR E. H. LINFIELD Quantum Physics in Action. M. W. F. 12	PROF. H. AHMED Physics of Electronic Devices. M. W. F. 12
Course Q DR A. L. BLELOCH Waves. M. Tu. Th. *or* F. 2–5	MR P. J. WARNER Electronics and Systems. M. Tu. Th. *or* F. 2–5	

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NATURAL SCIENCES TRIPOS, PART IB (continued)

MICHAELMAS 2000 | **LENT 2001** | **EASTER 2001**

PHYSIOLOGY

Course organiser: Dr J. C. D. Hickson E-mail: jcdh1@cus.cam.ac.uk

Lectures. M. W. F. 9 *Main Physiology Lecture Theatre* (except where otherwise stated)

DR A. L. R. FINDLEY
Endocrinology (Ten lectures, 6–27 Oct.) *Babbage Lecture Theatre*

MR T. CARTER
Reproduction (Eight lectures, 30 Oct.–15 Nov.)

DR J. C. D. HICKSON
Fetal, neonatal and maternal physiology (Six lectures, 17–29 Nov.)

Practical Work
Th. 2–4

Lectures. M. W. F. 9 *Main Physiology Lecture Theatre*

DR H. R. MATTHEWS
Synapses and sensory receptors (Four lectures, 19–26 Jan.)

DR H. R. MATTHEWS
Neurophysiology of vision (Six lectures, 29 Jan.–9 Feb.)

DR D. J. TOLHURST
Somatic sensation and pain (Four lectures, 12–19 Feb.)

DR D. J. TOLHURST
Control of movement and posture (Six lectures, 21 Feb.–5 Mar.)

PROF. A. C. CRAWFORD
Hearing (Four lectures, 7–14 Mar.)

Practical Work
Tu. Th. 2–4 *or* Th. 10–12, 2–4

Lectures. M. W. F. 9 *Main Physiology Lecture Theatre*

DR H. R. MATTHEWS
Taste and smell (One lecture, 27 Apr.)

DR J. H. ROGERS
Integrative neurobiology (Two lectures, 2–4 May)

DR J. H. ROGERS
Developmental neurobiology (Four lectures, 7–14 May)

Practical Work
Th. 2–4

PLANT SCIENCES

Course co-ordinator: Dr A. G. Smith E-mail: alison.smith@plantsci.cam.ac.uk

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

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

DR D. E. HANKE
Diversity of plants (Four lectures, beginning 5 Oct.)

DR J. M. HIBBERD AND DR A. G. SMITH
Photosynthesis and management of reserves (Ten lectures, 14 Oct.–4 Nov.)

DR E. V. J. TANNER AND PROF. R. A. LEIGH
Water and nutrients (Ten lectures, 7–28 Nov.)

DR P. J. GRUBB
Plants and temperature (Four lectures, 16–23 Jan.)
Please note the early start of this course

DR J. M. DAVIES, DR K. JOHNSTONE AND DR J. P. CARR
Plants and micro-organisms (Twelve lectures, 25 Jan.–20 Feb.)

DR A. G. SMITH
Plants and animals (Three lectures, 22–27 Feb.)

DR B. J. GLOVER
Plant development (Six lectures, 1–13 Mar.)

DR J. BARRETT
Plant variation, evolution and conservation (Eight lectures, 24 Apr.–10 May)
Please note the early start of this course

DR D. BRIGGS
Conservation of plants (Four lectures, 3–10 May)

PROF. R. A. LEIGH
Exploitation of plants (Three lectures, 12–17 May)

Students will be expected to do four hours' practical work per week, between 12 noon and 5 p.m. on M. *or* Tu.

NATURAL SCIENCES TRIPOS, PART II (GENERAL)

MICHAELMAS 2000 **LENT 2001** **EASTER 2001**

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 Co-ordinator: 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. 184). Further details can be obtained from Dr J. H. Keeler in the *Department of Chemistry*.

SPECIAL SUBJECT HUMAN IMPACT ON THE ENVIRONMENT

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 or chosen from a list of approved subjects. The essay to be handed in by the second week of the Easter Term.

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

Lectures

DR W. AMOS, DR B. T. GRENFELL, DR P. ROHANI, DR J. SWINTON AND DR R. JOHNSTONE
Population Biology. M. W. F. 5 (Twenty-four lectures)
Department of Plant Sciences

DR M. BROOKE, DR D. BRIGGS, DR W. AMOS, DR A. BALMFORD, DR E. V. J. TANNER, DR J. O'SULLIVAN AND DR I. D. HODGE
Conservation Biology. M. W. F. 5 (Twenty-four lectures)
Department of Zoology

DR J. R. FLOWERDEW AND MR I. T. LAWSON
Human Impact on the Environment. M. W. F. 5 (Twelve lectures)
Department of Zoology

SPECIAL SUBJECT PATHOLOGY

This course consists of the lectures in Cellular and Genetic Pathology available in Part II Pathology (see p. 190). 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, 4 October at 5 p.m. in the *Department of Pathology*

SPECIAL SUBJECT PHYSICS

Year Group Co-ordinator: Dr S. R. Julian 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. 184). 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 futher work; the Computational Physics course and assessment, pre–approved Vaction 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.

NATURAL SCIENCES TRIPOS, PART II

MICHAELMAS 2000 **LENT 2001** **EASTER 2001**

ANATOMY OPTION A: RESEARCH IN DEVELOPMENTAL BIOLOGY AND NEUROSCIENCE

Course Organiser: Dr A. C. Roberts E-mail: acr4@cus.cam.ac.uk

All teaching will be in *the Anatomy Part II Lecture Room* unless otherwise stated

Course units: Each unit usually comprises Th. F. 9–11.30 and W. 9–12

DR R. J. KEYNES AND DR A. C. ROBERTS
General Introduction. Tu. 10–12 (3 Oct.)
DR R. J. KEYNES AND DR A. C. ROBERTS
Course Introduction. W. 10–12 (4 Oct.)
DR S. J. BRAY
Introduction to Development. W. 2–4 (4 Oct.)
DR R. A. H. WHITE AND DR S. J. BRAY
Origins of Pattern. (5, 6 Oct.); W. 10.15 (11 Oct.)
DR D. TANNAHILL AND DR R. J. KEYNES
Regional Identity and Patterning in Vertebrates. (12, 13, 18 Oct.)
PROF. W. A. HARRIS AND DR N. PAPALOPULU
Neurogenesis in Vertebrates. (19, 20, 25 Oct.)

Study Week (26 Oct.–1 Nov.)

DR N. BROWN AND DR A. BRAND
Tissue Development. (2, 3, 8 Nov.)
DR N. BROWN AND DR N. PAPALOPULU
Techniques Workshop. Tu. 2–4 (7 Nov.)
DR P. N. SCHOFIELD AND DR M. PAULSEN
Genetic Imprinting. (9, 10, 15 Nov.)
DR G. J. BURTON AND DR P. N. SCHOFIELD
Control of Mammalian Prenatal Growth. Th. 2–4.30 (16 Nov.); (17 Nov.); W. 10–1 (22 Nov.)
DR G. M. W. COOK AND DR C. E. HOLT
Axon Pathfinding. (23, 24, 29 Nov.)

DR R. C. HARDIE AND PROF. W. A. HARRIS
Phototransduction. (18, 19, 24 Jan.)
DR M. H. HASTINGS AND DR E. S. MAYWOOD
The Circadian Clock: a Paradigm for the Molecular Control of Behaviour. (25, 26, 31 Jan.)
DR A. C. ROBERTS AND DR S. A. EDGLEY
Comparison of Approaches to Studying Brain Function. (1, 2, 7 Feb.)
DR J. PARKINSON, DR H. CROFT AND DR A. C. ROBERTS
Neural and Cellular Mechanisms of Memory. (8, 9, 14 Feb.)

Study Week (15–21 Feb.)

DR R. E. J. DYBALL, DR S. A. EDGLEY AND DR S. BAKER
Representation of Information in Neuronal Spike Activity. (22, 23, 28 Feb.)
DR J. HERBERT AND DR C. NETHERTON
The Brain and Stress. (1, 2, 7 Mar.)

ANATOMY OPTION B: DISEASE, SOCIETY AND SEXUALITY

Course Organiser: Dr G. J. Burton E-mail: gjb2@cam.ac.uk

All teaching will be in *the Anatomy Part II Lecture Room* unless otherwise stated

HIV and AIDS
MRS P. HENDERSON
Introduction. (One lecture, 4 Oct.)
DR L. WILLOCKS AND DR D. DE ANGELIS
Epidemiology of HIV. (Three lectures, 10, 11, 13 Oct.)
DR G. J. BURTON
Materno-fetal Transmission. (One lecture, 16 Oct.)
DR R. A. H. WHITE
Molecular Biology of HIV. (Three lectures, 17, 18, 20 Oct.)
DR R. A. H. WHITE
Immunology of HIV. (Three lectures, 23, 24, 25 Oct.)
DR C. CARNE
Clinical Aspects of HIV. M. 9.30 (Two lectures, 6 Nov.)

Neurobiology of Emotion
DR C. FRASER
Attitudes and Prejudice. (Five lectures, 6, 7, 8, 10, 13 Nov.)
DR A. C. ROBERTS
Neural Basis of Emotions. (Four lectures, 14, 15, 17, 21 Nov.)
DR A. C. ROBERTS
Addiction. (Three lectures, 22, 24, 27, Nov.)
DR M. LONDON
Drugs and Alcohol. W. 2 (One lecture, 29 Nov.)

Workshops, Seminars and Journal Clubs
As announced in the Department (Starting 3 Oct.)

Neurobiology of Emotion
DR J. HERBERT
Stress. (Two lectures, 19, 22 Jan.)
DR J. HERBERT
Life Events. (Two lectures, 23, 24 Jan.)
DR N. HUNT
Mood and Depression. (Two lectures, 26, 29 Jan.)
DR J. STEVENSON-HINDE
Relationships. (Three lectures, 30, 31 Jan., 2 Feb.)

Sex, Gender and Sexuality
DR P. N. SCHOFIELD
Sexual and Asexual Reproduction. (Four lectures, 20, 21, 23, 26 Feb.)
PROF. J. HERBERT
Sex and the Brain. (Two lectures, 27, 28 Feb.)
DR G. BROWN
Sexual Behaviour. (Two lectures, 2, 5, Mar.)
A. N. OTHER
Gender Devlopment. (Two lectures, 6, 7 Mar.)

Workshops, Seminars and Journal Clubs
As announced in the Department

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2000 **LENT 2001** **EASTER 2001**

ASTROPHYSICS

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

DR C. D. MACKAY
Introductory Astrophysics. Tu. Th. 12, W. 11
DR G. F. GILMORE
Statistical Physics. M. Tu. Th. 11
DR R. F. CARSWELL
Astrophysical Fluid Dynamics. Tu. Th. 10, F. 11
PROF. G. P. EFSTATHIOU
Theory of Relativity. M. W. F. 10
DR J. J. DOUGHERTY
Electromagnetism. M. W. F. 9
Centre for Mathematical Sciences, Clarkson Road, MR 2

PROF. J. E. PRINGLE
Stellar Dynamics and Structure of Galaxies. M. W. F. 10
DR A. BLAIN
Physical Cosmology. M. 12, Tu. Th. 11
DR P. C. HEWETT
Topics in Contemporary Astrophysics. Tu. Th. 10, F. 12
DR I. R. PARRY
Structure and Evolution of Stars. M. W. F. 11

BIOCHEMISTRY

Course Organiser: Prof. D. J. Ellar E-mail: dej1@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. Sir Tom. Blundell at 9 a.m. on Monday 2 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. R. N. PERHAM
Aspects of protein structure: genome to proteome (Five lectures, beginning 2 Oct.)
DR C. W. J. SMITH
Mechanisms and control of transcription in eukaryotes (Five lectures, beginning 9 Oct.)
DR F. HOLLFELDER
Enzyme structure and function (Five lectures, beginning 9 Oct.)
DR R. J. JACKSON
Protein synthesis and translational control (Five lectures, beginning 16 Oct.)
DR C. J. HOWE
Gene expression in plants (Four lectures, beginning 17 Oct.)
A. N. OTHER
Bioinformatics (Four lectures, beginning 23 Oct.)
DR S. A. GAYTHER (Pathology)
Genome mapping and identification of disease genes (Two lectures, beginning 23 Oct.)
DR A. A. GRACE
Disease genes: function and manipulation (Three lectures, beginning 27 Oct.)
PROF. J. O. THOMAS
Protein-DNA interactions and gene expression (Five lectures, beginning 30 Oct.)
DR J. A. H. MURRAY (Biotechnology)
Eukaryotic chromosome replication (Three lectures, beginning 24 Nov.)
PROF. SIR T. L. BLUNDELL
G protein based signalling (Four lectures, beginning 6 Nov.)
DR R. W. FARNDALE
Lipids as signal precursors; adhesive and immune receptor signalling (Four lectures, beginning 7 Nov.)
DR T. R. HESKETH
Intracellular signalling in mammalian cells (Four lectures, beginning 13 Nov.)
DR G. C. BROWN
Bioenergetics of the cell (Five lectures, beginning 27 Nov.)
PROF. G. P. C. SALMOND
Signal transduction in prokaryotes (Four lectures, beginning 20 Nov.)
DR P. DUPREE
Protein targeting to the ER (Three lectures, beginning 13 Nov.)
DR A. P. JACKSON
Protein sorting (Six lectures, beginning 16 Nov.)
DR S. E. JACKSON (Chemistry)
Protein folding *in vivo* (Three lectures, beginning 29 Nov.)

