NATURAL SCIENCES TRIPOS, PART IA

MICHAELMAS 2001	LENT 2002	EASTER 2002

LEARNING DAY

Committee of Management 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, 3 October 2001: *Chemistry Lecture Theatre I, Lensfield Road*, 2–4.15 p.m.

BIOLOGY OF CELLS

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

All lectures are in the *Babbage Lecture Theatre, New Museums Site* on M. W. F. 10.
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. JOHNSTONE AND DR K. V. BRINDLE
Energy and Biosynthesis. (Ten lectures)
DR A. MULLINGER, DR P. E. REYNOLDS AND DR T. MARTIN
Practical Work

DR D. MACDONALD
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 P. OLIVER, DR I. FURNER, 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 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 J. H. KEELER
Introduction to Energetics and Kinetics (Three lectures)
DR S. BALASUBRAMANIAN
Reactions and Mechanisms in Organic Chemistry (Five 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, 2 Oct. when they will be assigned attendance on the morning and afternoon periods of one particular day in either odd weeks (beginning Th. 4 Oct.) or even weeks (beginning Th. 11 Oct.) of the term

DR S. BALASUBRAMANIAN
Reactions and Mechanisms in Organic Chemistry (Seven lectures, continued)
DR J. H. KEELER
Energetics and Equilibria (Eight lectures)
Kinetics of Reactions (Nine lectures)

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
Scientific Computing. Tu. S. 11 (Six lectures, beginning 6 Nov.) *or* Th. S. 11 (Six lectures, beginning 8 Nov.) *Chemical Laboratory, Lensfield Road*
DR F. H. KING
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. 9 (Two days, beginning 29 Nov.) *Old Music School* (*lower classroom*), *Downing Place*

Practical work[1]
This will be included in the two-day period

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 2001 LENT 2002 EASTER 2002

ELEMENTARY MATHEMATICS FOR BIOLOGISTS

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

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

DR S. B. HLADKY
Introduction (One lecture) (5 Oct.) F.
DR S. B. HLADKY AND DR J. ROGERS
Algebra, graphs and trigonometry (Eight lectures) (10–24 Oct.) W, (26 Oct.–9 Nov.) M. F.
PROF. P. A. MCNAUGHTON
Logarithams and raising to powers (Two lectures) (12, 16 Oct.) M. F.
DR R. W. BROADHURST
Calculus I. (Three lectures) (19–26 Nov.) M. F.
DR S. B. HLADKY AND DR F. H. KING
Introduction to computing and Excel (Five sessions) (8–22 Oct.) M. F. 8.30–10.00
PWF facility *Old Music School*
THE LECTURERS
Examples classes (Five classes) (31 Oct.–28 Nov.) W. 9* *Large Classroom, Department of Pharmacology*

DR R. W. BROADHURST
Calculus II (Six lectures) (18 Jan.–4 Feb.) M. F.
DR M. AITKIN, DR R. JOHNSTON AND DR M. PIMM-SMITH
Statistics (Ten lectures) (8 Feb.–11 Mar.) M. F.

THE LECTURERS
Examples classes (Eight classes) (23 Jan.–13 Mar.) W. 9 *Large Classroom, Department of Pharmacology*

DR S. HLADKY
Curve fitting (Two lectures) (26, 29 Apr.) M. F.
PROF P. A. MCNAUGHTON
Frequency Analysis (Two lectures) (3, 6 May) M. F
THE LECTURERS
Revision lectures (Three lectures) (10–17 May) M. F

THE LECTURERS
Examples classes (Four classes) (1–22 May) W 1 May 8.30–10 *PWF facility, Old Music School* 8–22 May 9 *Large Classroom, Department of Pharmacology*

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

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

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. 11–1, 2–4 and M. 2–4 (alternate weeks) *or* Tu. 12–1 and Tu. 2–5 (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 N. I. HOLNESS 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 A. G. SMITH
Introduction to Geology of Arran (One Lecture)
Field Course in Arran
Party A. 14–22 Mar.
Party B. 21–29 Mar.
Party C. 11–19 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, 1 *or* Tuesday, 2 October between 9.30 and 1 *or* 2.30 and 5.

Long Vacation Course: A course on Geological Field Methods will be given 24 June–4 July 2002 for students intending to take a geological subject.

NATURAL SCIENCES TRIPOS, PART IA (continued)

MICHAELMAS 2001 **LENT 2002** **EASTER 2002**

MATERIALS AND MINERAL SCIENCES

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

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

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

DR M. A. CARPENTER
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 (13 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 Material Sciences and Metallurgy* between 9.30 and 12.30 or 2.30 and 4.30 on Tuesday, 2 October or Wednesday 3 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, 7, 21 Nov.) *Arts School, Room A*

Course B
DR R. ANSORGE
Mathematics I. Tu. Th. S. 9 *Chemical Laboratory*
Examples class. W. 4.30–6 (Four classes, 17, 31 Oct., 14, 28 Nov.) *Arts School, Room A*

Course A
DR J. M. RALLISON
Mathematics II. Tu. Th. S. 9 (Sixteen lectures, ending 21 Feb.) *Physiological Laboratory*
Examples Class. W. 4.30–6 (Two classes, 6, 20 Feb.) *Arts School, Room A*
DR F. H. KING
Computing Techniques and Applications.** Tu. Th. S. 9 (Six lectures, beginning 23 Feb.) *Chemical Laboratory*

Course B
DR M. G. WORSTER
Mathematics II. Tu. Th. S. 9 (Sixteen lectures, ending 21 Feb.) *Chemical Laboratory*
Examples Class. W. 4.30–6 (Two classes, 13, 27 Feb.) *Arts School, Room A*
DR F. H. KING
Computing Techniques and Applications.** Tu. Th. S. 9 (Six lectures, beginning 23 Feb.) *Chemical Laboratory*

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

Course B
PROF. J. WILLIS
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. 172).

** Associated with this course there will be an assessed computing exercise which will be taken into account by the Examiners. The assessments will take place in the afternoons of 6, 7, and 8 May 2002 in the *Foyer of the Babbage Lecture Theatre*. Further details will be issued during the course.

NATURAL SCIENCES TRIPOS, PART IA (continued)

MICHAELMAS 2001	LENT 2002	EASTER 2002

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

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

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

Course PC

Computing for Physical Scientists (see p. 172)

PHYSIOLOGY OF ORGANISMS

Course organiser: Prof. R. C. Thomas (E-mail rct26@cam.ac.uk)
Further details at http://www.physiol.cam.ac.uk/PartIA/PhysiolOfOrg.html

Lectures.

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

PROF. R. C. THOMAS
Cells in water (Three lectures 4, 6, 9 Oct.)

PROF. T. D. LAMB
Nerve, synapse, and sense organs in animals (Five lectures 11, 13, 16, 18, 20 Oct.)
DR H. P. C. ROBINSON
The structure and function of muscle (Three lectures 23, 25, 27 Oct.)
PROF. R. C. THOMAS
Cardiac physiology (Three lectures, 30 Oct., 1, 3 Nov.)
DR M. J. MASON
Animal O2 acquisition and respiration (Three lectures 6, 8, 10 Nov.)
DR S. O. SAGE
Osmo- and ionic regulation in animals (Four lectures 13, 15, 17, 20 Nov.)
DR D. J. TOLHURST
Animal nutrient acquisition (Three lectures 22, 24, 27 Nov.)

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

DR D. J. TOLHURST
Homeostatic control (Five lectures 17, 19, 22, 24, 26 Jan.)
DR M. TESTER
Plant nutrient acquisition and allocation (Four lectures, 29, 31 Jan. 2, 5 Feb.)
DR D. E. HANKE
Plant growth substances (Four lectures 7, 9, 12, 14 Feb.)
PROF. H. GRIFFITHS
Plant adaptations to environmental change (Five lectures, 16, 19, 21, 23, 26 Feb.)
DR K. JOHNSTONE
The physiology of bacteria (Three lectures, 28 Feb. 2, 5 Mar.)
DR J. DAVIES
The physiology of fungi (Three lectures, 7, 9, 12 Mar.)

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

DR B. BOUTILLIER
Integrative animal physiology (Six lectures, 25, 27, 30 Apr. 2, 4, 7 May)
T.B.A
Motivation and stress (Six lectures, 9, 11, 14, 16, 18, 21 May)

Practical Work

W. Or F. 12–1 *and* 2–5

The same continued.

The same continued.

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

MICHAELMAS 2001 LENT 2002 EASTER 2002

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 R. JOHNSTONE
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 W. AMOS
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, DR W. AMOS DR J. A. BARRETT AND DR R. JOHNSTONE
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 R. D. E. Saunders (Comments by E-mail to 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. 180) 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 3 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 D. A. RITCHIE
Waves (first twelve lectures). M. W. F. 12
DR C. J. B. FORD
Electromagnetism (last twelve lectures). M. W. F. 12

DR H. P. HUGHES
Optics (first twelve lectures). Tu. Th. S. 9
DR M. C. PAYNE
Quantum Mechanics I (last twelve lectures). Tu. Th. S. 9

DR C. J. B. FORD
Electromagnetism (first twelve lectures). M. W. F. 12
DR W. ALLISON
Thermal Physics (last twelve lectures). M. W. F. 12

The same continued. Tu. Th. S. 9

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

Course F
PROF. P. B. LITTLEWOOD AND OTHERS
Examples Class in Mathematical Physics. W. 2.15–4.15 (Two classes, 14 Nov., 28 Nov.) *Room A, Arts School, Bene't Street*
This class interleaves with the Mathematics examples class.

PROF. P. B. LITTLEWOOD AND OTHERS
The same continued (Seven classes beginning 23 Jan.)

The same continued (One class, 8 May)

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

NATURAL SCIENCES TRIPOS, PART IB (continued)

MICHAELMAS 2001 | LENT 2002 | EASTER 2002

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 5 Oct.)

Brain and Behaviour

PROF. S. B. LAUGHLIN AND PROF. M. BURROWS
(Twelve lectures, beginning 2 Nov.)

Adaptation and Evolution

DR S. H. P. MADDRELL AND DR W. A. FOSTER
Insects (Twelve lectures, beginning 18 Jan.)

DR J. A. CLACK AND DR A. E. FRIDAY
Vertebrates (Twelve lectures, beginning 15 Feb.)

Environmental Physiology

PROF. C. P. ELLINGTON AND DR R. BOUTILIER
(Twelve lectures, beginning W. 24 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 5 Oct.

Genes and proteins; macromolecules in action

DR C. J. HOWE
Gene cloning and manipulation. Genetic engineering (Five lectures, from 5 Oct.)

PROF. J. O. THOMAS
Control of gene expression: DNA Structure and DNA–Protein Interactions (Five lectures, from 17 Oct.)

PROF. R. J. JACKSON
Control of gene expression: transcription, RNA processing and translation (Five lectures, from 29 Oct.)

PROF. SIR TOM BLUNDELL
Protein structure, flexibility and function (Five lectures, from 9 Nov.)

PROF. R. N. PERHAM
Enzyme catalysis and protein engineering (Five lectures, from 21 Nov.)

Energy transduction, cell signalling and cell proliferation
(First lecture on 16 Jan., last lecture on 15 Mar.)

DR G. C. BROWN
Energy transduction in bacteria, mitochondria and chloroplasts (Six lectures, from 16 Jan.)

DR K. M. BRINDLE
Control of metabolism (Six lectures, from 30 Jan.

DR R. W. FARNDALE
Transmembrane signalling; molecules and mechanisms (Six lectures, from 13 Feb.)

DR D. M. CARRINGTON
Control of eukaryotic cell growth (Four lectures, from 27 Feb.)

DR T. R. HESKETH
Oncogenes, tumour suppressor genes and cancer (Four lectures, from 8 Mar.)

Biochemistry of prokaryotes

DR D. M. CARRINGTON AND OTHERS
Biochemistry of microorganisms (Eight lectures, from 24 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 (Eleven 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 P. D. WOTHERS
Spectroscopy (Six lectures)

DR D. J. WALES
Symmetry and Bonding (Six 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, 2 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, 3 October at 10.45 a.m. in *Lecture Theatre 1*

DR J. D. WALES
Symmetry and Bonding, continued (Six lectures)

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

DR T. R. RAYMENT
Solids (Four lectures)

Practical Chemistry. Attendance days as for Michaelmas Term

DR T. RAYMENT
Solids, continued (Eleven lectures)

NATURAL SCIENCES TRIPOS, PART IB (continued)

MICHAELMAS 2001 | **LENT 2002** | **EASTER 2002**

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 AND DR J. W. BURTON
Key Organic Reactions (Twelve lectures)
PROF. I. FLEMING AND DR N. BAMPOS
Structure Determination (Six lectures)
DR A. E. H. WHEATLEY
Electron Deficient Compounds (Six 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, 2 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, 3 October at 10 a.m. in *Lecture Theatre 1*.

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

Practical Chemistry. Attendance days as for Michaelmas Term

DR S. E. JACKSON AND DR F. J. LEEPER
Introduction to Chemical Biology (Eleven 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/teaching/content.html

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

DR R. S. K. BARNES
The marine ecosystem (Six lectures, 5–17 Oct.)
DR E. V. J. TANNER, PROF. H. GRIFFITHS AND DR D. A. COOMES
The ecology of change (Eighteen lectures, 19 Oct.–28 Nov.)

PROF. N. B. DAVIES
Predators and prey (Six lectures, 18–30 Jan.)
PROF. T. H. CLUTTON-BROCK
Evolution of social behaviour (Six lectures, 1–13 Feb.)
DR M. E. J. MAJERUS
Ecological genetics (Six lectures, 15–27 Feb.)
DR B. T. GRENFELL
Ecological dynamics (Six lectures, 1–13 Mar.)

DR E. V. J. TANNER
Biodiversity (Six lectures, 24 Apr.–6 May) (*Note the early start of this course*)
DR A. P. BALMFORD
Humans and ecology (Six lectures, 8–20 May)

EXPERIMENTAL PSYCHOLOGY

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

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

PROF. B. C. J. MOORE AND OTHERS
Human Experimental Psychology: Perception; Attention; Memory; Action; Psycholinguistics (Twenty-four lectures, 4 Oct.–27 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

DR I. P. L. MCLAREN
Human learning and Memory (Seven lectures, 17–31 Jan.). Tu. Th. S. 11
DR R. H. E. MOSS
Neuropsychology (Two lectures, 2, 5 Feb.). Tu. Th. S. 11
PROF. N. J. MACKINTOSH
Intelligence (Three lectures, 7, 9, 12 Feb.). Tu. Th. S. 11
DR K. C. PLAISTED
Developmental Psychology (Six lectures, 14–26 Feb.). Tu. Th. S. 11
DR K. C. PLAISTED
Reasoning (Three lectures, 28 Feb. 2, 5, Mar.). Tu. Th. S. 11
DR M. PIMM-SMITH
Emotion and Motivation. (Three lectures, 7, 9, 12 Mar.). Tu. Th. S. 11

Practical Work. The same continued.

DR S. BARON-COHEN
Abnormal Psychology (Six lectures, 25 Apr.–7 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.

NATURAL SCIENCES TRIPOS, PART IB (continued)

MICHAELMAS 2001 **LENT 2002** **EASTER 2002**

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

Examples Classes
M. *or* W. 9–11

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

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

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

Examples Classes
M. *or* W. 9–11

Students should register for practical work on Tuesday 2 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 (Eight lectures)
DR P. J. BARTON
Earth Systems (Sven lectures)
PROF. H. ELDERFIELD
Evolution of the Hydrosphere (Six lectures)
PROF. I. N. McCAVE
Mechanics of Sediment Transport (Three lectures)

PROF. I. N. McCAVE
Mechanics of Sediment Transport (Three lectures)
DR J. A. D. DICKSON
Biogenic and Chemical Sediments (Eight lectures)
PROF. I. N. McCAVE
Classic, Sedimentology (Five lectures)
DR N. J. BUTTERFIELD
Evolutionary Palaebiology (Eight lectures)
Introduction to Southwest England field trip. Th. 10 (14 Mar.)
Geological Sciences Field Class. (15–27 Mar.)

DR D. B. NORMAN
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, 3 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 M. W. F. 9

DR A. GALY
In the Beginning (Four lectures)
DR R. J. HARRISON
Crystallography and optical petrography (Five lectures)
DR R. J. HARRISON AND DR D. M. PYLE
Igneous minerology and the principles of mineral behaviour (Eight lectures)
DR D. M. PYLE
Introductory igneous petrology (Four lectures)
DR D. M. PYLE
Chemical differentation of the Earth (Three lectures)

DR S. A. GIBSON
Magmatic Settings (Five lectures)
DR M. B. HOLNESS
Metamorphic minerology (Five lectures)
DR A. N. OTHER
Introduction to metamorphism (Six lectures)
DR M. B. HOLNESS
From microscopic structure to macroscopic processes (Eight lectures)
Introduction to South West England field trip. Th. 10 (14 Mar.)
Geological Sciences Field Class (15–27 Mar.)

DR A. GALY
Evolution of the Himalayas (Five lectures)
DR S. A. 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, 3 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. 9–12.

NATURAL SCIENCES TRIPOS, PART IB (continued)

MICHAELMAS 2001 **LENT 2002** **EASTER 2002**

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

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

DR J. SECORD, PROF. J. FORRESTER AND DR S. HODGES
History of Science and Medicine. W. 5 (weeks 1–4)
DR R. JENNINGS
Ethics in Science and Medicine. F. 5 (weeks 1–4)
DR D. CORFILED
Philosophy of Mathematics and Probability. 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, 2 October or Wednesday 3 October.

Industrial Visits
Details to be announced

The same continued.

MATHEMATICS

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

DR S. J. COWLEY
Mathematical Methods I. M. W. F. 11 *Chemical Laboratory*

Examples Class* W. 2.15–4.15 (Two classes, 7, 21 Nov.) *Arts School Room A*

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

Example Class W. 2.15–4.15 (Two classes, 13 Mar. and 24 Apr.) *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, 1 May and 15 May) *Arts School Room A*

* This Examples Class interleaves with the Examples Class in Mathematical Physics, Advanced Course F, (p. 176).

Students taking this course must also register electronically for the assessed Computer Practical Course before 1 November 2001. Details are given in the course booklet distributed at the first lecture of Mathematical Methods I in October 2001 and can also be found on www.maths.cam.ac.uk/undergrad/tripos/nstcomp/index.html.

MINERAL SCIENCES

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

All lectures are in the *Harker Room 2, Department of Earth Sciences* on Tu. Th. S. 11

DR M. WELCH
Diffraction (Fourteen lectures)
DR I. FARNAN
Transport Properties of Minerals (Ten lectures)

DR S. RIOS BANOS
Bonding and Lattice Dynamics (Six lectures)
DR M. T. DOVE
Phase Transitions (Eight lectures)
DR M. A. CARPENTER
Anisotrophic Properties (Ten lectures)

DR E. ARTACHO
Applications of mineral sciences (Nine lectures)

Practical Work. M. F. 10–2 *or* 2–4. Students should register for practical work in the *Department of Earth Sciences* (South Entrance) between 9.30 a.m. and 1 p.m. or between 2.30 and 5 p.m. on Wednesday, 3 October.

NATURAL SCIENCES TRIPOS, PART IB (continued)

MICHAELMAS 2001 LENT 2002 EASTER 2002

MOLECULAR CELL BIOLOGY

Course Co-ordinator: Prof. J. C. Gray E-mail: john.gray@plantsci.cam.ac.uk
Further details at: http://www.bio.cam.ac.uk/teaching/MCB/

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, 4–16 Oct.)
DR S. BELL
(Three lectures, 18–23 Oct.)

Genetic Systems of Prokaryotes
DR P. OLIVER
(Six lectures, 25 Oct.–6 Nov.)

Genome Structure and Evolution
DR C. O'KANE
(Five lectures, 8–17 Nov.)

Molecular Genetics of Yeast Cells
DR D. M. MACDONALD
(Four lectures, 20–27 Nov.)

Organelle Biogenesis
PROF. J. C. GRAY
(Six lectures, 15–26 Jan.)
Please note the early start of this course

Cytoskeleton
DR D. BRAY
(Four lectures, 29 Jan.–5 Feb.)

Membrane Traffic
DR P. DUPREE
(Four lectures, 7–14 Feb.)

Intracellular Communication
DR K. JOHNSTONE
(Two lectures, 16–19 Feb.)
DR H. SKAER
(Two lectures, 21–23 Feb.)

Development I
PROF. J. SMITH
(Four lectures, 26 Feb.–5 Mar.)

Development II
DR H. SKAER
(Four lectures, 7–14 Mar.)