Journal Clubs
In weeks starting 16 Oct. *and* 6 Nov.

Data Handling Classes
W. 2.30–4.30 (from 25 Oct.)

Option Lectures

1. PROF. G. P. C. SALMOND AND OTHERS
Bacterial virulence and antimicrobial chemotherapy (Fifteen lectures)
Option Organiser: Prof. G. P. C. Salmond
2. PROF. J. C. THOMAS AND OTHERS
Proteins, nucleic acids and their interactions (Fifteen lectures)
Option Organiser: Prof. J. C. Thomas
3. DR M. D. BRAND AND OTHERS
Bioenergetics (Fifteen lectures)
Option Organiser: Dr M. D. Brand
4. DR P. DUPREE AND OTHERS
Plant molecular biology (Fifteen lectures)
Option Organiser: Dr P. Dupree
5. DR R. J. JACKSON AND OTHERS
Control of gene expression in eukaryotes (Fifteen lectures in part joint with Part II Zoology)
Option Organiser: Dr R. J. Jackson
6. DR J. P. LUZIO AND OTHERS
Medical biochemistry (Fifteen lectures)
Option Organiser: Dr J. P. Luzio
7. DR J. BLACKBURN AND OTHERS
Enzyme mechanisms (Fifteen lectures)
Option Organiser: Dr J. Blackburn
8. PROF. J. C. METCALFE AND OTHERS
Cardiovascular molecular and cellular biology (Fifteen lectures)
Option Organisers: Prof. J. C. Metcalfe and Dr A. A. Grace
9. DR T. R. HESKETH AND OTHERS
Oncogenes, tumour suppressor genes, apoptosis and carcinogenesis (Fifteen lectures in part joint with Option E of Part II Pathology)
Option Organisers: Dr T. R. Hesketh and Dr N. Affara
10. DR A. M. TOLKOVSKY AND OTHERS
Perspectives in molecular neurobiology (Fifteen lectures)
Option Organiser: Dr A. M. Tolkovsky
11. PROF. C. M. BATE AND OTHERS
Developmental biology (Twenty-four lectures joint with Part II Genetics, Plant Sciences, and Zoology)
Option Organiser: Prof. C. M. Bate
12. DR N. J. GAY AND OTHERS
Biotechnology (Fifteen lectures)
Option Organiser: Dr N. J. Gay
13. DR T. R. HESKETH AND OTHERS
Regulation of the eukaryotic cell cycle (Fifteen lectures)
Option Organiser: Dr T. R. Hesketh
14. PROF. R. N. PERHAM AND OTHERS
Protein folding and assembly (Fifteen lectures)
Option Organisers: Prof. R. N. Perham and Dr S. E. Jackson

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2000	LENT 2001	EASTER 2001

CHEMISTY
(OPTION A AND OPTION B)

Course Co-ordinator: 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, 3rd 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 Departmental website, www.ch.cam.ac.uk

All students must attend an introductory talk concerning the practical course at 12 noon on Wednesday, 4 October in *Lecture Theatre 3*.

EXPERIMENTAL AND THEORETICAL PHYSICS

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

Year Group Co-ordinator: Dr S. R. Julian 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 (4 Oct.) at 9.30 a.m. in the *Pippard Lecture Theatre*.

Course H

DR C. G. SMITH
Solid State Physics. M. Th. 9

DR S. R. JULIAN
Thermal and Statistical Physics. Tu. Th. 10

DR D. R. WARD
Quantum Mechanics II. W. F. 9

DR P. ALEXANDER
Computational Physics. M. W. F. 10 (first twelve lectures)
Classes weekdays 2–5 (19 Oct.–29 Nov.) Students attend one day per week

DR P. ALEXANDER
Relativity and Electrodynamics. Tu. 9 (first four lectures); M. W. F. 10 (last twelve lectures)

DR R. T. PHILLIPS
Atoms and Light. Tu. Th. 9

DR R. PADMAN
Systems. Tu. Th. 10 (first eight lectures)

DR C. H. SHEPHERD-THEMISTOCLEOUS
Nuclear Physics. M. W. F. 9 (first twelve lectures)

DR M. A. THOMSON
Particle Physics. M. W. F. 9 (last twelve lectures)

DR M. WARNER
Fluids. M. W. F. 10 (first sixteen lectures)

DR R. J. NEEDS AND OTHERS
General Examples Class. M. W. 2–4

Course I

PROF. M. S. LONGAIR
Concepts in Physics. Tu. Th. 10 (last eight lectures)

THE STAFF OF THE CAVENDISH LABORATORY
Current Research Work in the Cavendish Laboratory (not examinable). See Part III Experimental and Theoretical Physics (p. xxx)

Course J

DR E. TERENTJEV AND DR S. F. GULL
Theoretical Physics TP1. Tu. Th. 12–1 (Twelve lectures, beginning 10 Oct.); Tu. 2–4 (Four classes, 17, 31 Oct., 14, 28 Nov.)

DR G. RAJAGOPAL AND DR N. R. COOPER
Theoretical Physics TP2. Tu. Th. 12–1 (Twelve lectures, beginning 23 Jan.); Tu. 2–4 (Four classes, 30 Jan., 13, 27 Feb., 13 Mar.)

Course K

PROF. L. M. BROWN AND DR R. E. ANSORGE
Physics in Action. F. 11.30 *Mott Seminar Room*
Group Project Work. F. 2–4 *Ryle Seminar Room*

Course S

DR P. F. SCOTT AND OTHERS
Experiment E1: Registration. W. 9.30 (4 Oct.)

DR D. R. WARD AND OTHERS
Literature Review

DR P. F. SCOTT AND OTHERS
Experiment E2: Registration. W. 9.30 (17 Jan.)

DR D. R. WARD AND OTHERS
The same continued

DR D. R. WARD AND OTHERS
The same continued

NATURAL SCIENCES TRIPOS, PART II (continued)

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GENETICS

Course Co-ordinators: Dr M. E. N. Majerus and Dr J. Barrett E-mail: PartII.organisers@gen.cam.ac.uk

A detailed timetable for this course is available in the Department of Genetics

DR C. O'KANE, DR J. A. BARRETT, DR D. M. MACDONALD, DR P. OLIVER, DR D. SUMMERS, PROF. M. ASHBURNER AND DR J. AHRINGER
Genes and Organisms. M. Tu. W. Th. F. 10.30 (Thirty lectures, beginning 5 Oct.)

DR D. SUMMERS AND DR P. OLIVER
Prokaryotic Genetics. M. Tu. W. Th. F. 10.30 (Nine lectures, beginning 17 Oct.)

DNA repair. M. Tu. W. Th. F. 9, 10.30 (Six lectures, beginning 13 Nov.)

DR D. MACDONALD AND DR N. AFFARA
Genetic Pathology and Human Cancer (jointly with Part II Pathology. Tu. Th. 5, S. 10 (Eighteen lectures, beginning 10 Oct.)

DR P. O'DONALD
Statistical Methods. M. Tu. W. Th. 10.30 (Six sessions, beginning 30 Oct.)

DR J. A. BARRETT
Quantitative Genetics. W. Th. F. 9 (Three lectures, beginning 23 Nov.)

PROF. D. GLOVER AND STAFF
Journal sessions. M. 11.30 (Six sessions, beginning 16 Oct.)
Social Aspects of Genetics. W. 2 (Five sessions, beginning 18 Oct.)

DR J. A. BARRETT, DR P. O'DONALD, DR M. E. N. MAJERUS AND DR J. K. M. BROWN
Evolutionary, Population and Ecological Genetics. M. Tu. W. Th. F. 12 (Thirty-two lectures, beginning 18 Jan.)

PROF. C. M. BATE AND OTHERS
Part II Development Option. M. Tu. F. 5 (Twenty-four lectures, beginning 19 Jan.)

DR C. FARR, DR C. O'KANE, DR A. BRAND AND DR M. ZERNICKA-GOETZ
Transgenesis. W. Th. 9 (Sixteen lectures, beginning 15 Jan.)

PROF. D. GLOVER AND STAFF
Journal sessions. M. 10.30 (Eight sessions, beginning 22 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
Lectures. M. Th. 9 *Harker Room*
Practicals. M. Th. 10–12 *Petrology Laboratory*
Convenor: Dr J. A. Jackson

Core C2 Petrology and Geochemistry
DR T. J. B. HOLLAND, DR S. GIBSON AND PROF. H. ELDERFIELD
Lectures. Tu. F. 9 *Harker Room*
Practicals. Tu. F. 10–12 *Petrology Laboratory*
Convenor: Dr S. Gibson

Core C3 Sedimentology and Palaeontology
PROF. I. N. MCCAVE, DR P. F. FRIEND, PROF. S. CONWAY MORRIS AND DR N. J. BUTTERFIELD
Lectures. W. 9, F. 12 *Harker Room*
Practicals. W. 10–12, F. 2–4 *Palaeontology Laboratory*
Convenor: Prof. I. N. McCave
Norfolk Field Trip (13–15 Oct.)

Core C4 Mineralogy
DR M. WELCH, DR A. SHEN AND DR M. A. CARPENTER
Lectures. W. Th. 2 *Harker Room II*
Practicals. W. Th. 3–5 *Part IB Minerals Laboratory*
Convenor: Dr M. A. Carpenter

Core C5 Mineral Physics
DR M. T. DOVE AND DR P. WELCH
Lectures. Tu. 2, W. 9 *Harker Room II*
Practical. Tu. 3–5, W. 10–12 *Part IB Minerals Laboratory*
Convenor: Dr M. T. Dove

Skills Course S1
DR N. H. WOODCOCK AND DR A. G. SMITH
Tu. Th. 2–5 *Harker Room and Computer Room* (First three weeks)
Convenor: Dr N. H. Woodcock

Field Course to Greece
DR J. A. JACKSON, DR A. G. SMITH, PROF. I. N. MCCAVE AND DR N. J. WHITE
Party A (30 Nov.–8 Dec.)
Party B (4 Dec.–12 Dec.)

Option 6 Continental Tectonics and Mountains
DR J. A. JACKSON, DR A. G. SMITH AND DR N. HOVIUS
Lectures. M. 9, Th. 10 *Tilley Room*
Practicals. M. 10–11.30, Th. 11–12.30 *Petrology Laboratory*
Convenor: Dr J. A. Jackson
The same continued. (Eight revision sessions)

Option 7 Oceanic and Continental Margins
PROF. R. S. WHITE, DR J. HAINES AND DR J. SMELLIE
Lectures. Tu. 9, F. 2 *Harker Room*
Practicals. Tu. 10–11.30, F. 3–4 *Petrology Laboratory*
Convenor: Prof. R. S. White
The same continued. (Eight revision sessions)

Option 8 Metamorphic and Igneous Processes
DR T. J. B. HOLLAND, DR M. J. BICKLE, DR M. B. HOLNESS AND DR D. M. PYLE
Lectures. W. F. 9 *Harker Room*
Practicals. W. F. 10–11.30 *Petrology Laboratory*
Convenor: Dr M. J. Bickle
The same continued. (Eight revision sessions)

Option 9 Plio-Pleistocene oceans and climate change
PROF. I. N. MCCAVE, PROF. N. J. SHACKLETON, PROF. H. ELDERFIELD, PROF. T. H. VAN ANDEL AND DR C. DE LA ROCHA
Lectures. Tu. Th. 2 *Harker Room*
Practicals. Tu. Th. 3–4.30 *Structural Laboratory*
Convenor: Prof. I. M. McCave
The same continued. (Eight revision sessions)

Option 10 Palaeo ecology and ancient ecosystems
PROF. S. CONWAY MORRIS AND DR N. J. BUTTERFIELD
Lectures. M. W. 2 *Harker Room*
Practicals. M. W. 3–4.30 *Palaeontology Laboratory*
Convenor: Dr N. J. Butterfield
The same continued. (Eight revision sessions)

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2000	LENT 2001	EASTER 2001

GEOLOGICAL SCIENCES AND MINERAL SCIENCES (continued)

Option M4 Properties of crustal materials
DR S. A. T. REDFERN, DR M. WELCH AND DR M. A. CARPENTER
Lectures. W. Th. 2 *Harker Room II*
Practicals. W. Th. 3–4.30 *1B Minerals Laboratory* — The same continued. (Eight revision sessions)
Convenor: Dr S. A. T. Redfern

Option M5 Crystal Physics
DR I. FARNAN, PROF. J. SCOTT AND DR Z. BARBER
Lectures. Tu. Th. 9 *Harker Room II*
Practicals. Tu. Th. 10–11.30 *1B Minerals Laboratory* — The same continued. (Eight revision sessions)
Convenor: Dr I. Farnan

Option M6 Diffraction, Electron Microscopy and Microanalysis
DR M. A. CARPENTER, DR S. J. B. REED, PROF. E. SALJE, DR S. A. T. REDFERN AND DR M. T. DOVE
Lectures. Tu. Th. 9 *Harker Room II*
Practicals. Tu. Th. 10–11.30 *1B Minerals Laboratory* — The same continued. (Eight revision sessions)
Convenor: Dr M. A. Carpenter

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

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. 4 (Nine weeks, starting on 4 Oct.)
It is essential that all HPS Part II students attend this part of the course
DR J. FORRESTER
Sigmund Freud, '*A fragment of the analysis of a case of hysteria*' (1905)
DR N. HOPWOOD
X-ray Image of Mrs Roentgen's Hand (1895)
PROF. N. JARDINE
David Hume, 'Of Miracles' in *Enquiry Concerning Human Understanding* (1748)
DR L. KASSEL
Richard Bostocke '*The Difference Between the Ancient Physic and the Modern Physic*' (1586)
DR M. KUSCH
Plato's Criticism of Protagorean Relativism (Plato, *Theaetetus*, 151d–184a)
PROF. P. LIPTON
Alan Turing, 'Computing Machinery and Intelligence', *Mind*, 59 (1950),433–460
DR S. SCHAFFER
Alessandro Volta, 'On Electricity', Philosophical Magazine, 7 (1800), 289–311
DR J. SECORD
Arthur Conan Doyle, '*The Lost World'*
DR L. TAUB
Epicurus's Letter to Pythocles

Introductory Sessions
Organiser: Prof. N. Jardine, E-mail: nj103@cam.ac.uk
These sessions provide a background to the subject and research skills for the rest of the course
PROF. N. JARDINE, DR M. FRASCA SPADA AND OTHERS
Research Methods and Resources. Th. 4–6 (weeks 1 and 2) (Two 2-hour sessions)
PROF. N. JARDINE
Historiography of the Sciences. F. 2 (Eight sessions, no supervisions)

Dissertation Seminar
W. 4 *It is essential that each HPS Part II student attend at least two of these seminars*

NATURAL SCIENCES TRIPOS, PART II (continued)

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HISTORY AND PHILOSOPHY OF SCIENCE (continued)

(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 S. CONNELL
Aristotle's Science. M. 2 (weeks 1–4)

DR N. EL-BIZRI
Arabic Science. M. 2 (weeks 5–8)

DR R. FRENCH
The Origins of Natural Philosophy. F. 3 (weeks 5–8)

DR L. KASSELL
Occult Sciences: Part I (Part II in Paper 2). Tu. 10 (weeks 1–4)

PROF. D. SEDLEY, DR L. TAUB, DR S. CUOMO, AND DR C. SALAZAR
Topics in Ancient Science. Th. 11

DR L. TAUB, DR L. KASSELL AND MR A. MOSLEY
Instruments, Books and Collections: Part I (Part II in Paper 2). Tu. 11

(Paper 2) Natural and Moral Philosophies

Course Organiser: Dr S. Schaffer, E-mail: sjs16@hermes.cam.ac.uk

DR P. FARA, MR S. MANDELBROTE AND DR S. SCHAFFER
Natural Philosophy and Exact Sciences. W. 9

DR M. FRASCA SPADA
Human Nature and Knowledge: Locke, Berkeley and Hume. W. 10

DR L. KASSELL
Occult Philosophies: Part II (Part I in 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
Defining Science. F. 3 (weeks 1 and 2)

DR N. HOPWOOD, PROF. N. JARDINE AND DR S. DE CHADAREVIAN
Laboratories and Disciplines from the Napoleonic Wars to National Socialism. W. F. 3 (weeks 3 and 4)

DR J. SECORD
Science and Imperialism. Th. 3
Evolution. M. 11 (weeks 1–4)

(Paper 4) Metaphysics, Epistemology, and the Sciences

Course Organiser: Prof. P. Lipton, E-mail: pl112@hermes.cam.ac.uk

DR M. HOGARTH
The Metaphysics of Space and Time. M. 3

DR R. JENNINGS
Recent History of the Philosophy of Science. M. 10

PROF. P. LIPTON
Explanation, Causation and Law. W. 12

(Paper 5) Science and Technology Studies

Course Organiser: Dr M. Kusch, E-mail: mphk2@cam.ac.uk

DR J. FORRESTER, DR R. JENNINGS AND OTHERS
Ethical Dimensions of Science. F. 10

DR M. KUSCH AND DR S. SCHAFFER
Sociology of Scientific Knowledge. W. 2

DR J. FORRESTER, DR M. KUSCH, DR U. RUBLACK AND DR D. THOM
Gender and Science. Tu. 12

DR A. CUNNINGHAM
Creating the 'Scientific Revolution'. M. 2 (weeks 1–4)

PROF. N. JARDINE, MR A. MOSLEY AND DR S. CUOMO
Astronomy, Maths, Mechanics. Th. 11 (weeks 1–6)

PROF. SIR GEOFFREY LLOYD
Greek and Chinese Science. Tu. 11 (weeks 1–4)

DR R. SERJEANTSON
Method and Natural Philosophy. M. 2 (weeks 5–8)

DR M. FRASCA SPADA AND PROF. N. JARDINE
Human Nature and Knowledge: Kant. F. 12 (weeks 5–8)

The same continued. W.3

PROF. N. JARDINE, DR J. SECORD AND DR P. WHITE
Natural Histories. Th. 3

DR L. TAUB AND DR F. WILLMOTH
Instruments, Models and Tools: Part II (Part I in Paper 1). M. 10 (weeks 1–4); Tu. 10 (weeks 7–8)

DR P. FARA
Images of Science. M. 11 (weeks 1–4)

DR M. HOGARTH
History of Theoretical Physics: 1850–1950. F. 2

DR S. SCHAFFER
Victorian Physics and its Contexts. W. 10

DR L. TAUB, DR R. ANDERSON AND DR J. SECORD
Instruments and Exhibitions: Part III (Part I in Paper 1, Part II in Paper 2). Tu. 11 (weeks 5–8)

MR A. CHAKRAVARTTY
Kinds and Realisms. Th. 9 (weeks 1–4)

DR J. FORRESTER
Thinking in Cases. W. 11

DR M. KUSCH
Communitarian Epistemology. Th. 10

MR T. LEWENS
Topics in the Philosophy of Biology. Th. 9 (weeks 5–8)

PROF. P. LIPTON
Problems of Induction. W. 12 *Mill Lane Lecture Room 1*

DR S. DE CHADAREVIAN
Science and War. W. 2 (weeks 5–8)

DR N. HOPWOOD
Reproductive Technologies. Tu. 10 (weeks 1–6)

DR J. SECORD
Science Communication. Tu. 12

The same continued. W. 2 (weeks 1–4)

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NATURAL SCIENCES TRIPOS, PART II (continued)

HISTORY AND PHILOSOPHY OF SCIENCE (continued)

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(Paper 6) History and Philosophy of Mind Course Organiser: Dr J. Forrester, E-mail: jpf11@hermes.cam.ac.uk		
DR J. FORRESTER Freud, Psychoanalysis and the Twentieth Century. M. 11 (weeks 1–8); W. 11 (weeks 5–8) *Mill Lane Lecture Room 4*	PROF. P. LIPTON Topics in the Philosophy of Mind. F. 11 *Maxwell Lecture Theatre*	
DR M. KUSCH Phenomenological Philosophy of Mind. Th. 9	DR N. MANSON Unconscious Mentality and Freud's Methodology. M. 3	
	DR I. SINGH Psychopharmacology in History and Culture. M. 10 (weeks 5–8)	
	DR D. THOM Topics in the History of British Psychology. F. 10	
(Paper 7) History of Medicine from Antiquity to the Enlightenment Course Organiser: Dr L. Kassell, E-mail: ltk21@hermes.cam.ac.uk		
DR R. FRENCH Medicine and Natural Philosophy. Tu. 2 (Two hour long slots)	DR S. DE RENZI Medicine and the Law, 1300–1800. Tu. 2 (weeks 1–2); F. 12 (weeks 1–2)	
	PROF. SIR GEOFFREY LLOYD Medicine and Society in the Ancient World. Th. 12	
	DR C. SALAZAR Medical Practice in the Ancient World. Tu. 2 (weeks 5–8)	
DR L. KASSELL Medicine and Society in Europe, 1250–1750. Th. 12	The same continued. Tu. 2 (weeks 3–4), F. 12 (weeks 3–4)	
	DR M. SATCHELL Field Trip to Medieval Hospitals. (15 Mar.)	
(Paper 8) Modern Medicine and Biomedical Sciences Course Organiser: Dr N. Hopwood, E-mail: ndh12@cam.ac.uk		
DR N. HOPWOOD, DR S. DE CHADAREVIAN AND DR H. KAMMINGA Making Modern Medicine. M. F. 12, Th. 2	DR G. BERRIOS History of Psychopathology and Psychiatry. M. 12 (weeks 1–4)	
	DR J. FORRESTER Social and Institutional History of Psychiatry. M. 12 (weeks 5–8)	
	DR A. CUNNINGHAM Dissection and the Body in the Age of Revolutions. Th. 2 (weeks 1–4)	
	DR N. HOPWOOD Embryos, Ancestors and the Unborn. Th. 2 (weeks 5–8)	

Prof. Lipton and Dr Secord would like to see all Part II students taking HPS on Wednesday 4 October at 11 a.m. in Seminar Room 2, Department of History and Philosophy of Science.

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. F. 2–4 *History Faculty*	The same continued	The same continued
DR P. BURSILL-HALL Topics in the History of Mathematics. M. W. F. 4 *Mill Lane Lecture Rooms*	PROF. E. J. CRAIG Causality from Descartes to Hume. Tu. 11 **[Phil]**	
	DR B. HILTON AND DR J. SECORD Science and Religion in Britain, *c*. 1830–1870. W. 12 (weeks 1–6) **[Hst]**	
	DR P. KAIL Hume. W. 12 (weeks 1–4) **[Phil]**	
	DR J. MARENBON Medieval Logic. Details to be announced	
	DR M. RICHARDS Darwinism and the Social Sciences. W. 9 *SPS Seminar Room*	
	DR P. SMITH Theories and Theory Change. W. 11 **[Phil]**	
	DR P. SMITH Scientific Realism (Seminar format). F. 10 (weeks 1–6) **[Phil]**	The same continued. (weeks 1–2)

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2000	LENT 2001	EASTER 2001

MATERIALS SCIENCE AND METALLURGY

Course Co-ordinator: Dr R. V. Kumar E-mail: Part II@msm.cam.ac.uk

All lectures will be given in *the Seminar Room*

A detailed timetable is available in the Department

PROF. D. J. FRAY
C1 Phase equilibria (Six lectures)
DR J. A. LEAKE
C3 Mathematical Methods (Six lectures)
DR P. A. MIDGLEY
C4 Tensor Properties (Twelve lectures)
DR K. M. KNOWLES
C6 Crystallography (Nine lectures)
DR L. GREER
C7 Kinetics (Nine lectures)
PROF. H. K. D. H. BHADESHIA
C9 Alloys (Nine lectures)
PROF. A. H. WINDLE
C10 Polymer Microstructures (Nine lectures)
DR I. M. HUTCHINGS
C12 Plasticity and Deformation (Nine lectures)
DR W. J. CLEGG
C13 Ceramics (Nine lectures)
DR R. V. KUMAR
C17 Heat and Mass Transfer (Six lectures)

INDUSTRIAL VISITORS
To be announced

Industrial Visit
Half day (27 Nov.)