Development III
PROF. M. AKAM
(Four lectures, 23–30 Apr.)
Please note the early start of this course

Development IV
DR J. HASELOFF
(Three lectures, 2–7 May)
DR D. E. HANKE
(Three lectures, 9–14 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.

NEUROBIOLOGY

Course Organiser: Professor T. D. Lamb E-mail: TDL1@cam.ac.uk
Further details at http://www.physiol.cam.ac.uk/ib/nst/neurobiology/

Lectures.
Th. S. Tu. 12 *Physiology Lecture Theatre 3*
PROF. W. A. HARRIS
Introduction to the brain (Two lectures 4, 6 Oct.)
DR T. J. BUSSEY
History and philosophy of neuroscience (One lecture 9 Oct.)
DR H. P. C. ROBINSON
Electrical properties of neurons (Four lectures 11, 13, 16, 18 Oct.)
DR A. A. GENAZZANI
Chemical properties of neurons (Four lectures 20, 23, 25, 27 Oct.)
PROF. W. A. HARRIS
Development of cellular diversity in the nervous system (Four lectures 30 Oct. 1, 3, 6 Nov.)
DR R. H. S. CARPENTER
Vision (Six lectures 8, 10, 13, 15, 17, 20 Nov.)
DR I. M. WINTER
Hearing (Three lectures 22, 24, 27 Nov.)

Practical Work
3 hour practical classes Th. 2–4(5) *or* Tu. 2–4(5)
1 hour practical classes M. 12–1 *or* 2–3

Lectures.
Th. S. Tu. 12 *Physiology Lecture Theatre 3*
DR H. R. MATTHEWS
Olfaction and taste (One lecture 17 Jan.)
DR S. A. EDGLEY
Motor system (Seven lectures 19, 22, 24, 26, 29, 31 Jan. 2 Feb.)
PROF. P. A. MCNAUGHTON
Somatosensation and pain (Five lectures 5, 7, 9, 12, 14 Feb.)
DR H. G. KRAPP
Sensorimotor integration (Three lectures 16, 19, 21 Feb.)
DR M. LANDGRAF
Development of neural connections (Four lectures 23, 26. 28 Feb. 2 Mar.)
DR B. J. MCCABE
Synaptic efficacy (Four lectures 5, 7, 9, 12 Mar.)

Practical Work
The same continued.

Lectures.
Th. S. Tu. 12 *Physiology Lecture Theatre 3*
PROF B. J. EVERITT
Motivation and emotion (Four lectures 25, 27, 30 Apr., 2, May)
DR T. J. BUSSEY
Learning and memory (Four lectures 4, 7, 9, 11 May)
DR T. J. BUSSEY
Higher functions of the nervous system (Three lectures 14, 16, 18, May)
PROF. L. K. TYLER
Language and the brain (One lecture, 21 May)

Practical Work
The same continued.

NATURAL SCIENCES TRIPOS, PART IB (continued)

MICHAELMAS 2001 | **LENT 2002** | **EASTER 2002**

PATHOLOGY

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

Lectures. M. W. F. 12 *Chemical Laboratory Lecture Theatre*

PROF. Y. W. LOKE
Introduction (One lecture, 5 Oct.)

PROF. Y. W. LOKE
Cell Injury (One lecture, 8 Oct.)
Innate Immune System; Acute Inflammation: Defence Mechanisms; Healing and Chronic Inflammation (Four lectures, 8–15 Oct.)

DR A. KELLY
The Adaptive Immune System; B Cells and Antibodies; The Major Cells and Antibodies; The Major Histocompatibility Complex; T Cells (Four lectures, 17–24 Oct.)

PROF. J. TROWDALE
Tolerance; Autoimmunity; Hypersensitivity and Graft Rejection; Immunity to Infection. (Four lectures, 26 Oct.–2 Nov.)

DR J. AJIOKA
Introduction to Parasitic Diseases: Key Examples of Parasitic Diseases: Malaria; Key Examples of Parasitic Diseases: Schistosomiasis (Three lectures 5–9 Nov.)

PROF. A. C. MINSON
Nature of Viruses; Viral Multiplication in the Host Cell; Responses to Viral Infection ; Acute and Chronic Infection; Epidemiology of Viral Infection; Combatting Viral Infection; Prions and Spongiform Encephalopathies (Seven lectures, 12–26 Nov.)

Practical Work. *Department of Pathology*
Tu. 10–12 *and* F. 10–12 *or* Tu. *and* Th. 2–4 *or* W. *and* Th. 10–12 *or* W. *and* F. 2–4

Lectures. M. W. F. 12 *Chemical Laboratory Lecture Theatre*

DR C. HUGHES
Bacterial Disease Past, Present and Re-emerging; The Nature of Pathogenicity; The Bacterial–Host Interaction. Pathogenicity; Consequences of Bacterial Infection–Host Damage; Bacterial Pathogenicity in the Respiratory Tract; Bacterial Pathogenicity in the Gastrointestinal Tract; Combatting Bacterial Disease (Seven lectures 16–30 Jan.)

DR M. STANLEY
The Regulation of Tissue Growth and Organisation; Clinical Pathology of Tumours; Epidemiology of Tumours; Genetic Basis of Neoplasia; Causes of Cancer (Five lectures, 1–11 Feb.)

DR N. COLEMAN
Thrombosis, Embolism and Infarction; Atherosclerosis; Heart Failure and Hypertension (Three lectures, 13–18 Feb.)

Lectures. M. W. F. 12 *Department of Pathology*

DR N. AFFARA
Mendelian Inheritance; Molecular Analysis of Mendelian Disorders; Genotype/Phenotype Correlations; Chromosomal Abnormalities; Complex Inheritance 1: Principles (Five lectures 22 Feb.–4 Mar.)

PROF. J. TODD
Complex Inheritance 2: Immunogenetics of Autoimmune Disease (One lecture, 6 Mar.)

DR N. AFFARA
Complex Inheritance 3: Multifunctional Human Genetics; The Genome Project and Expression Profiling (One lecture 8 Mar.)

DR P. EDWARDS
Genetics of Cancer 1; Genetics of Cancer 2 (Two lectures, 11–13 Mar.)

Practical Work. *Department of Pathology*
Tu. 10–12 *and* F. 10–12 *or* Tu. *and* Th. 2–4 *or* W. *and* Th. 10–12 *or* W. *and* F. 2–4

Lectures. M. W. F. 12 *Department of Pathology*

DR S. EFSTATHIOU
Host Resistance Factors: Immune Evasion 1; Immune Evasion 2; HIV (Four Lectures, 26 Apr. 3 May)

A. N. OTHER
Opportunistic Pathogens. (One lecture, 6 May)

DR A. KELLY
Vaccination. (One Lecture, 8 May)

Practical Work. *Department of Pathology*
Tu. 10–12 *and* F. 10–12 *or* Tu. *and* Th. 2–4 *or* W. *and* Th. 10–12 *or* W. *and* F. 2–4

PHARMACOLOGY

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

Lectures.
M. W. F. 11 *Pharmacology Lecture Theatre*

DR C. W. TAYLOR
Drugs and receptors (Seven Lectures 5–19 Oct.)

PROF. R. F. IRVINE
Intracellular messengers.Diabetes mellitus (Four lectures 22–29 Oct.)

DR E. K. MATTHEWS
Synaptic pharmacology (Five lectures 31 Oct.–9 Nov.)

DR P. J. RICHARDSON
Drug discovery and Pharmacogenomics (Two lectures 12–14 Nov.)

DR C. R. HILEY
Drugs, ion channels, and the heart (Six lectures 16–28 Nov.)

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

M. W. F. 11 *Pharmacology Lecture Theatre*

DR J. M. YOUNG
Pharmacokinetics, drug metabolism and general anaesthetics (Six lectures, 16–28 Jan.)*

DR C. R. HILEY
Vascular and renal pharmacology (Six lectures 30 Jan.–10 Feb.)

PROF. M. J. WARING
Chemotherapy Drugs and DNA (Seven lectures 13–27 Feb.)

DR T. P. FAN
Inflammation and peripheral control of pain (Six lectures 1–13 Mar.)

The same continued.

M. W. F. 11 *Pharmacology Lecture Theatre*

DR A. GENAZZANI
Central nervous system: neurodegeneration, psychoses, affective disorders, central control of pain and opiates (Seven lectures 24 Apr.–8 May)*

DR D. R. FERGUSON
Toxicology (Two lectures 10, 13 May)

The same continued.

* Note that 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 the examinations.

NATURAL SCIENCES TRIPOS, PART IB (continued)

MICHAELMAS 2001 **LENT 2002** **EASTER 2002**

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

PHYSIOLOGY

Course Organiser: Dr R. J. Barnes E-mail: rjb4@cam.ac.uk
Further details at http://www.physiol.cam.ac.uk/Partib–nst/Physiology/Index.html

Lectures.

M. W. F. 9 *Main Physiology lecture theatre*

DR R. J. BARNES
Introduction and autonomic nervous system (One lecture 5 Oct.)
DR D. A. GIUSSANI
The cardiovascular system (Five lectures 8, 10, 12, 15, 17 Oct.)
DR M. MASON
Respiration (Four lectures 19, 22, 24, 26 Oct.)
DR D. J. TOLHURST
Endocrinology (Three lectures 29, 31 Oct., 2 Nov.)
DR S. O. SAGE
Renal physiology and body fluid homeostasis (Nine lectures 5, 7, 9, 12, 14, 16, 19, 21, 23 Nov.)
DR D. J. TOLHURST
Thermoregulation (Two lectures 26, 28 Nov.)

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

M. W. F. 9 *Main Physiology lecture theatre*

DR T. TIFFERT
Digestion and absorption (Seven lectures 18, 21, 23, 25, 28, 30 Jan. 1 Feb.)
DR S. L. DICKSON
Weight regulation and nutrition (Two lectures 4, 6 Feb.)
DR A. J. FORHEAD
Reproduction (Six lectures 8, 11, 13, 15, 18, 20 Feb.)
DR S. K. L. ELLINGTON
Development (Two lectures 22, 25 Feb.)
DR J. C. D. HICKSON
Fetal and maternal physiology (Five lectures 27 Feb. 1, 4, 6, 8 Mar.)
DR A. L. FOWDEN
Neonatal physiology (Two lectures 11, 13 Mar.)

Practical Work
The same continued.