Example Classes
Details to be announced

Practical Classes
M. Tu. W. 2–5 (Two sessions, to be chosen each week)

Management Option
DR G. T. BURSTEIN AND PROF. D. J. FRAY
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

PROF. J. E. EVETTS
C5 Physical Properties (Twelve lectures)
DR J. A. LITTLE
C8 Chemical Stability (Nine lectures)
DR G. T. BURSTEIN
C11 Surfaces and Interfaces (Six lectures)
DR D. M. KNOWLES
C15 Fracture and Fatigue (Twelve lectures)
PROF. T. W. CLYNE
C16 Composite Materials (Twelve lectures)

INDUSTRIAL VISITORS
To be announced

Industrial Visit
Half day (15 Mar.)

The same continued

Design Project
Materials Project

Management Option
DR G. T. BURSTEIN
F. 2–3 (Four lectures)

Language Option
The same continued

DR E. R. WALLACH
C2 Selection of Materials (Six lectures)
A. N. OTHER
C14 Polymer Processing (Six lectures)
DR S. BEST
C18 Biomaterials (Six lectures)

NEUROSCIENCE

Course Co-ordinator (to be announced)

All lectures will be held *in Lecture Room 2 Austin Building*, unless otherwise stated

Module 1: Development, Degeneration and Regeneration
Lectures. M. Th. 9
DR M. LANDGRAF
Early Development of the Nervous System (Six lectures, 5, 9, 12, 16, 19, 23 Oct.)
DR G. COOK
Axonal Growth (Four lectures, 26, 30 Oct., 2, 13 Nov.)
READING WEEK (6–10 Nov.)
PROF. W. HARRIS
Development of Connections (Four lectures, 16, 20, 23, 27 Nov.)

Module 2. Cellular and molecular neurobiology
Lectures. W. F. 9
DR R. MURRELL-LAGNADO
Membrane-located Voltage Sensors and Control of Neurone Function (Five lectures, 4, 6, 11, 13, 18 Oct.)
DR J. A. KOENIG
Receptor – control of Neuronal Excitability (a) slow Neurotransmitters (Four lectures, 20, 25, 27 Oct., 1 Nov.)

PROF. E. B. KEVERNE
Development of Brain and Behaviour (Three lectures, 15, 18, 22 Jan.)
DR D. BROWN
Neural Degeneration I. (Three lectures, 25, 29 Jan., 1 Feb.)
DR M-G. SPILLANTINI
Neural Degeneration II. (Three lectures, 5, 8, 12 Feb.)
DR R. BARKER
Neural Regeneration (Four lectures, 15, 26 Feb., 1, 5 Mar.)
READING WEEK (19–24 Feb.)
DR R. FRANKLIN
Glial Degeneration and Repair (Three lectures, 8, 12, 15 Mar.)

DR P. THORN
Calcium Signalling (Three lectures, 17, 19, 24 Jan.)
DR J. M. EDWARDSON
Intracellular Signalling and Neurotransmitter Release (Four lectures, 26, 31 Jan., 2, 7 Feb.)

NATURAL SCIENCES TRIPOS, PART II (continued)

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NEUROSCIENCE (continued)

***Module 2. Cellular and molecular neurobiology* (continued)**
Lectures. W. F. 9

DR P. J. RICHARDSON
Pharmacogenomics of Neuronal Systems (One lecture, 3 Nov.)
READING WEEK (6–10 Nov.)
DR P. J. RICHARDSON
Receptor – control of Neuronal Excitability (b) fast Neurotransmitters (Five lectures, 15, 17, 22, 24, 29 Nov.)

DR P. THORN
Synaptic Mechanisms (Three lectures, 9, 14, 16 Feb.)
READING WEEK (19–24 Feb.)
DR B. MCCABE
Synaptic Plasticity (Three lectures, 28 Feb., 2, 7 Mar.)
DR H. BADING
Regulation of Gene Expression (Two lectures, 9, 14 Mar.)

Module 3. Control of action
Lectures. W. F. 10, M. 12*

PROF. M. BURROWS
Synaptic,Cellular and Network Properties (Four lectures, 4, 6, 11, 13 Oct.)
DR S. EDGLEY
Cerebellum (Four lectures, 16*, 18, 20, 25 Oct.)
A. N. OTHER
Details to be announced (Three lectures, 27 Oct., 1, 4, Nov.)
READING WEEK (6–10 Nov.)
DR P. EVANS
Modulating a System (Four lectures, 15, 17, 22, 24 Nov.)
DR S. EDGLEY
Skilled Movement Discussion (One session, 29 Nov.)

DR L. ANNETT
Striatum (Four lectures, 17, 19, 24, 26 Jan.)
DR M. HASTINGS
Neural Control of Circadian Rhythms (Four lectures, 2, 7, 9, 14 Feb.)
READING WEEK (19–24 Feb.)
DR R. H. S. CARPENTER
Neural Decisions (Three lectures, 26, 28 Feb., 2 Mar.)
DR J. HERBERT
Chemical Control of Motivation and Emotion (Four lectures, 7, 9, 14, 16 Mar.)

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

DR R. C. HARDIE
Photoreceptors (Four lectures, 5, 10, 12, 17 Oct.)
PROF. E. B. KEVERNE
Olfactory Receptors (Two lectures, 19, 24 Oct.)
DR L. LAGNADO
Visual Processing in the Retina (Four lectures, 26, 31 Oct., 2, 14 Nov.)
READING WEEK (6–10 Nov.)
DR A. PELAH
Visual Processing in the Cortex (Four lectures, 16, 21, 24, 28 Nov.)

PROF. P. A. MCNAUGHTON
Pain (Four lectures, 16, 18, 23, 25 Jan.)
DR H. KRAPP
Echolocation and Electric Senses (Four lectures, 30 Jan., 1, 6, 8 Feb.)
PROF. A. CRAWFORD
Auditory Hair Cells (Two lectures, 13, 15 Feb.)
READING WEEK (19–24 Feb.)
DR J. ALCANTARA
Hearing (Four lectures, 27 Feb., 1, 6, 15 Mar.)
DR K. KRUMBHOLZ
Pitch Perception and Sound Localisation (Two lectures, 8, 13 Mar.)

Module 5. Learning, Memory and Cognition
Lectures. M. Tu. 10

DR B. J. MCCABE
Cellular Mechanisms of Learning and Memory (Four lectures, 9, 10, 16, 17 Oct.)
DR T. BUSSEY
Conditioning and Discrimination Learning (Six lectures, 23, 24, 30, 31 Oct., 13, 14 Nov.)
READING WEEK (6–10 Nov.)
DR P. BRENNAN
Olfactory learning (Four lectures, 20, 21, 27, 28 Nov.)

PROF. T. W. ROBBINS
Brain Mechanisms of Memory and Cognition (Eight lectures, 15, 22, 29 Jan., 5, 12, 26 Feb., 5, 12 Mar.)
DR R. A. MCCARTHY
Cognitive Neuropsychology (Eight lectures, 16, 23, 30 Jan., 6, 13, 27 Feb., 6, 13 Mar.)
READING WEEK (19–24 Feb.)

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 on our web server (http://www.path.cam.ac.uk)

Introductory lecture
All options. W. 5 (One lecture, 4 Oct.)
It is important that all students attend the introductory lecture

Option A – Cellular and Genetic Pathology
Lectures. Tu. Th. S. 9

DR D. GRIFFIN, DR J. YATES, DR N. AFFARA, DR D. RUBINSZTEIN, DR D. SARGAN, DR J. AJIOKA, DR D. M. MACDONALD AND DR A. KING
Part I: Genes, Genomes and Disease
DR N. AFFARA, DR C. PRINT AND DR A. KING
Part II: Biology and Pathology Reproduction

DR P. EDWARDS, DR A. PHILPOTT, PROF. A. VENKITARAMAN, DR R. HESKETH, DR A. BANNISTER, PROF. A. WYLLIE, DR M. STANLEY, PROF. V. COLLINS, DR C. CALDAS AND DR C. WATSON
Part III: Defects in Cellular Growth and Differentiation: Cancer

PROF. S. SMITH, DR J. BOYLE, DR D. PARUMS, DR M. BENNETT, PROF. P. WEISSBERG AND PROF. K-T. KHAW
Part IV: Pathology of Blood Vessels and Tissue Stroma

NATURAL SCIENCES TRIPOS, PART II (continued)

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PATHOLOGY (continued)

Option B – Immunology
Lectures. M. W. F. 5

DR N. HOLMES, DR A. KELLY, DR K. MEYER, DR H. REYBURN, DR A. GREEN, DR A. COOKE, DR K. SMITH, PROF. D. FEARON, PROF. J. TROWSDALE, DR P. LEHNER AND DR D. ALEXANDER
- Haemopoiesis and Leukocyte Populations
- Lymphocyte Signalling
- Immunoglobulins and T-cell Receptors
- Major histocompatibility Complex and Antigen Presentation

DR I. MCCONNELL, DR N. HOLMES, DR B. BLACKLAWS, DR A. ALCAMI, DR P. MASTROENI, DR H. REYBURN, PROF. M. OWEN, DR A. COOKE, PROF. J. TODD, PROF. D. FEARON AND DR G. BUTCHER
- Lymphoid Architecture and Lymphocyte recirculation
- The Complement System
- Mechanisms of Immunity
- Autoimmunity
- Transplantation

DR I. MCCONNELL, DR R. LE PAGE, PROF. J. GASTON AND DR H. REYBURN
- Animal Immunodeficiency Viruses
- Monoclonal Antibody Therapy: Tumour Immunity
- Arthritis

Option C – Microbial and Parasitic Disease
Lectures. Tu. Th. 5, S. 10.15

DR C. HUGHES, DR V. KORONAKIS, PROF. D. MASKELL, DR R. LE PAGE, DR D. BROWN, DR A. LEVER AND DR B. KINGSTON
- Bacterial Disease and Pathogenicity
- Combating Bacterial Disease
- Fungal Infections
- Journal Research Seminars

DR B. KINGSTON, DR J. AJOIKA, DR M. SHIRLEY, DR C. PEACOCK, DR S. MELVILLE, DR D. DUNNE AND DR P. FALLON
- Major Protozoal Diseases
- Major Helminth Diseases
- Journal Research Seminars

DR B. KINGSTON, DR S. CROFT AND DR E. MICHAEL
- Anti-Parasite Strategies
- Epidemiology

Option D – Virology
Lectures. M. W. F. 9

DR T. BROWN, DR A. BLOOMER, DR P. OLIVER, DR P. DIGARD, DR U. DESSELBERGER, DR I. BRIERLEY, DR J. KARN, DR H. BROWNE, PROF. A. MINSON AND DR J. SINCLAIR
- Basic Principles
- Lambda: the Bacteriophage Legacy
- Molecular Biology of Animal Virus Multiplication

DR J. TURNER, DR T. BROWN, DR B. BLACKLAWS, DR A. ALCAMI, PROF. A. MINSON, DR P. BORROW, DR A. LEVER, DR I. BRIERLEY, DR S. EFSTATHIOU, DR J. STERLING, DR S. INGLIS, DR P. MINOR AND DR G. DARBY
- Virus interactions with cellular regulatory mechanisms
- Viruses in the Multicellular host
- Viruses in the Community – 1
- Intervention

DR T. BROWN, DR S. INGLIS, DR S. EFSTATHIOU, DR D. WIGHT, DR A. LEVER, DR E. MICHAEL AND DR B. GRENFELL
- Project Seminars
- Virus Portraits
- Viruses in the Community – 2

PHARMACOLOGY

Course organiser: Dr J. M. Edwardson E-mail: jme1000@cam.ac.uk

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

Pharmacology of Integrated Systems[1]

DR P. THORN
- Gastro-intestinal Pharmacology. Tu. Th. 11 (Four lectures) (5–17 Oct.)

DR C. R. HILEY AND DR W. R. FORD
- Cardiovascular Pharmacology. M. W. F. 9 (Nine lectures) (6–25 Oct.)

PROF. P. A. MCNAUGHTON
- Cellular and Molecular Aspects of Pain. Tu. Th. 11 (Four lectures) (19–31 Oct.)

DR D. R. FERGUSON AND DR A. GENAZZANI
- Pharmacology of Psychiatric Disorders. M. W. F. 9 (Nine lectures) (27 Oct.–15 Nov.)

DR M. A. BARRAND
- Blood Brain Barrier. Tu. Th. 11 (Two lectures) (2–7 Nov.)

DR A. J. MORTON
- Neurodegeneration. Tu. Th. 11 (Six lectures) (9–28 Nov.)

DR M. A. BARRAND AND DR P. E. REYNOLDS
- Resistance to Antibacterial and Anti-cancer Agents. M. W. F. 9 (Six lectures) (17–29 Nov.)

Pharmacology of Integrated System[1]

DR R. M. HENDERSON
- Hyperlipidaemias and the Pharmacology of the Liver. M. F. 9 (Two lectures) (19–22 Jan.)

DR P. THOMAS
- Pharmacology of Reproduction. M. W. F. 9 (Four lectures) (24–31 Jan.)

DR A. GENAZZANI
- Excitatory Amino Acids. M. W. F. 9 (Three lectures) (2–7 Feb.)

DR S. B. HLADKY
- General Anaesthetics. M. W. F. 9 (Three lectures) (9–14 Feb.)

PROF. R. FLOWER
- Pharmacology of Inflammation and the Immune Response. Th. 11, 12 (15 Feb.); Th. 11, F. 9 (16–23 Feb.) (Five lectures)

PROF. P. P. A. HUMPHREY
- Drug Discovery. M. W. F. 9 (Three lectures) (7–14 Mar.)

[1] Medical and Veterinary Sciences Tripos, Part II, Pharmacology of Integrated Systems.
Medical and Veterinary Sciences Tripos, Part II, Four Paper Pharmacology consists of all the lectures offered for NST Part II, Pharmacology.
The introductory session for NST and MVST Part II (Two Paper and Four Paper) students will be at 9 a.m., Wednesday 4 October in the lecture theatre, Department of Pharmacology. It is expected to last all morning with a break for coffee.

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NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2000 LENT 2001 EASTER 2001

PHARMACOLOGY (continued)

Molecular and Cellular Pharmacology
DR P. J. RICHARDSON
Molecular Biology of Ligand-gated Channels and G-protein Coupled Receptors. M. W. F. 10 (Six lectures) (6–18 Oct.)
DR R. M. HENDERSON
Patch Clamp Recording. M. W. F. 10 (Three lectures) (20–25 Oct.)
DR M. A. BARRAND
Aquaporins. Tu. Th. 9 (Two lectures) (19, 24 Oct.)
DR R. MURRELL-LAGNADO, DR S. B. HLADKY AND DR A. R. RANDALL
Potassium, Sodium and Calcium Channels. M. W. F. 10 (Eleven lectures) (27 Oct.–22 Nov.)
DR J. M. YOUNG
Quantitative Receptor Pharmacology. Tu. Th. 9 (Five lectures) (26 Oct.–9 Nov.)
PROF. M. J. WARING AND PROF. V. K. K. CHATTERJEE
Drugs, Receptors and DNA. Tu. Th. 9 (Five lectures) (14–28 Nov.)
DR P. M. DEAN AND DR P. J. RICHARDSON
Pharmacogenomics. M. W. F. 10 (Four lectures) (22–29 Nov.)

Molecular and Cellular Pharmacology
DR C. W. TAYLOR, PROF. R. F. IRVINE AND DR P. THORN
Intracellular Signalling andTransduction. Tu. Th. 9 (Twelve lectures) (18 Jan.–27 Feb.)
DR J. M. EDWARDSON
Control of Secretion and ReceptorTrafficking. Tu. Th. 9 (Six lectures) (10–29 Feb.)
DR D. R. FERGUSON
Pharmacology of Epithelial Ion Transport. Tu. Th. 9 (Four lectures) (1–13 Mar.)

PHYSIOLOGY

All lectures are given in *the Bryan Matthews Room, Department of Physiology* unless otherwise stated

Timetable Co-ordinator: Dr C. L-H. Huang E-mail: clh11@cus.cam.ac.uk
(Module Organisers are shown below in brackets)

Common Module (Dr M. J. Mason)

Field Trip – Tuesday 3 Oct. (Prof. R. C. Thomas)
The coach will leave the main Downing Site entrance on Tennis Court Road at 9 a.m.

Orientation Day – Wednesday 4 Oct.
Issue of Course Literature. (9.30 a.m.)
PROF. R. C. THOMAS
Introduction (One session, 10.30 a.m.)
DR J. C. D. HICKSON
Home Office Licence Briefing (One session, 11 a.m.)
MR T. R. CARTER
Computing in Physiology (One session, 12.15 p.m.)
MRS C. RATCLIFF
Introduction to Library Resources (One session, 12.30 p.m.)
PROF. R. C. THOMAS
Reading a Physiological Research Paper (One session, 2.15 p.m.)
DR A. SILVER
Scientific Writing (One session, 3 p.m.)
DR A. L. R. FINDLAY
Libraries and Information Databases (One session, 4.15 p.m.)
PROF. R. C. THOMAS
Reception (5 p.m.) *Tea Room*

Later sessions
DR J. W. FAWCETT
Research Opportunities. Th. 9 (One session, 5 Oct.)
MS F. E. DUNCAN
Safety Seminar. Th. 2 (One session, 5 Oct.)

Common Module (Dr M. J. Mason)

Other sessions
DR J. W. FAWCETT
Writing Up and Preparing a Poster. Th. 2 (One session, 18 Jan.)
DR R. H. S. CARPENTER
Recording and Presenting Data in Figures. M. 9 (One session, 5 Feb.)
DR D. J. TOLHURST
Statistics. Th. 12 (One session, 8 Feb.)
DR A. L. FOWDEN
What the examiners are looking for. Tu. 9 (One session, 20 Feb.)
DR C. J. SCHWIENING
Experimental Design Part of the Examination. F. 2 (One session, 23 Feb.)

Journal Clubs
DR I. M. WINTER
Module One Journal Club. M. Th. 4.30 (Two sessions, 25 Jan., 12 Feb.)
DR R. H. S. CARPENTER
Module Two Journal Club. M. Tu. 2 (Two sessions, 29 Jan., 13 Feb.)
DR J. C. D. HICKSON
Module Three Journal Club. Tu. Th. 4.30 (Two sessions, 30 Jan., 15 Feb.)
DR D. A. GIUSSANI
Module Four Journal Club. M. Th. 4.30 (Two sessions, 1, 19 Feb.)
DR C. J. SCHWIENING
Module Five Journal Club. M. Tu. 4.30 (Two sessions, 5, 20 Feb.)
DR J. W. FAWCETT
Module Six Journal Club. Tu. Th. 4.30 (Two sessions, 6, 22 Feb.)
DR J. H. ROGERS
Module Seven Journal Club. M. Th. 4.30 (Two sessions, 8, 26 Feb.)

NATURAL SCIENCES TRIPOS, PART II (continued)

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PHYSIOLOGY (continued)

Module 1. Sensory Systems. W. Th. 9 (Dr I. M. Winter)
PROF. T. D. LAMB
Photoreceptors (Six lectures, 11, 12, 18, 19, 25, 26 Oct.)
PROF. A. C. CRAWFORD
Peripheral Auditory Systems (Four lectures, 1, 8, 15, 22 Nov.)
DR I. M. WINTER
Central Auditory Neurophysiology (Three lectures, 16, 23, 29 Nov.)

Module 2. Motor Systems. F. 9, 11 *unless otherwise stated* (Dr R. H. S. Carpenter)
DR C. L-H. HUANG
Activation of Skeletal Muscle. F. 9 (6 Oct.); F. 11 (6, 13 Oct.) (Three lectures)
PROF. A. C. CRAWFORD
Muscle spindles. F. 9, 11 (Two lectures, 20 Oct.)
DR A. PELAH
Visuomotor Adaptation and Control. F. 9, 11 (Two lectures, 27 Oct.)
PROF. R. N. LEMON
Corticospinal Organisation. F. 9, 11 (Four lectures, 3, 10 Nov.)
DR S. EDGLEY
Cerebellum. F. 9 (17 Nov.); F. 9, 11 (24 Nov.) (Three lectures)

Module 3. Systems Physiology and Transport. M. 9, Th. 11 (Dr J. C. D. Hickson)
DR S. L. HICKSON
Hypothalamus (Two lectures, 5, 12 Oct.)
DR A. W. EDWARDS
Autonomic neuropeptides (Four lectures, 9, 16, 23 Oct., 2 Nov.)
DR R. J. BARNES
Circulation (Three lectures, 26, 30, Oct., 6 Nov.)
PROF. J. T. FITZSIMONS
Thirst (Six lectures, 9, 13, 16, 20, 23, 27 Nov.)

Module 4. Developmental and Fetal Physiology. Th. F. 12 (Dr D. A. Giussani)
DR R. J. BARNES
Developmental physiology of organ systems (Four lectures, 5, 12, 19 Oct., 2 Nov.)
PROF. M. A. H. SURANI
Developmental biology (Four lectures, 6, 13, 20, 27 Oct.)
DR S. K. L. ELLINGTON
Embryogenesis (Four lectures, 3, 10, 17, 24 Nov.)
DR A. L. FOWDEN
Fetal development: growth and metabolism (Three lectures, 9, 16, 23 Nov.)

Module 5. Cellular Physiology. M. 10, Tu. 9 (Dr C. J. Schwiening)
DR M. J. MASON
Measurement of intracellular calcium (Three lectures, 9, 10, 24 Oct.)
DR V. L. LEW
Energetics of calcium transport (Three lectures, 16, 17, 23 Oct.)
DR M. P. MAHAUT-SMITH
Calcium signalling (Three lectures, 30, 31 Oct., 7 Nov.)
DR H. P. C. ROBINSON
Synaptic mechanisms (Four lectures, 13, 14, 20, 21 Nov.)
PROF. R. C. THOMAS
Intracellular pH regulations (Two lectures, 27, 28 Nov.)

Module 1. Sensory Systems. W. Th. 9 (Dr I. M. Winter)
DR R. D. PATTERSON
Higher Auditory Processing (Four lectures, 24, 25, 31 Jan., 1 Feb.)
DR M. JUUSOLA
Information Coding in Sensory Systems (Three lectures, 7, 8, 14 Feb.)
PROF. H. BARLOW
Higher Visual Functions (Three lectures, 15, 21, 22 Feb.)
DR A. L. R. FINDLAY
Somantic Sensation (Four lectures, 28 Feb., 1, 7, 8 Mar.)

Module 2. Motor Systems. F. 9, 11 *as stated* (Dr R. H. S. Carpenter)
DR R. H. S. CARPENTER
Introduction to Eye Movements. F. 9, 11 (19 Jan.) (Two lectures)
DR R. H. S. CARPENTER
Oculomotor Neurophysiology. F. 9, 11 (26 Jan.); F. 9 (2, 9, 16 Feb.) (Five lectures)
DR H. R. MATTHEWS
Long-latency Reflexes. F. 11 (Three lectures, 2, 9, 16 Feb.)
DR J. C. ROTHWELL
Cortical and Subcortical Control of Movement. F. 9, 11 (23 Feb., 2, 9 Mar.) (Six lectures)

Module 3. Systems Physiology and Transport. M. 9, Th. 11 (Dr J. C. D. Hickson)
DR S. O. SAGE
Renal Mechanisms (Six lectures, 18, 22, 25, 29 Jan., 1, 8 Feb.)
DR D. A. GIUSSANI
Chemoreceptors (Three lectures, 12, 15, 19 Feb.)
DR J. C. HICKSON
Gastroenterology (Six lectures, 22, 26 Feb., 1, 5, 8, 12 Mar.)

Module 4. Developmental and Fetal Physiology. Th. F. 12 (Dr D. A. Giussani)
DR D. A. GIUSSANI
Fetal control mechanisms (Four lectures, 18, 25, Jan., 1 Feb., 8 Mar.)
DR M. CARLTON
Transgenesis (Four lectures, 19, 26 Jan., 2, 15 Feb.)
DR A. L. FOWDEN
Fetal development, growth and metabolism (Three lectures, 9, 22 Feb., 1 Mar.)
DR A. J. FORHEAD
Development of organs (Two lectures, 23 Feb., 2 Mar.)