M. W. F. 9 *Main Physiology lecture theatre*

DR J. JENNER
Muscle in exercise (Three lectures 26, 29 Apr. 1 May)
DR R. J. BARNES
Cardiovascular and respiratory systems in exercise (Three lectures 3, 6, 8 May)
T. B. A.
Man in the Artic (One lecture 10 May)
DR S. O. SAGE
Man in the Desert (One lecture 13 May)
DR S. L. DICKSON
Man on a Diet (One lecture 15 May)
DR M. MASON
Man in Space (One lecture 17 May)

Practical Work
The same continued.

PLANT SCIENCES

Course Co-ordinator: Dr Beverley Glover E-mail: beverley.glover@plantsci.cam.ac.uk
Further details at http://www.plantsci.cam.ac.uk/plantsci/teaching/content.html

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

DR D. E. HANKE
Diversity of plants (Three lectures 4–9 Oct.)
DR J. M. HIBBERD AND DR T. R. MARTIN
Photosynthesis and management of reserves (Nine lectures 11–30 Oct.)
DR E. V. J. TANNER, PROF. R. A. LEIGH AND PROF H. GRIFFITHS
Water and nutrients (Twelve lectures 1–27 Nov.)

DR M. A. TESTER
Plants and temperature (Four lectures, 15–22 Jan.)
Please note the early start of this course
DR J. M. DAVIES, DR K. JOHNSTONE AND DR A. M. MURPHY
Plants and micro-organisms (Twelve lectures, 24 Jan.–19 Feb.)
DR J. E. CORNAH
Plants and animals (Three lectures, 21–26 Feb.)
DR B. J. GLOVER
Plant development (Six lectures, 28 Feb.–12 Mar.)

PROF. J. S. PARKER
Plant variation and evolution (Three lectures, 23–27 Apr.)
Please note the early start of this course
DR D. A. COOMES
Conservation of plants (Five lectures, 30 Apr.–9 May)
PROF. J. C. GRAY
Exploitation of plants (Three lectures, 11–16 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 2001 **LENT 2002** **EASTER 2002**

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. 188). 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 R. JOHNSTONE, DR M. KEELING AND DR T. N. COULSON
Population Biology. M. W. F. 5 (Twenty-four lectures)
Department of Zoology

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. 4 (Twenty-four lectures)
Department of Zoology

DR J. R. FLOWERDEW AND A. N. OTHER
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. 194). 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, 3 October at 5 p.m. in the *Department of Pathology*

SPECIAL SUBJECT PHYSICS

Year Group Co-ordinator: Dr M. Warner E-mail: II-physics@phy.cam.ac.uk

This course consists of about half the lectures and classwork of a candidate offering Part II Experimental and Theoretical Physics (see p. 188). 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 2001 **LENT 2002** **EASTER 2002**

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 Seminar Room* unless otherwise stated

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

DR R. J. KEYNES AND DR A. C. ROBERTS
General Introduction. Tu. 10–12 (2 Oct.)
Course Introduction. W. 10–12 (3 Oct.)

Research in Developmental Biology

DR R. A. H. WHITE AND DR S. JONES (Cu)
Experimental approaches: Cells and Molecules. (4, 5, 10 Oct.)
MRS P. HENDERSON
Working in groups. 2–4 (5 Oct.)
DR A. C. ROBERTS AND DR S. A. EDGELY (Cu)
Experimental approaches: Physiology and Behaviour. (11, 12, 17 Oct.)
DR R. A. H. WHITE
Axis Formation and signalling Centres. (18, 19, 24 Oct.)

Study Week (25 Oct.–1 Nov.)

DR A. PHILPOTT AND DR P. N. SCHOFIELD (Cu)
Cell Growth. (1, 2, 7 Nov.)
PROF. W. A. HARRIS AND DR N. PAPALOPULU (Cu)
Neurogenesis. (8, 9, 14 Nov.)
DR N. J. BROWN AND DR N. PAPALOPULU
Techniques Workshop. 9–12 (13 Nov.)
DR R. J. KEYNES AND DR D. TANNAHILL
Regionalization of CNS. (15, 16, 21 Nov.
DR G. M. W COOK AND DR C. E. HOLT
Axon pathfinding. (22, 23, 28 Nov.)
DR R. E. J. DYBALL
Data handling (I) (27 Nov.)

Research into Neuroscience

DR R. A. H. WHITE AND DR S. JONES (Cu)
Experimental approaches: Cells and Molecules. 4, 5, 10 Oct.)
MRS P. HENDERSON
Working in groups. 2–4 (5 Oct.)
DR A. C. ROBERTS AND DR S. A. EDGELY (Cu)
Experimental approaches: Physiology and Behaviour. (11, 12, 17 Oct.)
PROF. W. A. HARRIS AND DR C. E. HOLT (Cu)
The Neuron. (18, 19, 24 Oct.)

Study Week. (25 Oct. 1 Nov.)

DR A. C. ROBERTS AND DR S. A. EDGELY (Cu)
Brain Organisation. (1, 2, 7 Nov.)
PROF. W. A. HARRIS AND DR N. PAPALOPULU (Cu)
Neurogenesis. (8, 9, 14 Nov.)
DR N. J. BROWN AND DR N. PAPALOPULU
Techniques Workshop. 9–12 (13 Nov.)
DR R. J. KEYNES AND DR D. TANNAHILL (Cu)
Regionalization of CNS. (15, 16, 21 Nov.)
DR G. M. W. COOK AND DR C. E. HOLT (Cu)
Axon Pathfinding. (22, 23, 28 Nov.)
DR R. E. J. DYBALL
Data Handling (I) (27 Nov.)

DR A. FLEMING AND DR R. HOWES (Cu)
Segmental Patterning. (17, 18, 22 Jan.)
DR S. J. BRAY AND DR A. FERGUSON-SMITH
Tissue Diversity. (23, 25, 30 Jan.)
DR N. J. BROWN AND DR A. BRAND (Cu)
Organogenesis and Morthogenesis. (31 Jan. 1, 6 Feb.)
DR S. J. BRAY AND DR R. A. H. WHITE (Cu)
Stem Cells (7, 8, 13 Feb.)
DR S. A. EDGLEY
Data Handling (II) (12 Feb.)

Study Week (14–21 Feb.)

DR A. FERGUSON-SMITH AND DR P. N. SCHOFIELD
Epigenetic control/ Transcriptional regulation. (21, 22, 27 Feb.)
DR R. J. KEYNES AND DR M. SPILLANTINI (Cu)
The Degenerating and Regenerating Brain. (7, 8, 13 Mar.)

DR S. N. BAKER AND DR R. E. J. DYBALL (Cu)
Encoding information in Neurons. (17, 18, 23 Jan.)
DR P. RAGHU AND DR P. GOLDSMITH (Cu)
Phototransduction. (24, 25, 30 Jan.)
DR M. H. HASTINGS AND DR E. S. MAYWOOD (Cu)
Circadian Clocks. (31 Jan. 1, 6 Feb.)
DR J. PARKINGSON AND DR H. CROFTS (Cu)
Memory. (7, 8, 13 Feb.)
DR S. A. EDGLEY
Data Handling (II) (12 Feb.) (14– 21 Feb.)
DR S. JONES AND DR W. SCHULTZ (Cu)
Addiction. (21, 22, 27 Feb.)
DR R. J. KEYNES AND DR M. SPILLANTINI (Cu)
The Degenerating and Regenerating Brain. (7, 8, 13 Mar.)

Seminars

As Announced in the Department

DR R. A. H. WHITE
Critique of Papers. (1 May)
DR P. N. SCHOFIELD
Experimental Design. (8 May)
DR C. E. HOLT
Critique of Papers. (16 May)
DR C. BAKER
Experimental Design. (22 May)

DR S. JONES
Critique of Papers. (1 May)
DR C. BAKER
Experimental Design. (8 May)
DR C. E. HOLT
Critique of Papers. (16 May)
DR C. BAKER
Experimental Design. (22 May)

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2001	LENT 2002	EASTER 2002

ANATOMY OPTION B DISEASE, SOCIETY AND SEXUALITY

Course Organiser: Prof. M. H. Johnson E-mail mhj@mole.bio.cam.ac.uk

All teaching will be in the Anatomy Part II Seminar Room Unless otherwise stated

HIV AND AIDS

MRS P. HENDERSON
Introduction. (One lecture 3 Oct.)
DR L. WILLOCKS AND DR D. DE ANGELIS
Epidemiology of HIV. (Three lectures, 9, 10, 12 Oct.)
DR Y. W. LOKE
Materno-fetal Transmission of Infectious Diseases. (One Lecture, 15 Oct.)
DR R. A. H. WHITE
Molecular Biology of HIV. (Three lectures, 16, 17, 19 Oct.)
Immunology of HIV (Three lecture, 22, 23, 24 Oct.)

Study week (29 Oct. 5 Oct.)
DR C. CARNE
Clinical Aspects of HIV. (Two lectures 5 Nov.)

Neurobiology of Emotion

DR C. FRASER
Attitudes and Prejudice. (Five lectures 5, 6, 7, 9, 12 Nov.)
DR A. C. ROBERTS
Neural Basis of Emotions. (Four lectures 13, 14, 16, 20 Nov.) Addiction. (Three lectures 21, 23, 26 Nov.)
DR M. LONDON
Drugs and Alcohol. (One lecture 28 Nov.)

PROF. I. GOODYER
Stress. (Two lectures 18, 21 Jan.)
DR N. HUNT
Mood and Depression. (Two Lectures 25, 28 Jan.)
DR J. STEVENSON-HINDE
Relationships. (Three lectures 29, 30 Jan 1 Feb.)

Sex, Gender and Sexuality

DR P. N. SCHOFIELD
Sexual and Asexual Reproduction. (Four lectures 4, 22, 25 Feb.)

Study Week (11, 18 Feb.)
PROF. M. H. JOHNSON
Human Reproduction. (Two lectures 19 Feb.)
PROF. E. B. KEVERNE
Sex and the Brain. (Two lectures, 26, 27 Feb.)
DR G. BROWN
Sexual Behaviour. (Two lectures 1, 4 Mar.)
DR C. HUGHES
Gender Development. (Two lectures 5, 6 Mar.)

Workshops, Seminars and Journal Clubs
As Announced in the Department (starting 2 Oct.)