Module 5. Cellular Physiology. M. 10, Tu. 9 (Dr C. J. Schwiening)
PROF. R. C. THOMAS
Intracellular pH regulations (Two lectures, 22, 23 Jan.)
DR C. J. SCHWIENING
Neuronal calcium handling (Two lectures, 29, 30 Jan.)
DR D. WILLOUGHBY
Calcium pH interactions (Two lectures, 5, 6 Feb.)
DR J. W. A. FAWCETT
Neural development (Four lectures, 12, 13, 19, 26 Feb.)
DR J. H. ROGERS
Molecular biology of neural development (Five lectures, 27 Feb., 5, 6, 12, 13 Mar.)

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NATURAL SCIENCES TRIPOS, PART II (continued)

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PHYSIOLOGY (continued)

Module 6. Topics in Clinical Physiology. W. F. 10
In Physiology Lecture Theatre 3 unless otherwise stated
(Dr J. W. Fawcett)
PROF. J. T. FITZSIMONS
Oedema, Shock, Heart failure, Hypertension (Eight lectures, 6, 11, 13, 18, 20, 25, 27 Oct., 1 Nov.)
DR A. DAVENPORT
Endothelin, nitric oxide and control of circulation (Two lectures, 3, 8, Nov.)
DR A. GRACE
Cardiac rhythm and arrhythmias (One lecture, 15 Nov.)
DR A. ODURU
Myocardial protection (Two lectures, 17, 22 Nov.)
DR A. VIDAL-PUIG
Control of body mass (Two lectures, 24, 29 Nov.)

Module 6. Topics in Clinical Physiology.
W. F. 10
In the Biffin Lecture Theatre
(Dr J. W. Fawcett)
DR J. BRADLEY, DR J. FIRTH AND DR K. SMITH
Aspects of renal disease (Six lectures, 19, 24, 26, 31 Jan., 2, 7 Feb.)
DR N. MORELL
The pulmory circulation (Two lectures, 9, 14 Feb.)
PROF. D. LOMAS
Chronic bronchitis and emphysema (One lecture, 16 Feb.)
PROF. E. CHILVERS
Inflammation and airway obstruction (One lecture, 21 Feb.)
PROF. K. CHATTERJEE
The thyroid and thyroid pathology (Two lectures, 23, 28 Feb.)
PROF. D. DUNGAR
Growth hormone, IGF1, diabetes (Two lectures, 2, 7 Mar.)
DR C. ACERINI
Insulin, metabolic control (Two lectures, 9, 14 Mar.)

Module 7. Medical Aspects of Neurobiology
Tu. Th. 10 *In the Physiology Main Lecture Theatre*
(Dr J. H. Rogers)
DR J. MORTON
Neurodegeneration (Four lectures, 5, 10, 12, 17 Oct.)
DR J. W. FAWCETT
Recovery from Injury and Regeneration (Three lectures, 19, 24, 26 Oct.)
DR R. BARKER
Brain Grafting (Two lectures, 31 Oct., 2 Nov.)
PROF. J. PICKARD, MR P. KIRKPATRICK AND DR R. TASKER
Cerebrospinal Fluid, Raised Intracranial Pressure Stroke, CNS Injury (Four lectures, 7, 9, 14, 16 Nov.)
DR J. HUNTER
Development of CNS Pharmaceuticals (One lecture, 21 Nov.)
DR C. L-H. HUANG
Neurological Imaging (Two lectures, 23, 28 Nov.)

Module 7. Medical Aspects of Neurobiology.
Tu. Th. 10 *In the Physiology Main Lecture Theatre*
(Dr J. H. Rogers)
DR D. J. TOLHURST
Visual Disorders (Three lectures, 18, 23, 25 Jan.)
DR S. UPPENKAMP
Disorders of Sensory Systems (Three lectures, 30 Jan., 1, 6 Feb.)
DR R. FRANKLIN
Demyelination and Remyelination (Two lectures, 8, 13 Feb.)
DR R. BARKER
Acute and Chronic Pain (Two lectures, 15, 20 Feb.)
DR A. ROBERTS
Cognitive Disorders in Neurological Disease (Two lectures, 22, 27 Feb.)
PROF. I. GOODYER, DR T. HOLLAND, DR P. BOLTON AND DR E. GAINTONDE
Scientific Basis and Treatment of Psychiatric Disorders (Four lectures, 1, 6, 8, 13 Mar.)

PLANT SCIENCES

Course co-ordinator: Dr D. Hanke E-mail: david.hanke@plantsci.cam.ac.uk
Module organisers appear in brackets below. E-mail: firstname.surname@plantsci.cam.ac.uk

Further details at http://www.plantsci.cam.ac.uk/Plantsci/Courses.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. 10–12 (7 Oct.) *Botanic Garden*
DR J. HASELOFF
F. 2–4 (13 Oct.)

Core Skills
(Organiser: Dr J. Davies)
Th. 12–1 (Eight sessions, 5 Oct.–23 Nov.)

Seminars and Workshops
M. 2–5 (Seven sessions, 16 Oct.–27 Nov.)

Seminars and Workshops
M. 2–5 (Eight sessions, 22 Jan.–12 Mar.)

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2000 LENT 2001 EASTER 2001

PLANT SCIENCES (continued)

Module M1
(Module organiser: Dr J. Carr, E-mail: john.carr@plantsci.cam.ac.uk)
Frontiers in Plant–Microbe Interactions. M. W. F. 9 (6 Oct.–29 Nov.)
Sessions in M1 are given by:
DR J. CARR (sessions 1–8)
DR K. JOHNSTONE (sessions 9–16)
PROF. C. GILLIGAN (sessions 17–24)

Module M2
(Module organiser: Prof. J. Gray, E-mail: john.gray@plantsci.cam.ac.uk)
Plant Genes and Organelles. M. W. F. 10 (6 Oct.–29 Nov.)
Sessions in M2 are given by:
DR A. SMITH (session 1–5)
DR T. MARTIN (session 6)
PROF. J. GRAY (sessions 7–14)
DR R. MOULD (sessions 15–17)
DR P. DUPREE (sessions 18–21)
PROF. J. GRAY (sessions 22–24)

Module M3
(Module organiser: Dr P. Grubb, E-mail: peter.grubb@plantsci.cam.ac.uk)
Dynamics, History and future of Vegetation. M. Tu. F. 12 (6 Oct.–28 Nov.)
Sessions in M3 are given by:
DR P. GRUBB (sessions 1–6)
DR D. COOMES (sessions 7–12)
PROF. H. GRIFFITHS (sessions 13–18)
DR O. RACKHAM (sessions 19–24)

Module M4
(Module organiser: Prof. R. A. Leigh, E-mail roger.leigh@plantsci.cam.ac.uk)
Transport and Signal Transduction. Tu. Th. 9, W. 12 (5 Oct.–29 Nov.)
Sessions in M4 are given by:
DR J. DAVIES (sessions 1–5)
PROF. R. A. LEIGH (sessions 6–12)
DR C. CHEFFINGS (sessions 13–16)
DR A. WEBB (sessions 17–22)
ALL LECTURES (sessions 23 and 24)

Module L1
(Module organiser: Dr D. Hanke, E-mail: david.hanke@plantsci.cam.ac.uk)
Development of Plants and Fungi. M. W. F. 9 (19 Jan.–12 Mar.)
Sessions in L1 are given by:
DR J. DAVIES (sessions 1–3)
DR J. HASELOFF (sessions 4–10)
DR D. HANKE (sessions 11–17)
DR B. GLOVER (sessions 18–24)

Module L2
(Module organiser: Dr P. Grubb, E-mail: peter.grubb@plantsci.cam.ac.uk)
Responses of Plants to Environment. M. W. F. 10 (19 Jan.–12 Mar.)
Sessions in L2 are given by:
DR T. MARTIN (sessions 1–4)
DR R. DAVENPORT (sessions 5–7)
PROF. H. GRIFFITHS (sessions 8–11)
DR E. V. J. TANNER (sessions 12–16)
DR P. GRUBB (sessions 17–20)
DR J. HIBBERD AND DR P. GRUBB (sessions 21 and 22)
DR P. GRUBB (sessions 23 and 24)

Module L3
(Module organiser: Prof. J. Parker, E-mail: john.parker@plantsci.cam.ac.uk)
Variation and Evolution. M. 11, Tu. Th. 9 (18 Jan.–13 Mar.)
Sessons in L3 are given by:
PROF. J. PARKER (sessions 1–10)
DR D. BRIGGS (sessions 11–18)
DR T. UPSOM (sessions 19–24)

Module L4
(Module organiser: Dr A. Smith, E-mail: alison.smith@plantsci.cam.ac.uk)
Plant Metabolism. Tu. Th. 10, W. 11 (18 Jan.–13 Mar.)
Sessions in L4 given by:
DR A. SMITH (session 1)
DR T. MARTIN (sessions 2–11)
DR A. SMITH (sessions 12–16)
PROF. J. GRAY (sessions 17–20)
DR P. DUPREE (sessions 21–23)
DR A. SMITH (session 24)

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

DR W. AMOS, DR B. T. GRENFELL, DR P. ROHANI, DR J. SWINTON, DR R. JOHNSTONE AND OTHERS
Population Biology. M. W. F. 5 (Twenty-four lectures) *Large Lecture Theatre, Department of Plant Sciences*
(Module organiser: Dr B. T. Grenfell)

DR M. BROOKE, DR D. ALDRIDGE, DR R. S. K. BARNES, DR P. HERRING AND PROF. B. ALLANSON
Aquatic Ecology. M. W. F. 11 (Twenty-four lectures) *Department of Zoology*
(Module organiser: Dr R. S. K. Barnes)

DR D. HANKE, DR J. HASELOFF, PROF. J. GURDON, DR A. MARTINEZ ARIAS, DR D. ST JOHNSTON AND DR J. AHRINGER
Developmental Biology. M. Tu. F. 5 (Twenty-four lectures) *Department of Genetics*
(Module organiser: Dr J. Castelli-Gair)

DR M. BROOKE, DR D. BRIGGS, DR W. AMOS, DR A. BALMFORD, DR E. V. J. TANNER, DR J. O'SULLIVAN AND DR I. D. HODGE
Conservation Biology. M. W. F. 5 (Twenty-four lectures) *Department of Zoology*
(Module organiser: Dr A. Balmford)

DR J. A. BARRETT, DR P. O'DONALD, DR M. E. N. MAJERUS AND DR J. BROWN
Evolutionary, Population and Ecological Genetics. M. Tu. W. Th. F. 12 (Thirty-two lectures, beginning 18 Jan.) *Department of Genetics*
(Module organisers: Dr J. Barrett and Dr M. E. N. Majerus)

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

DR B. J. McCABE
Statistics for Part II and Graduate Biologists. M. 9, 2 (2 Oct.); M. Tu. W. Th. F. 2 (3, 4, 5, 6, 9, 10, 11, 12 Oct.) (Ten lectures) *Large Lecture Theatre, Department of Plant Sciences*
Practical work in Statistics for Part II and Graduate Biologists. M. W. 10–12 *or* 3–5 (2, 4 Oct.); M. W. F. 3–5 (6, 9, 11, 13, 16 Oct.) *The Old Music School, Downing Place*

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NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2000 **LENT 2001** **EASTER 2001**

PSYCHOLOGY

Course Co-ordinator: Prof. A. Dickinson E-mail: ad15@cus.cam.ac.uk

General Courses

PROF. N. J. MACKINTOSH
General Introduction. Th. 9 (One lecture, 5 Oct.)

DR M. R. F. AITKEN
Introductory Statistics. M. Tu. Th. F. 2 (Four classes, 5, 6, 9, 10 Oct.) (Two hours) *Craik Marshall Seminar Room*

DR I. P. L. MCLAREN
Statistics. M. (Two lectures, 16, 23 Oct.); W. 2 (Three lectures, 11, 18, 25 Oct.); F. 2 (Three lectures, 13, 20, 27 Oct.); Tu. 2 (Examples classes, 17, 24, 31 Oct., 7, Nov.) *Practical Classroom*

Section A

PROF. B. C. J. MOORE
Hearing. M. 10 (Eight lectures, beginning 9 Oct.); F. 10 (Eight lectures, beginning 6 Oct.)

PROF. J. D. MOLLON
Vision. Tu. 12 (Seven lectures, 10, 17, 31 Oct., 7, 14, 21, 28 Nov.)

Section B

DR I. P. L. MCLAREN
Connectionism. W. 12 (Seven lectures, 11, 18, 25 Oct., 1, 8, 22, 29 Nov.)

DR I. P. L. MCLAREN
Learning, Memory and Cognition. Tu. 10 (Seven lectures, 10, 17, 24, 31 Oct., 7, 21, 28 Nov.); Th. 10 (Seven lectures, 5, 12, 19, 26 Oct., 2, 9, 23 Nov.)

Section C

PROF. A. DICKINSON
Comparative Psychology of Learning and Cognition. M. 12 (Eight lectures, beginning 9 Oct.); F. 12 (Eight lectures, beginning 6 Oct.)

PROF. T. W. ROBBINS AND DR J. PARKINSON
Brain Mechanisms of Motivation. M. 11 (Seven lectures, 9, 16, 23, 30 Oct., 13, 20, 27 Nov.); W. 10 (Seven lectures, 11, 18, 25 Oct., 1, 15, 22, 29 Nov.)

Section D

DR D. HUTCHENSON, DR R. MOORE AND MS L. BROSAN
Abnormal Psychology. Th. 12 (Seven lectures, beginning 5 Oct.)

General Courses

A. N. OTHER
Writing a Project Report. M. 5 (One class, 5 Feb.)

Section A

The same continued. (Seven lectures, 19, 26 Jan., 2, 9, 16 Feb., 2, 9 Mar.)

Section B

DR H. E. MOSS
Language, Mind and Brain. Tu. 12 (Eight lectures, 16, 23, 30 Jan., 6, 13, 27 Feb., 6, 13 Mar.); W. 12 (Eight lectures, 17, 24, 31 Jan., 7, 14, 28 Feb., 7, 14 Mar.)

PROF. N. J. MACKINTOSH
Intelligience. Th. 10 (Eight lectures, 18, 25 Jan., 1, 8, 15 Feb., 1, 8, 15 Mar.)

Section C

PROF. N. J. MACKINTOSH
The same continued. W. 10 (Eight lectures, 17, 24, 31 Jan., 7, 14, 28 Feb., 7, 14 Mar.)

PROF. T. W. ROBBINS
Brain Mechanisms of Memory and Cognition. M. 10 (Eight lectures, 15, 22, 29 Jan., 5, 12, 26 Feb., 5, 12 Mar.) *Room 2, Austin Building*

DR R. A. MCCARTHY
Cognitive Neuropyschology. Tu. 10 (Eight lectures, 16, 23, 30 Jan., 6, 13, 27 Feb., 6, 13 Mar.) *Room 2, Austin Building*; F. 11 (Eight lectures, 19, 26 Jan., 2, 9, 16 Feb., 2, 9, 16 Mar.)

Section D

DR M. A. O'RIORDAN AND DR J. PARKINSON
Abnormal Psychology. Th. 12 (Eight lectures, 18, 25 Jan., 1, 8, 15 Feb., 1, 8, 15 Mar.)

PROF. R. PLOMIN
Behaviour Genetics Seminars. Th. 5 (Four meetings, 1, 8, 15 Feb., 1 Mar.)

DR K. C. PLAISTED
Social and Emotional Development. M. 12 (Eight lectures, 15, 22, 29 Jan., 5, 12, 26 Feb., 5, 12 Mar.)

DR F. HAPPÉ
Cognitive Development. F. 12 (Eight lectures, 19, 26 Jan., 2, 9, 16 Feb., 2, 9, 16 Mar.)

DR J. STEVENSON-HINDE AND OTHERS
Developmental Psychology Seminars. W. 5 (Eight meetings, 17, 24, 31 Jan., 7, 14, 28 Feb., 7, 14 Mar.)

Attention is drawn to lectures given by Professor R. A. Hinde on Psychology of Relationships Tu. 4 (beginning 10 Oct.), in *the Maxwell Lecture Theatre*, and to lectures given by Dr J. Forrester on Freud, Psychoanalysis and the Twentieth-Century M. W. 11 (beginning 11 Oct.), in *Mill Lane, Room 4.*

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2000 **LENT 2001** **EASTER 2001**

ZOOLOGY

Course Organiser: Dr J. A. Clack E-mail: j.a.clack@zoo.cam.ac.uk

Lectures will be given in the Department of Zoology, unless otherwise stated

Control of Cell Growth and Genome Stability
DR J. PINES, DR J. RAFF, DR M. JACKMAN, DR C. PELIZON, PROF. M. RAFF, DR T. KRUDE, DR N. McCARTHY, PROF. S. P. JACKSON AND DR F. D'ADDA DI FAGAGNA
M. W. F. 9 (Twenty-five lectures)
Module Organiser: Prof. S. P. Jackson

Neural Mechanisms of Behaviour
PROF. M. BURROWS, PROF. S. LAUGHLIN, DR B. HEDWIG, DR B. McCABE, PROF. E. KEVERENE AND DR R. BAINES
Tu. Th. S. 11 (Twenty-four lectures)
Module Organiser: Dr B. Hedwig

Topics in Vertebrate Evolution
DR A. E. FRIDAY, DR J. CLACK, DR P. FOREY, DR A. MILNER AND DR P. UPCHURCH
M. W. F. 10 (Twenty-four lectures)
Module Organiser: Dr J. A. Clack

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

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

Organisation of the Cell
DR M. ROBINSON, DR S. MUNRO, DR P. LUZIO, DR M. FREEMAN, DR H. SKAER DR H. BAYLIS AND OTHERS
M. W. F. 5 (Twenty-four lectures)
Module Organiser: Dr J. Pines

Population Biology
All lectures held in the Department of Plant Sciences
DR W. AMOS, DR B. T. GRENFELL, DR P. ROHANI, DR J. SWINTON AND DR R. A. JOHNSTONE
M. W. F. 5 (Twenty-four lectures)
Module Organiser: Dr B. T. Grenfell

Statistics for Part II and Graduate Biologists
DR B. J. McCABE
(2 Oct.) M. 9, 2; (3, 4, 5, 6, 9, 10, 11, 12 Oct.) M. Tu. W. Th. F. 2 (Ten lectures) *All lectures held in Large Lecture Theatre, Department of Plant Sciences*

Practical work
The Old Music School, Downing Place
M. W. 10–12 *or* 3–5 (2, 4 Oct.); M. W. F. 3–5 (6, 9, 11, 13, 16 Oct.)
Module Organiser: Dr B. J. McCabe
(*Note:* early start of course)

Behavioural Ecology
PROF. N. B. DAVIES, DR G. BROWN, DR R. KILNER, DR A. F. G. BOURKE AND DR R. A. JOHNSTONE
Tu. Th. S. 11 (Twenty-four lectures)
Module Organiser: Prof. N. B. Davies

Mammalian Evolution and Faunal History
DR A. E. FRIDAY, DR E. M. WESTON, DR R. C. PREECE AND DR A. J. STUART
M. W. F. 10 (Twenty-four lectures)
Module Organiser: Dr A. E. Friday

Animal Energetics: the cost of living
PROF. C. ELLINGTON, DR R. G. BOUTILIER, DR L. PECK AND PROF. A. CLARKE
Tu. Th. S. 10 (Twenty-four lectures)
Module Organiser: Prof. C. P. Ellington

Control of Gene Expression
DR T. KRUDE, DR S. BELL, DR A BANNISTER, DR C. SMITH, DR R. JACKSON AND DR S. SCOTT-DREW
M. W. F. 9 (Twenty-four lectures) *From 9 Feb. lectures held in the Department of Biochemistry*
Module Organiser: Dr T. Krude

Development Biology
PROF. J. GURDON, DR A. MARTINEZ ARIAS, DR D. ST. JOHNSTON, DR J. AHRINGER AND OTHERS
M. Tu. F. 5 (Twenty-four lectures)
Module Organiser: Dr J. Castelli-Gair

Conservation Biology
DR M. BROOKE, DR D. BRIGGS, DR W. AMOS, DR A. BALMFORD, DR E. V. J. TANNER, DR J. O'SULLIVAN AND DR I. D. HODGE
M. W. F. 5 (Twenty-four lectures)
Module Organiser: Dr A. Balmford

Molecular and Developmental Approaches to Evolution
PROF. M. AKAM, DR N. GOLDMAN, DR. W. AMOS AND DR D. STERN
M. W. F. 11 (Twenty-four lectures)
Module Organiser: Prof. M. Akam

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

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NATURAL SCIENCES TRIPOS, PART III

MICHAELMAS 2000 **LENT 2001** **EASTER 2001**

BIOCHEMISTRY

Course Organiser: Prof. D. J. Ellar E-mail: dej1@mole.bio.cam.ac.uk

Lectures are given in the Department of Biochemistry

The course starts with an introductory lecture by Prof. Ellar at 9 a.m. on Monday 2 October in the *lecture theatre in the Sanger Building, Department of Biochemistry, Old Addenbrooke's Site*

Detailed time-tables will be posted in the *Department of Biochemistry*

Research project support

DR C. W. J. SMITH AND OTHERS
Laboratory Safety, Experimental Design, Data Management and Communication Skills (2–6 Oct.)

Research project colloquium

PROF. D. J. ELLAR AND DR T. R. HESKETH (Joint chairs)
Presentation of interim reports. F. 9–5.30 (19 Jan.)

Option Lectures

1. PROF. G. P. C. SALMOND AND OTHERS
   Bacterial virulence and antimicrobial Chemotherapy (Fifteen lectures)
   Option Organiser: Prof. G. P. C. Salmond
2. PROF. J. C. THOMAS AND OTHERS
   Proteins, nucleic acids and their interactions (Fifteen lectures)
   Option Organiser: Prof. J. C. Thomas
3. DR M. D. BRAND AND OTHERS
   Bioenergetics (Fifteen lectures)
   Option Organiser: Dr M. D. Brand
4. DR P. DUPREE AND OTHERS
   Plant molecular biology (Fifteen lectures)
   Option Organiser: Dr P. Dupree
5. DR R. J. JACKSON AND OTHERS
   Control of gene expression in eukaryotes (Fifteen lectures in part joint with Part II Zoology)
   Option Organiser: Dr R. J. Jackson
6. DR J. P. LUXIO AND OTHERS
   Medical biochemistry (Fifteen lectures)
   Option Organiser: Dr J. P. Luzio
7. DR J. BLACKBURN AND OTHERS
   Enzyme mechanisms (Fifteen lectures)
   Option Organiser: Dr J. Blackburn
8. PROF. J. C. METCALFE AND OTHERS
   Cardiovascular molecular and cellular biology (Fifteen lectures)
   Option Organisers: Prof. J. C. Metcalfe and Dr A. A. Grace
9. DR T. R. HESKETH AND OTHERS
   Oncogenes, tumour suppressor genes, apoptosis and carcinogenesis (Fifteen lectures in part joint with Option E of Part II Pathology.)
   Option Organisers: Dr T. R. Hesketh and Dr N. Affara
10. DR A. M. TOLKOVSKY AND OTHERS
    Perspectives in molecular neurobiology (Fifteen lectures)
    Option Organiser Dr A. M. Tolkovsky
11. PROF. C. M. BATE AND OTHERS
    Developmental biology (Twenty-four lectures joint with Part II Genetics, Plant Sciences, and Zoology.)
    Option Organiser: Prof. C. M. Bate
12. DR N. J. GAY AND OTHERS
    Biotechnology (Fifteen lectures)
    Option Organiser: Dr N. J. Gay
13. DR T. R. HESKETH AND OTHERS
    Regulation of the eukaryotic cell cycle (Fifteen lectures)
    Option Organiser: Dr T. R. Hesketh
14. PROF. R. N. PERHAM AND OTHERS
    Protein folding and assembly (Fifteen lectures)
    Option Organisers: Prof. R. N. Perham and Dr S. E. Jackson

Research project colloquium

PROF. D. J. ELLAR AND DR T. R. HESKETH (Joint chairs)
Presentation of final reports. F. 9–5.30 (20 Apr.)