As Announced in the Department

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. 11, F. 9
PROF. G. F. GILMORE
Statistical Physics. M. W. 9, Th. 10
DR R. F. CARSWELL
Astrophysical Fluid Dynamics. M. 10, Tu. Th. 12
PROF. G. P. EFSTATHIOU
Theory of Relativity. Tu. W. F. 10
PROF. N. O. WEISS
Electromagnetism. M. W. F. 11.15
Centre for Mathematical Sciences, Clarkson Road, MR2

DR C. J. CLARK
Stellar Dynamics and Structure of Galaxies. M. W. F. 10
DR M. HAEHNELT
Physical Cosmology. M. 12, Tu. Th. 11
DR P. C. HEWETT
Topics in Contemporary Astrophysics. Tu. Th. 10, F. 12
DR R. G. MCMAHON
Structure and Evolution of Stars. M. W. F. 11

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2001 **LENT 2002** **EASTER 2002**

BIOCHEMISTRY

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

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

The course starts with an introductory lecture by Prof. Sir Tom. Blundell at 9 a.m. on Monday 1 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 1 Oct.)

DR F. HOLLFELDER
Enzyme structure and function (Five lectures, beginning 8 Oct.)

DR D. M. CARRINGTON
DNA recombination in genetic exchange and gene expression (Five lectures, beginning 8 Oct.)

PROF. R. J. JACKSON
Protein synthesis and translation control (Five lectures, beginning 15 Oct.)

DR C. J. HOWE
Gene expression in plants (Four lectures, beginning 16 Oct.)

DR E. TIMMERS
Bioinformatics: alignments, phylogenetic trees (One lecture, 22 Oct.)

DR K. MIZUGUCHI
Bioinformatics: identification of polypeptide families and superfamilies (One lecture, 23 Oct.)

DR R. DURBIN
Bioinformatics (Two lectures, beginning 24 Oct.)

PROF. J. A. TODD
Genome mapping and identification of disease genes (Two lectures, beginning 1 Nov.)

DR A. A. GRACE
Disease genes: function and manipulation (Three lectures, beginning 22 Oct.)

PROF. SIR TOM BLUNDELL
G protein-based signalling (Four lectures, beginning 26 Oct.)

DR P. DUPREE
Protein targeting to the ER (Three lectures, beginning 29 Oct.)

PROF. J. O. THOMAS
Protein–DNA interactions and gene expression (Five lectures, beginning 5 Nov.)

DR S. BELL
Mechanisms and control of transcription in eukaryotes (Five lectures, beginning 5 Nov.)

DR R. W. FARNDALE
Lipids as signal precursors; adhesive and immune receptor signalling (Four lectures, beginning 12 Nov.)

DR T. R. HESKETH
Intracellular signalling in mammalian cells (Four lectures, beginning 12 Nov.)

PROF. G. P. C. SALMOND
Signal transduction in prokaryotes (Four lectures, beginning 19 Nov.)

DR J. A. H. MURRAY
Eukaryotic chromosome replication (Three lectures, beginning 23 Nov.)

DR A. P. JACKSON
Protein sorting (Six lectures, beginning 16 Nov.)

DR G. C. BROWN
Bioenergetics of the cell (Five lectures, beginning 26 Nov.)

DR S. E. JACKSON
Protein folding *in vivo* (Three lectures, beginning 28 Nov.)

Data Handling Classes

W. 2.30–4.30 (from 24 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. O. THOMAS AND OTHERS
Proteins, nucleic acids and their interactions (Fifteen lectures)
Option Organiser: Prof. J. O. 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. PROF. R. J. JACKSON AND OTHERS
Control of gene expression in eukaryotes (Fifteen lectures in part joint with Part II Zoology)
Option Organisers: Prof. R. J. Jackson and Dr T. Krude

6. DR J. P. LUZIO AND OTHERS
Medical biochemistry (Fifteen lectures)
Option Organiser: Dr J. P. Luzio

7. DR F. HOLLFELDER AND OTHERS
Enzyme mechanisms and the evolution of enzyme function (Fifteen lectures)
Option Organiser: Dr F. Hollfelder

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 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

12. DR N. J. GAY AND OTHERS
Biotechnology (Fifteen lectures)
Option Organiser: Dr N. J. Gay

13. DR D. M. CARRINGTON AND OTHERS
Regulation of the eukaryotic cell cycle (Fifteen lectures)
Option Organiser: Dr D. M. Carrington

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 2001 **LENT 2002** **EASTER 2002**

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, 2nd October. A booklet containing details of the times of the lecture courses will be given out on registration. Others interested in the lecture courses can obtain a copy of this booklet on application to the Course Co-ordinator. This information is also available from the website, www.-teach.ch.cam.ac.uk

All students must attend an introductory talk concerning the practical course at 12 noon on Wednesday, 3 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 M. Warner E-mail: II-physics@phy.cam.ac.uk

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

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

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

The course will begin with a meeting on the first Wednesday of Full Term (3 Oct.) at 9.30 a.m. in the *Pippard Lecture Theatre*.

Course H

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

DR R. J. NEEDS
Thermal and Statistical Physics. Tu. Th. 10

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

DR D. S. TITTERINGTON, DR M. S. RUTTER AND DR P. D. HAYNES
Computational Physics. M. W. F. 10 (first twelve lectures)
Classes weekdays 2–5 (18 Oct.–28 Nov.) Students attend one day per week

DR N. R. COOPER
Relativity and Electrodynamics. Tu. 9 (first four lectures); M. W. F. 10 (last twelve lectures)

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

DR P. F. SCOTT
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)

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

Course I

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

DR S. S. MAHAJAN
Order of Magnitude Physics (Six lectures beginning 25 Feb.) M. W. F. 10

THE STAFF OF THE CAVENDISH LABORATORY
Current Research Work in the Cavendish Laboratory (not examinable). See Part III Experimental and Theoretical Physics (p. 204)

Course J

DR E. TERENTJEV AND DR S. F. GULL
Theoretical Physics TP1. Tu. Th. 12–1 (Twelve lectures, beginning 9 Oct.); Tu. 2–4 (Four classes, 16, 30 Oct., 13, 27 Nov.)

PROF. B. R. WEBBER AND DR N. R. COOPER
Theoretical Physics TP2. Tu. Th. 12–1 (Twelve lectures, beginning 22 Jan.); Tu. 2–4 (Four classes, 29 Jan., 12, 26 Feb., 12 Mar.)

Course K

DR S. F. GULL 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 (3 Oct.)

DR H. SIRRINGHAUS AND OTHERS
Literature Review

DR P. F. SCOTT AND OTHERS
Experiment E2: Registration. W. 9.30 (16 Jan.)

DR H. SIRRINGHAUS AND OTHERS
The same continued.

DR H. SIRRINGHAUS AND OTHERS
The same continued.

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2001 | **LENT 2002** | **EASTER 2002**

GENETICS

Course Co-ordinator: Dr Michael Majerus E-mail partII.organisers@gen.cam.ac.uk

Prokaryote genetics (fifteen lectures) M. Tu. W. Th. F. 10.30 (Beginning 5 Oct.)
Plant genetics (fifteen lecture) M. Tu. W. Th. F. 9 (Beginning 5 Oct.)
Animal genetics 1 (fifteen lectures) M. Tu. W. Th. F. 9 (Beginning 29 Oct.)
Animal genetics 2 (fifteen lectures) M. Tu. W. Th. F. 10–30 (Beginning 29 Oct.)
Human Genetics and genomics (Fifteen lectures) M. Tu. W. Th. F. 9 and 10.30 (Beginning 9 Nov.)
Journal sessions (Six sessions) M. 11.30 (Beginning 15 Oct.)
Social Aspects of Genetics (Six sessions) W. F. 2 (Beginning 19 Oct.)

DR P. O'DONALD AND DR M. MAJERUS
Evolutionary genetics 1 (fifteen lectures) M. Tu. W. Th. F. 9 (Beginning 22 Jan.)
Cell Biology (fifteen lectures) M. Tu. W. Th. F. 10.30 (Beginning 17 Jan.)
DR J. BARRETT, DR J. BROWN AND DR M. MAJERUS
Evolutionary genetics 2 (fifteen lectures) M. Tu. W. Th. F. 9 (Beginning 18 Feb.)
Genetics of Development (twelve lectures) M. Tu. W. Th. F. 10.30 (Beginning 18 Feb.)
Journal sessions (eight lectures) M. 11.30 (Beginning 4 Feb.)

Revision Seminars. (Five sessions) Dates to be announced.

A more detailed timetable will be available from the Department

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. Tu. Th. 9 *Harker Room*
Practicals. Tu. Th. 10–12 *Petrology Laboratory*
Convenor: Dr J. A. Jackson

Core C2 Petrology and Geochemistry
DR S. A. GIBSON, DR M. B. HOLNESS AND A. N. OTHER
Lectures. M. F. 9 *Harker Room*
Practicals. M. F. 10–12 *Petrology Laboratory*
Convenor: Dr S. Gibson

Core C3 Sedimentology and Palaeontology
PROF. I. N. MCCAVE, DR N. HOVIUS, PROF. R. B. RICKARDS AND DR R. A. WOOD
Lectures. W. 9, F. 12 *Harker Room*
Practicals. W. 10–12, F. 2–4 *Palaeontology Laboratory*
Convenor: Prof. I. N. McCave

Core C4 Mineralogy
DR M. WELCH, DR M. A. CARPENTER AND DR R. J. HARRISON

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 29 November–7 December
DR J. A. JACKSON AND DR A. G. SMITH

Option M3 Spectroscopic Methods
PROF. J. SCOTT, DR I. FARNAN AND DR M. T. DOVE
Lectures. M. F. 9 *Harker Room*
Practicals. M. F. 10–11.30 *IB Minerals Laboratory*
Convenor: Dr I. Farnan

Core C4 Mineralogy
DR M. WELCH, DR M. A. CARPENTER AND DR R. J. HARRISON
Lectures. M. W. 2 *Harker Room 2*
Practicals. W. Th. 3–4.30 *IB Minerals Laboratory*
Convenor: Dr M. A. Carpenter

Core C5 Mineral Physics
DR M. T. DOVE AND MR P. WELCHE
Lectures. W. 9, F. 2 *Harker Room 2*
Practicals. W. 10–11.30, F. 3–4.30 *IB Minerals Laboratory*
Convenor: Dr M. T. Dove

Option 1 Basin Dynamics
DR N. J. WHITE AND DR J. A. JACKSON
Lectures. Tu. Th. 9 *Tilley Room*
Practicals. Tu. 10–11.30, Th. 10–11.30 *Petrology Laboratory*
Convenor: Dr N. J. White

Option 2 Sedimentary Systems
DR J. A. D. DICKSON AND DR A. GALY
Lectures. Tu. Th. 2 *Harker Room*
Practicals. Tu. Th. 3–4.30 *Petrology Laboratory*
Convenor: Dr J. A. D. Dickson

Option 3 Metamorphic and Igneous Processes
PROF. D. P. MCKENZIE, DR S. A. GIBSON AND DR D. M. PYLE
Lectures. M. W. 2 *Harker Room*
Practicals. M. W. 3–4.30 *Palaeontology Laboratory*
Convenor: Dr D. M. Pyle

Option 4 Climate and Sedimentary History
PROF. I. N. MCCAVE, PROF. H. ELDERFIELD, PROF. T. H. VAN ANDEL, DR A. G. SMITH, DR P. VALDES AND DR C. DE LA ROCHA
Lectures. M. 9, F. 2 *Harker Room*
Practicals. M. 10–11.30, F. 3–4.30 *Structural Laboratory*
Convenor: Prof. I. N. McCave

Option 5 Evolutionary Paleobiology
DR D. B. NORMAN AND PROF. R. B. RICKARDS
Lectures. W. F. 9 *Harker Room*
Practicals. W. F. 10–11.30 *Palaeontology Laboratory*
Convenor: Prof. R. B. Rickards

Option M1 High Pressure Minerology
DR M. T. DOVE, DR E. ARTACHO, DR M. WELCH AND A. N. OTHER
Lectures. M. W. 2 *Oxburgh Room*
Practicals. M. W. 3–4.30 *Ib Harker 2*
Convenor: Dr M. T. Dove

Option M2 Disordered Materials
DR I. FARNAN, DR M. T. DOVE AND DR S. RIOS BANOS
Lectures. W. F. 9 *Oxburgh Room*
Practicals. W. F. 10–11.30 *IB Minerals Laboratory*
Convenor: Dr I. Farnan

Option 1 Basin Dynamics
The same continued. (Eight revision sessions)

Option 2 Sedimentary Systems
The same continued. (Eight revision sessions)

Option 3 Metamorphic and Igneous Processes
The same continued. (Eight revision sessions)

Option 4 Climate and Sedimentary History
The same continued. (Eight revision sessions)

Option 5 Evolutionary Paleobiology
The same continued. (Eight revision sessions)

Option M1 High Pressure Mineralogy
The same continued. (Eight revision sessions)

Option M2 Disordered Materials
The same continued. (Eight revision sessions)

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2001 **LENT 2002** **EASTER 2002**

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 (Five weeks, starting on 3 Oct.), F. 4 (weeks 1–4)
It is essential that all HPS Part II students attend this part of the course

DR D. CORFIELD
Euclid, 'Elements of Geometry', Book 1

PROF. J. FORRESTER
Sigmund Freud, The question of lay analysis

DR S. HODGES
Gandhi and Mrs Sanger Debate Birth Control, Asia Magazine November 1936

PROF. N. JARDINE
David Hume, 'Of Miracles' in *Enquiry Concerning Human Understanding* (1748)

DR L. KASSEL
The miraculous revival of Anne Green, as described in two pamphlets from 1651

PROF. P. LIPTON
Alan Turing, 'Computing Machinery and Intelligence', *Mind*, 59 (1950), 433–460

DR S. SCHAFFER
'Optics' in the Philosophical Magazine (1833)

DR J. SECORD
Charles Darwin *'On the Origin of Species'*, 1859 edition

DR L. TAUB
Claudius Ptolemy, The Almagest, Book 1, chaps 1–9

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

DR R. FRENCH
The Origins of Natural Philosophy. M. 2 (weeks 1–4)

DR L. KASSELL
Astrology, Alchemy and Magic: Part I (Part II in Paper 2). Tu. 10 (weeks 1–4)

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

DR L. TAUB, DR J. WARREN, DR C. SALAZAR, DR S. CONNELL AND DR K. TYBJERG
Ancient Greek and Roman Science. Th 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. 3

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

DR L. KASSELL
Astrology, Alchemy and Magic: Part II (Part I in Paper 1). Tu. 10 (weeks 5–8)

PROF. N. JARDINE, DR J. SECORD AND DR P. WHITE
Natural Histories. F. 11

Dissertation Seminar

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

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

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

PROF. SIR GEOFFREY LLOYD
Greek and Chinese Science. Tu. 11 (weeks 7–8) Th. 11 (weeks 7–8)

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. Th. 11 (weeks 1–4)

The same continued. W. 3

DR L. TAUB AND DR F. WILLMOTH
Instruments, Models and Tools: Part II (Part I in Paper 1). M. 10

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2001 | **LENT 2002** | **EASTER 2002**

HISTORY AND PHILOSOPHY OF SCIENCE (continued)

(Paper 3) Science, Industry and Empire

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

DR P. FARA
Images of Science. Th. 10 (weeks 5–8)

DR N. HOPWOOD, PROF. N. JARDINE AND DR S. DE CHADAREVIAN
Laboratories and Disciplines from the Napoleonic Wars to National Socialism. F. 2

DR J. SECORD
Evolution. Th. 3

DR J. SECORD
Science and Imperialism. M. 11

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). Th. 12 (weeks 1–4)

(Paper 4) Metaphysics, Epistemology, and the Sciences

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

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

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

DR A. CHAKRAVARTTY
Kinds and Realisms. M. 3 (weeks 1–4)

DR T. LEWENS
Topics in the Philosophy of Biology. M. 3 (weeks 5–8)

PROF. J. FORRESTER
Thinking in Cases. W. 11

DR D. CORFIELD
Philosophy of Probability. Th. 10

DR A. HATTIANGADI
Meaning of Scientific Terms. Th. 9 (weeks 1–4)

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

(Paper 5) Science and Technology Studies

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

PROF. J. FORRESTER AND OTHERS
Ethical Dimensions of Science. F. 10

PROF. N. JARDINE
Historiography of the Sciences. F. 3

DR S. SCHAFFER
Sociology of Scientific Knowledge. W. 2

PROF. J. FORRESTER AND OTHERS
Gender and Science. Tu. 12

DR S. HODGES
Reproductive Technologies. Tu. 10 (weeks 5–8)

DR J. SECORD
Science Communication. Tu. 12

DR D. CORFIELD
Mathematical studies. W. 2

(Paper 6) History and Philosophy of Mind

Course Organiser: Prof. J. Forrester, E-mail: jpf11@hermes.cam.ac.uk

PROF. J. FORRESTER
Freud, Psychoanalysis and the Twentieth Century. W. 11 (weeks 1–4) *Mill Lane Lecture Room 4*

DR I. SINGH
Psychopharmacology in History and Culture. M. 10 (weeks 5–8)

DR D. CORFIELD
The History and Philosophy of Social Psychology. M. 4

PROF. P. LIPTON
Topics in the Philosophy of Mind. F. 11 *Maxwell Lecture Theatre*

DR N. MANSON
Unconscious Mentality and Freud's Methodology. M. 3

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 L. KASSELL, DR M. SATCHELL AND DR F. GETZ
Medicine and Society in Europe, 1250–1750. Th. 12

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

PROF. SIR GEOFFREY LLOYD AND DR C. SALAZAR
Medicine and Society in the Ancient World. Tu. 2 (weeks 5–8) F. 12 (weeks 5–8)

DR M. SATCHELL
Field Trip to Medieval Hospitals. (14 Mar.)

The same continued. F. 12 (weeks 1–4), Th. 12 (weeks 5–8)

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NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2001 | **LENT 2002** | **EASTER 2002**

HISTORY AND PHILOSOPHY OF SCIENCE (continued)

(Paper 8) Modern Medicine and Biomedical Sciences
Course Organiser: Dr S. Hodges, E-mail: hps-admin@lists.cam.ac.uk

DR S. HODGES, 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)

PROF. 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 S. HODGES
Medicine and Colonial World. Th. 2 (weeks 5–8)

Prof. Lipton and Dr Secord would like to see all Part II students taking HPS on Wednesday 3 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. *Classics Faculty* (see Classics lecture list)

DR P. BURSILL-HALL
Topics in the History of Mathematics. M. W. F. 4 *Mill Lane Lecture Room 9*

The same continued.

PROF. E. J. CRAIG
Causality from Descartes to Hume. 2 slots a week (weeks 5–8) Th 11, W. 12 **[Phil]**

DR J. MARENBON
Medieval Logic

DR M. RICHARDS
Human genetics, technology and society. W. 9 *SPS Seminar Room*

DR P. SMITH
Realism and Reductionism. Th. 9 **[Phil]**

DR M. RICHARDS
Biotechnologies. Tu. 2–4 (weeks 1–7) *Centre for family research Room 606*

The same continued.

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2001	LENT 2002	EASTER 2002

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, F. 12*
PROF. M. BATE
Early Development of the Nervous System (Six lectures, 4, 8, 11, 15, 18, 22 Oct.)
DR G. COOK
Axonal Growth (Four lectures, 25, 29 Oct., 1, 2 Nov.*)
READING WEEK (5–9 Nov.)
PROF. W. HARRIS
Development of Connections (Four lectures, 16, 20, 23, 27 Nov.)

PROF. E. B. KEVERNE
Development of Brain and Behaviour (Three lectures, 14, 17, 21 Jan.)
MR P. KIRKPATRICK
Ischaemia, excitotoxicity, and stroke (Two lectures 24, 28 Jan.)
DR M-G. SPILLANTINI
Neural Degeneration II. (Four lectures, 31 Jan., 4, 7, 11 Feb.)
DR R. BARKER
Neural Regeneration (Four lectures, 14, 25, 28 Feb., 4 Mar.)
READING WEEK (18–23 Feb.)
DR R. FRANKLIN
Glial Degeneration and Repair (Three lectures, 7, 11, 14 Mar.)

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NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2001 | **LENT 2002** | **EASTER 2002**

NEUROSCIENCE (continued)

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, 3, 5, 10, 12, 17 Oct.)
DR P. J. RICHARDSON
Receptor – control of Neuronal Excitability (a) slow Neurotransmitters (Five lectures, 19, 24, 26, 31 Oct., 2 Nov.)
READING WEEK (6–10 Nov.)
DR P. THORN
Synaptic Mechanisms (Three lectures, 14, 16, 21 Nov.)
DR P. J. RICHARDSON
(a) Genomics of neuronal systems. (Two lectures 23, 28 Nov.)