NATURAL SCIENCES TRIPOS, PART III (continued)

MICHAELMAS 2000 **LENT 2001** **EASTER 2001**

CHEMISTRY

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

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

Students must register for the course in the *Department of Chemistry, Lensfield Road*, between 9 and 1 or 2 and 4 on Tuesday 3 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 Departmental website, www.ch.cam.ac.uk

All students must attend an introductory talk concerning the course at 10 a.m. on Wednesday 4 October in *Lecture Theatre 2*.

EXPERIMENTAL AND THEORETICAL PHYSICS

Lectures are given at *the Cavendish Laboratory (West Cambridge)* unless otherwise stated

The Year Group Co-ordinator is Dr B. D. Simons (comments by E-mail to 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 lecture rooms are indicated as follows: (P) Pippard Lecture Theatre, (S) Small Lecture Theatre, (M) Mott Seminar Room, (R) Ryle Seminar Room, (C) Department of Chemistry.

The course will begin with a meeting on the first Wednesday of Full Term (4 Oct.) at 12.30 p.m. in the *Small Lecture Theatre*.

Course L
Major Options

PROF. P. B. LITTLEWOOD (*P*)
Principles of Quantum Condensed Matter Physics. M. W. F. 12

PROF. A. M. DONALD (*S*)
Structure and Properties of Condensed Matter. M. W. F. 9

PROF. A. C. FABIAN, DR M. P. HOBSON AND PROF. M. J. REES (*P*)
Gravitational Astrophysics and Cosmology. M. W. F. 11

DR J. R. BATLEY (*P*)
Particle Physics. Tu. Th. S. 11

DR K. F. PRIESTLEY AND DR A. J. HAINES (*S*)
Physics of the Earth as a Planet. M. W. F. 10

DR B. D. SIMONS (*S*)
Theoretical Concepts in Physics. Tu. Th. S. 12

Minor Options

PROF. B. R. WEBBER (*P*)
Gauge Field Theory. Tu. Th. 11

DR D. J. C. MACKAY (*P*)
Information Theory, Pattern Recognition and Neural Networks. W. F. 11

DR M. P. HOBSON (*S*)
General Relativity. Tu. Th. 9

DR J. A. C. BLAND (*S*)
Low Dimensional Magnetism and Magnetic Information Storage Technology. Tu. Th. 11

DR B. D. SIMONS (*M*)
Phase Transitions and Collective Phenomena. Tu. Th. 12

DR J. R. COOPER (*S*)
Superconductivity. W. F. 11

PROF. M. PEPPER AND DR C. H. W. BARNES (*S*)
Quantum Effects in Low-dimensional Semiconductor Devices. M. 12, F. 9

DR D. HASKO (*S*)
Microelectronics and Semiconductor Materials. M. W. 9

DR N. C. GREENHAM (*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

DR 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 (*M*)
Medical Physics. M. W. 10

DR W. G. REES (S)
Physics of Remote Sensing. Tu. Th. 12

DR M. C. PAYNE (*P*)
Quantum Information. W. F. 12

DR P. MONTHOUX AND DR M. SPRIK (*C*)
Numerical Simulation Methods in Physics and Chemistry. M. W. 2

PROF. J-P. HANSEN AND DR M. WARNER (*C*)
Physics and Chemistry of Complex Fluids. Tu. Th. 2

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

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NATURAL SCIENCES TRIPOS, PART III (continued)

MICHAELMAS 2000	LENT 2001	EASTER 2001

EXPERIMENTAL AND THEORETICAL PHYSICS (continued)

Not more than one of the following courses from Part III Mathematics (p. 149) *may be offered for examination.*

DR I. T. DRUMMOND
Quantum Field Theory. Tu. Th. S. 9 (*MR3*)
PROF. J. E. PRINGLE AND DR C. A. TOUT
Structure and Evolution of Stars. M. W. F. 12 (*MR11*)

Not more than one of the following courses from Part III Mathematics (p. 149) *may be offered for examination.* Advanced Quantum Field Theory *may not be offered together with* Gauge Field Theory.

DR J. M. EVANS
Advanced Quantum Field Theory. Tu. Th. S. 11 (*MR3*)
DR A. BURGESS AND DR H. E. MASON
Atomic Astrophysics. M. W. F. 12 (*MR9*)

Course M

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

Course N

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

PROF. P. LIPTON AND OTHERS (*S*)
Philosophy of Physics. F. 10 (first four lectures)
DR G. RAJAGOPAL (*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 (30 Jan. in *Small Lecture Theatre*)
Research in the TCM Group (7 Feb. 2.15 in *TCM Seminar Room*)
Research in the Mott Building I (14 Feb. in *Small Lecture Theatre*)
Research in the Mott Building II (21 Feb. in *Small Lecture Theatre*)

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

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

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

Course T

DR J. A. C. BLAND AND OTHERS
Project Work

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

DR J. A. C. BLAND 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 up to 16 seminars will be run during the Michaelmas Term. Tu. 5 *Tilley Lecture Theatre;* Th. 12 *Harker Room*

Option 6 Continental tectonics and mountains
DR J. A. JACKSON, DR A. G. SMITH AND DR N. HOVIUS
Lectures. M. 9, Th. 10 *Tilley Room*
Practicals. M. 10–11.30, Th. 11–12.30 *Petrology Laboratory*
Convenor: Dr J. A. Jackson

Option 7 Oceanic and Continental Margins
PROF. R. S. WHITE, DR J. HAINES AND DR J. SMELLIE
Lectures. Tu. 9, F. 2 *Harker Room*
Practicals. Tu. 10–11.30, F. 3–4.30 *Petrology Laboratory*
Convenor: Prof. R. S. White

Option 8 Metamorphic and Igneous Processes
DR T. J. B. HOLLAND, DR M. J. BICKLE, DR M. B. HOLNESS AND DR D. M. PYLE
Lectures. W. F. 9 *Harker Room*
Practicals. W. F. 10–11.30 *Petrology Laboratory*
Convenor: Dr M. J. Bickle

Options 6–10 and M4–M6 continue for eight revision sessions each

NATURAL SCIENCES TRIPOS, PART III (continued)

MICHAELMAS 2000 LENT 2001 EASTER 2001

GEOLOGICAL SCIENCES AND MINERAL SCIENCES (continued)

Option M6 Diffraction, Electron Microscopy, and Microanalysis
DR M. A. CARPENTER, DR S. J. B. REED, PROF. E, SALJE, DR S. A. T. REDFERN AND DR M. T. DOVE
Lectures. Tu. Th. 9 *Harker Room II*
Practicals. Tu. Th. 10–11.30 *1B Minerals Laboratory*
Convenor: Dr M. A. Carpenter

Option 9 Plio-pleistocene oceans and climate change
PROF. I. N. McCAVE, PROF. N. J. SHACKLETON, PROF. H. ELDERFIELD, PROF. T. H. VAN ANDEL AND DR C. DE LAROCHA
Lectures. Tu. Th. 2 *Harker Room*
Practicals. Tu. Th. 3–4.30 *Structural Laboratory*
Convenor: Prof. I. N. McCave

Option 10 Palaeo ecology and ancient ecosystems
PROF. S. CONWAY MORRIS AND DR N. J. BUTTERFIELD
Lectures. M. W. 2 *Harker Room*
Practicals. M. W. 3–4.30 *Palaeontology Laboratory*
Convenor: Dr N. J. Butterfield

Option M4 Properties of crustal materials
DR S. A. T. REDFERN, DR M. WELCH AND DR M. A. CARPENTER
Lectures. W. Th. 2 *Harker Room II*
Practicals. W. Th. 3–4.30 *1B Minerals Laboratory*
Convenor: Dr S. A. T. Redfern

Option M5 Crystal Physics
DR I. FARNAN, PROF. J. SCOTT AND DR Z. BARBER
Lectures. Tu. Th. 9. *Harker Room II*
Practicals. Tu. Th. 10–11.30 *1B Minerals Laboratory*
Convenor: Dr I. Farnan

Easter Field Course
15–22 March 2001

MATERIALS SCIENCE AND METALLURGY

Course Co-ordinator: Dr Z. H. Barber E-mail: Part III@msm.cam.ac.uk

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

A detailed timetable is available in the Department

DR A. L. GREER
C19 Thermal Analysis (Four lectures)
DR K. M. KNOWLES
C20 Electron Microscopy and Analysis (Eight lectures)
DR J. A. LEAKE
C21 X-ray and Neutron Techniques (Six lectures)
PROF. C. J. HUMPHREYS
M1 Electrons and Photons in Solids (Twelve lectures)
PROF. T. W. CLYNE
M2 Solidification and Powder Processing (Twelve lectures)
DR R. V. KUMAR
M3 Extraction and Recycling (Twelve lectures)
DR W. J. CLEGG
M5 High Temperature Materials (Twelve lectures)
PROF. A. H. WINDLE
M6 Polymeric Materials (Twelve lectures)
DR M. G. BLAIMIRE
M10 Materials Aspects of Microdevices (Twelve lectures)
DR E. R. WALLACH
M14 Joining (Twelve lectures)
DR P. D. BRISTOWE AND PROF. H.K. D. H. BHADESHIA
M16 Materials Modelling (Twelve lectures)

INDUSTRIAL VISITORS
To be announced

Industrial Visit
Half day (27 Nov.)

Practical Classes
M. Tu. W. 2–5 (Two sessions to be chosen per week)

Examples Classes
(Details to be announced)

DR Z. H. BARBER AND OTHERS
M4 Ferroelectrics (Twelve lectures)
DR K. M. KNOWLES
M7 Electronics Ceramics (Twelve lectures)
DR A. L. GREER
M8 Glasses and nanomaterials (Twelve lectures)
PROF. D. J. FRAY
M9 Ionic Materials (Twelve lectures)
DR R. E. CAMERON
M11 Biomaterials (Twelve lectures)
DR Z. H. BARBER
M12 Thin Films (Twelve lectures)
DR B. A. GLOWACKI AND PROF. J. E. EVETTS
M13 Magnetic and Superconducting Materials (Twelve lectures)
DR G. T. BURSTEIN
M15 Corrosion and Protection (Twelve lectures)

INDUSTRIAL VISITORS
To be announced

Industrial Visit
Half day (15 Mar.)

The same continued

Examples Classes
(Details to be announced)

Examples Classes
(Details to be announced)

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NATURAL SCIENCES TRIPOS, PART III (continued)

MICHAELMAS 2000	LENT 2001	EASTER 2001

MATERIALS SCIENCE AND METALLURGY (continued)

Management Option (Details to be announced)	**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	**Language Option** The same continued	

M.PHILS. (one-year courses), DIPLOMAS AND SPECIAL COURSES

CHEMISTRY

Advanced courses (mainly for Research Students and others interested)

STAFF OF THE CHEMICAL LABORATORY Research Techniques in Organic Chemistry. W. 9 (starting 11 Oct.)		
STAFF OF IRC IN SUPERCONDUCTIVITY Classical and High Temperature Superconductivity. Th. 11 (Eight lectures) *IRC Seminar Room*		
A short course on Workshop practice is also offered to new Physical Chemistry graduate students early in the Michaelmas Term		

EARTH SCIENCES

REGULAR SEMINARS

PROF. E. SALJE AND OTHERS Topics in Geological Sciences. Tu. 5 *Harker Room*	The same continued	The same continued
PROF. D. P. McKENZIE AND OTHERS Colloquium in Geophysics. W. 4.30 *Bullard Laboratories*		
PROF. H. E. HUPPERT AND OTHERS Seminars in Theoretical Geophysics. Th. 2 *DAMTP Room A*	The same continued *Earth Sciences, Harker II Room*	The same continued
PROF. N. J. SHACKLETON AND OTHERS Quarternary Discussion Group, Alternate F. F. 8.30 p.m. *Clare Hall*	The same continued	The same continued

GRADUATE COURSES

THE STAFF OF THE ELECTRON PROBE LABORATORIES Physical Techniques (by arrangement)		
DR J. A. HUDSON **[Math]** Waves in Solid Media. M. W. F. 12		

OTHER COURSES

PROF. D. P. McKENZIE AND DR K. PRIESTLEY Physics of the Earth as a Planet. M. W. F. 10 *Cavendish Laboratory*		
STAFF OF THE IRC IN SUPERCONDUCTIVITY Classical and High Temperature Superconductivity. Th. 11 (Eight lectures) *IRC Seminar Room*		
DR J. HAINES Field Course in Geophysics[1]		

[1] Graduates wishing to take the Field Course should write to Dr Haines at *the Bullard Laboratories* early in October 2000. It may be necessary to limit numbers.