DR P. THORN
Calcium Signalling (Four lectures, 25, 30 Jan., 1, 6 Feb.)
DR S. CHAWLA
Regulation of gene expression (Three lectures 16, 18, 23 Jan.)
READING WEEK (18–23 Feb.)
DR B. MCCABE
Synaptic Plasticity (Three lectures, 8, 13, 15 Feb.)
DR J. A. KOENIG
Receptor – control of Neuronal Excitability (b) slow Neurotransmitters (Four lectures 1, 6, 8, 13 Mar.)

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

PROF. M. BURROWS
Synaptic, Cellular and Network Properties (Four lectures, 3, 5, 10, 12 Oct.)
DR D. PARKER
Vertebrate locomotion. (Three lectures, 17, 19, 24 Oct.)
DR T. MATHESON
Limb targeting. (Three lectures 26, 31 Oct. 2 Nov.)
READING WEEK (5–9 Nov.)
DR S. EDGLEY
Skilled Movement Discussion (One session, 16 Nov.)
DR P. EVANS
Modulating a System (Four lectures, 21, 23, 28, 30 Nov.)

DR M. HASTINGS
Neural Control of Circadian Rhythms (Four lectures, 16, 18, 23, 25 Jan.)
DR S. EDGLEY
Cerebellum (Four lectures, 1, 6, 8, 13 Feb.)
READING WEEK (18–23 Feb.)
DR R. H. S. CARPENTER
Neural Decisions (Three lectures, 27 Feb., 1, 6 Mar.)
DR S. JONES
Striatum (Three lectures 8, 13, 15 Mar.)

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

DR P. RAGHU
Photoreceptors (Four lectures, 4, 9, 11, 16 Oct.)
PROF. E. B. KEVERNE
Olfactory Receptors (Two lectures, 18, 23 Oct.)
DR L. LAGNADO
Visual Processing in the Retina (Four lectures, 25, 30 Oct., 1, 13 Nov.)
READING WEEK (5–9 Nov.)
DR A. PELAH
Visual Processing in the Cortex (Four lectures, 15, 20, 23, 27 Nov.)

PROF. P. A. MCNAUGHTON
Pain (Four lectures, 15, 17, 22, 24 Jan.)
DR H. KRAPP
Echolocation and Electric Senses (Four lectures, 29, 31 Jan., 5, 7 Feb.)
PROF. A. CRAWFORD
Auditory Hair Cells (Two lectures, 12, 14 Feb.)
READING WEEK (18–23 Feb.)
DR J. ALCANTARA
Hearing (Four lectures, 26, 28 Feb., 5, 14 Mar.)
DR K. KRUMBHOLZ
Pitch Perception and Sound Localisation (Two lectures, 7, 12 Mar.)

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

DR B. J. MCCABE
Cellular Mechanisms of Learning and Memory (Four lectures, 8, 9, 15, 16 Oct.)
DR T. BUSSEY
Conditioning and Discrimination Learning (Six lectures, 22, 23, 29, 30 Oct., 12, 13 Nov.)
READING WEEK (6–10 Nov.)
DR P. BRENNAN
Olfactory learning (Four lectures, 19, 20, 26, 27 Nov.)

DR R. M. RIDLEY
Brain Mechanisms of Memory and Cognition (Eight lectures, 14, 21, 28 Jan., 4, 11, 25 Feb., 4, 11 Mar.)
DR R. A. MCCARTHY
Cognitive Neuropsychology (Eight lectures, 15, 22, 29 Jan., 5, 12, 26 Feb., 5, 14 Mar.)
READING WEEK (18–23 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, 3 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. 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 of Reproduction

DR P. EDWARDS, DR A. PHILPOTT, DR C. CLARKSON, DR C. SARGENT, 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. A. WYLLIE, DR C. PRINT, PROF. C. FFRENCH-CONSTANT AND DR S. CHARNOCK-JONES
Part V: Neurodevelopmental Biology and Genetic Disease

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2001	LENT 2002	EASTER 2002

PATHOLOGY (continued)

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

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 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, DR R. HAYWOOD, PROF. D. MASKELL, DR B. O'CONNELL, DR D. BROWN, DR A. LEVER, DR B. KINGSTON AND DR P. MASTROENI
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 S. JOSEPH, DR K. HOFFMAN AND DR M. BOOTH
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 J. BERRIMAN, DR P. DIGARD, DR J. GRAY, DR I. BRIERLEY, DR J. KARN, DR H. BROWNE, PROF. A. MINSON AND DR J. SINCLAIR
Basic Principles
Molecular Biology of Animal Virus Multiplication

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 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. EFSTATHIOU, DR A. LEVER, DR P. DIGARD, DR E. MICHAEL AND DR B. GRENFELL
Project Seminars
Virus Portraits
Viruses in the Community – 2

PHARMACOLOGY

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

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

[1]Pharmacology of Integrated Systems

DR P. THORN
Gastro-intestinal pharmacology. (Four lectures) (4–18 Oct.) Tu. Th. 11

DR C. R. HILEY AND DR W. R. FORD
Cardiovascular pharmacology. (Nine lectures) (5–24 Oct.) M. W. F. 9

PROF. P. A. MCNAUGHTON
Cellular and Molecular Aspects of Pain. (Four lectures) (18–30 Oct.) Tu. Th. 11

DR D. R. FERGUSON AND DR A. GENAZZANI
Pharmacology of psychiatric disorders. (Nine lectures) (26 Oct. – 14 Nov.) M. W. F. 9

DR M. A. BARRAND
Blood brain barrier. (Two lectures) (1–6 Nov.) Tu. Th. 11

DR P. THOMAS
Pharmacology of reproduction. (Four lectures) (7–20 Nov.) Tu. Th. 11

DR M. A. BARRAND
Drug resistance. (Five lectures) (16–26 Nov.) M. W. F. 9

DR S. B. HLADKY
General anaesthetics. (Three lectures) (22, 27, 28 Nov.) Tu. Th. 11 W. 9

[1]Pharmacology of Integrated Systems

DR E. K. MATTHEWS
Photon pharmacology. (Two lectures) (18, 21 Jan.) M. F. 9

DR T. P. FAN
Pharmacology of inflammation and the immune response. (Five lectures) (23 Jan.–1 Feb.) M. W. F. 9

DR R. M. HENDERSON
Hyperlipidaemias and the pharmacology of the Liver. (Three lectures) (4–8 Feb.) M. W. F. 9

DR E. K. MATTHEWS
Hormone receptors. (Four lectures) (11–18 Feb.) M.W. F. 9

DR D. R. FERGUSON
Pharmacology of epithelial ion transport. (Four lectures) (20–27 Feb.) M. W. F. 9

DR E. K. MATTHEWS
Apoptosis. (Three lectures) (1–6 Mar.) M. W. F. 9

[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 3 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 2001 LENT 2002 EASTER 2002

PHARMACOLOGY (continued)

Molecular and Cellular Pharmacology

DR R. M. HENDERSON
Patch clamp recording. Three lectures (5–10 Oct.) M. W. F. 10

DR A. GENAZZANI
Excitatory amino acids. Three lectures (9–16 Oct.) Tu. Th. 9

DR P. J. RICHARDSON
Molecular biology of ligand-gated channels and G-protein coupled receptors. Six lectures (12–24 Oct.) M. W. F. 10

DR M. A. BARRAND
Aquaporins. Two lectures (18, 23 Oct.) Tu. Th. 9

DR J. M. YOUNG
Quantitative receptor pharmacology (Five lectures) (25 Oct.–8 Nov.) Tu.Th. 9

DR R. MURRELL-LAGNADO, DR S. B. HLADKY AND DR A. R. RANDALL
Potassium, sodium and calcium channels (Eleven lectures) (26 Oct.–9 Nov.) M. W. F. 10 (13, 15 Nov.) Tu. 9, 10, Th. 9

PROF. M. J. WARING AND PROF. V. K. K. CHATTERJEE
Drugs, receptors and DNA (Five lectures) (12, 16 Nov.) M. F. 10 (20–27 Nov.) Tu. Th. 9

DR P. M. DEAN AND DR P. J. RICHARDSON
Pharmacogenomics (Four lectures) (20–28 Nov.) M. W. F. 10

Molecular and Cellular Pharmacology

DR C. W. TAYLOR, PROF. R. F. IRVINE AND DR P. THORN
Signal transduction and intracellular Messengers. Twelve lectures (18 Jan.–27 Feb.) Tu. Th. 9

DR H.W. VAN VEEN
Carriers and pumps as targets for drug Development. Four lectures (28 Feb.–7 Mar.) Tu. W. Th. 9

Special Lecture

SIR ARNOLD BURGEN
Foundations of Pharmacology (One lecture) (11 Mar.) M. 9

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)

Orientation Day – Wednesday 3 Oct. (10.00 a.m.)

Later sessions:

DR A. SILVER
Scientific writing (One lecture F. 9 12 Oct.)

MRS C. RATCLIFF
Searching Libraries and Databases (One lecture Th. 11 18 Oct.)

MR T. R. CARTER
Information technology, computers and software available to Part II students in the Department of Physiology (One lecture T. B. A.)

PROF. R. C. THOMAS
Reading and evaluating a scientific paper (One lecture M. 10, 5 Nov.)

DR D. J. TOLHURST
Statistics (One lecture Th. 12, 25 Oct.)

Common Module. (Dr M. J. Mason)

Other sessions:

T.B.A.
Introduction to projects (One lecture T. B. A.)

DR R. H. S. CARPENTER
Power Point (One lecture Th. 9, 17 Jan.)

DR R. H. S. CARPENTER
Graphical Design (One lecture, M. 9, 4 Feb.)

DR A. L. FOWDEN
Information regarding the Part II Physiology Examination (One lecture, T. B. A.)

T. B. A.
Preparation of a scientific poster (One lecture, T.B.A.)

Journal Clubs:

DR I. M. WINTER
Module One Journal Club. Th. M. 4.30 (Two sessions, 24 Jan. *and* 11 Feb.)

DR R. H. S. CARPENTER. M. Tu. 2.00
Module Two Journal Club (Two sessions, 28 Jan. *and* 12 Feb.)

DR S. L. DICKSON
Module Three Journal Club. Tu. F. 4.30 (Two sessions, 5 *and* 15 Feb.)

T. B. A.
Module Four Journal Club. Th. M. 4.30 (Two sessions 31 Jan. *and* 18 Feb.)

DR C. J. SCHWIENING
Module Five Journal Club. M. Tu. 4.30 (Two sessions 4 *and* 19 Feb.)

DR J. H. ROGERS
Module Six Journal Club. Th. M. 4.30 (Two sessions 7 *and* 25 Feb.)

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2001	LENT 2002	EASTER 2002

PHYSIOLOGY (continued)

Module 1. Sensory Systems. W. 9 Th. 9
(Dr I. M. Winter)

PROF. T. D. LAMB
Photoreceptors (Six lectures 10, 17, 24, 31 Oct. 7, 8 Nov.)

PROF. A. C. CRAWFORD
Peripheral auditory systems (Four lectures 11, 18, 25 Oct. 1 Nov.)

PROF. T. D. LAMB
Photoreceptors seminar. (One lecture 14 Nov.)

DR D. J. TOLHURST
The visual cortex (Four lectures 15, 21, 22, 28 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 (5 Oct.); F. 11 (5, 12 Oct.) (Three lectures)

PROF. A. C. CRAWFORD
Muscle spindles. F. 9, 11 (19 Oct.) (Two lectures)

DR A. PELAH
Visuomotor adaptation and controls. F. 9. 11 (26 Oct.) (Two lectures)

PROF R. N. LEMON
Corticospinal organisation. F. 9, 11 (2, 9 Nov.) (Four lectures)

DR S. EDGLEY
Cerebellum. F. 9 (16, 23 Nov.) F. 11 (23 Nov.) (Three lectures)

Module 3. Systems and Clinical Physiology *(Topics in Clinical Physiology)* F. 10 W. 10 ***unless otherwise stated*** (*in Physiology Lecture Theatre 3*) (Dr S. L. Dickson)

DR R. J. BARNES
Limitations and control of cardiovascular performance (Four lectures, 5, 10, 12, 17 Oct.)

DR C. ACERINI
Effects of androgens in early fetal sex determination. Insulin action. (Two lectures, 19, 26 Oct.)

PROF. K. CHATTERJEE
Nuclear receptors and human disease (Two lectures, **M. 9, 22,** 24, Oct.)

DR A. V. EDWARDS
Autonomic neuropeptides (Three lectures, M. 9, 29 Oct., 5, 12 Nov.)

PROF. D. DUNGER
Regulation function of IGF-I. Harmonal regulation pubertal growth development. (Two lectures, 2, 9 Nov.)

DR S. L. DICKSON
Hypothalamic control of body weight. (Three lectures, 14, 16, 21 Nov.)

DR A. VIDAL-PUIG
Molecular mechanisms controlling energy homeostasis. (Two lectures, 23, 28 Nov.)

Module 4. Developmental and Fetal Physiology. Th. 12 F. 12 *Unless otherwise stated* (T. B. A.)

DR R. J. BARNES
Developmental physiology of organ systems (Four lectures 4, 5, 11, 12 Oct.)

DR S. K. L. ELLINGTON
Embryogenesis (Four lectures 18, 19, 26 Oct., 1 Nov.)

DR D. A. GIUSSANI
Fetal control mechanisms (Four lectures 2, 8, 9, 15 Nov.)

DR A. L. FOWDEN
Fetal development: growth and metabolism (Three lectures 16, 22, 23 Nov.)

Module 1. Sensory Systems. W. 9 Th. 9
(Dr I. M. Winter)

PROF. H. B. BARLOW
Higher visual functions (Three lectures 23, 24, 30 Jan.)

DR R. D. PATTERSON
Higher auditory processing (Four lectures, 6, 7, 13, 14 Feb.)

DR M. JUUSOLA
Information coding in sensory systems (Four lectures 20, 21, 27, 28 Feb.)

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 (18 Jan.) (Two lectures)

DR R. H. S. CARPENTER
Oculomotor neurophysiology. F. 9.11 (25 Jan.) F. 9 (1, 8, 15 Feb.) (Five lectures)

DR H. R. MATTHEWS
Long-latency Reflexes. F. 11 (1, 8, 15 Feb.) (Three lectures)

DR J. C. ROTHWELL
Cortical and subcortical control of movement. F. 9. 11 (22 Feb. 1, 8 Mar.) (Six lectures)

Module 3. Systems and Clinical Physiology *(Topics in Clinical Physiology)* F. 10 W. 10 (*in Physiology Lecture Theatre 3*) (Dr S. L. Dickson)

DR S. O. SAGE
Renal physiology (Four lecures, 18, 23, 25, 30 Jan.)

PROF. J. T. FITZSIMONS
Renin-angiotensin Systems. (Six lectures, 1, 6, 8, 13, 15, 20 Feb.)

DR J. BRADLEY
Chronic renal failure (Two lectures, 22, 27 Feb.)

DR J. FIRTH
Renal disease (Two lectures, 1, 6 Mar.)

DR F. KARET AND DR K. SMITH
Disorders of sodium handling.Physiology of the nephritic syndrome (Two lectures, 8, 13 Mar.)

Module 4. Developmental and Fetal Physiology. Th. 12, F. 12 (T. B. A.)

PROF. M. A. H. SURANI
Developmental biology (Four lectures 17, 18, 24, 25 Jan.)

DR M. CARLTON
Transgenesis (Four lectures 31 Jan., 1, 8, 14 Feb.)

DR A. L. FOWDEN
Fetal development growth and metabolism (Three Lectures 15, 21, 22 Feb.)

DR A. J. FORHEAD
Fetal Maturation and programming of adult disease (Two lectures 28 Feb., 1 Mar.)

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NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2001 LENT 2002 EASTER 2002

PHYSIOLOGY (continued)

Module 5. Cellular Physiology. M. 10, T. 9 *unless otherwise stated* (Dr C. J. Schwiening) *Technique lectures*:

DR M. J. MASON
Fluorescence measurements of ion activities (Two lectures 8, 9 Oct.)

PROF. R. C. THOMAS
Ion sensitive microelectrodes (One lecture 15 Oct.)

DR H. P. C. ROBINSON
Sharp microelectrodes and patch pipette technique (One lecture 16 Oct.)

DR P. WOODING
Electron microscopy (One lecture 22 Oct.)

DR S. CHAWLA
Elementary Molecular Biology (One lecture 23 Oct.

DR V. L. LEW
Energics of calcium transport (Three lectures 29, 30 Oct., 6 Nov.)

DR M. P. MAHAUT-SMITH
Calcium signalling (Two lectures 12, 13, 19 Nov.)

DR D. THOMAS
Elementary Calcium events (One lecture 19 Nov.)

DR H. P. C. ROBINSON
Synaptic mechanisms (Three lectures 20, 26, 27 Nov.)

Module 6. Medical Aspects of Neurobiology. Th. 10 Tu. 10 (*in the Physiology main lecture theatre*)
(Dr J. H. Rogers)

DR C. L-H. HUANG
Neurological imaging (Two lectures 4, 9 Oct.)

PROF. J. PICKARD, MR KIRKPATRICK AND DR TASKER
Cerebrospinal fluid, stroke, intracranial pressure, and CNS injury (Four lectures 11, 16, 18, 23 Oct.)

DR M-G. SPILLANTINI
Neurodegeneration (Four lectures 25, 30 Oct., 1, 6 Nov.)

DR J. H. ROGERS
Neural regeneration (Three lectures 8, 13, 15 Nov.)

DR J. HUNTER
Development of CNS pharmaceuticals (One lecture 20 Nov.)

DR R. BARKER
Brain grafting (Two lectures 22, 27 Nov.)

Module 5. Cellular Physiology. M. 10, Tu. 9 *unless otherwise stated*
(Dr C. J. Schwiening)

DR S. O. SAGE
Store mediated calcium entry (One lecture 21, 22 Jan.)

PROF. R. C. THOMAS
Intracellular pH regulation (Two lectures 28, 29 Jan.)

DR D. WILLOUGHBY
Calcium pH interactions (Two lectures, 4, 5 Feb.)

DR S. CHAWLA
Regulation of gene expression in neurones and the immune system (Two lectures Th. 11: 7, 11 Feb.)

DR J. W. FAWCETT
Neural development (Three lectures 12, 18, 25 Feb.)

DR J. H. ROGERS
Signal transduction in neural development (Five lectures 26 Feb., 4, 5, 11, 12 Mar.)

Module 6. Medical Aspects of Neurobiology. Th. 10, Tu. 10 unless otherwise stated (*in the Physiology main lecture theatre)*
(Dr J. H. Rogers)

DR R. FRANKLIN
Demyelination and remyelination (Two lectures 17, 22 Jan.)

DR S. UPPENKAMP
Disorders of the auditory systems (Three lectures 24, 29, 31 Jan.)

DR D. J. TOLHURST
Disorders of the visual system (Three lectures 5, 7, 12 Feb.)

DR G. WHITESIDE
Pain (Two lectures 14, 19 Feb.)

DR A. ROBERTS
Cognitive disorders in neurological disease (Two lectures 21, 26 Feb.)

PROF. I. GOODYER. DR P. BOLTON, DR T. HOLLAND, DR E. GAINTONDE
Scientific basis and treatment of psychiatric disorders (Four lectures 28 Feb. 5, 7, 12 Mar.)

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2001 **LENT 2002** **EASTER 2002**

PLANT SCIENCES

Course Co-ordinator: Dr David 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/teaching/content.html

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

Core Knowledge in Plant Sciences
PROF. J. PARKER
S. (6 Oct.) 10–12 *Botanic Garden*
DR J. HASELOFF
F. (12 Oct.) 2–4 *Tom ap Rees Lecture Room*

Core Skills
(Organiser: Dr Julia Davies)
Th. 12–1 (Eight sessions, 4–22 Oct.)

Seminars and Workshops
M. 2–5 (Seven sessions, 15–26 Oct.)

Module M1
(Module organiser: Dr Keith Johnstone)
Frontiers in Plant-Microbe Interactions. M. W. F. 9 (5 Oct.–28 Nov.)
Sessions in M1 are given by:
DR ALEX MURPHY (sessions 1–8)
DR KEITH JOHNSTONE (sessions 9–16)
PROF. CHRIS GILLIGAN (sessions 17–24)

Module M2
(Module organiser: Prof. John Gray)
Plant Genes and Organelles. M. W. F. 10 (5 Oct.–28 Nov.)
Sessions in M2 are given by:
PROF. JOHN GRAY (sessions 1–5)
DR THOMAS MARTIN (session 6)
PROF. JOHN GRAY (sessions 7–11)
DR RUTH MOULD (sessions 12–14)
DR PAUL DUPREE (sessions 15–19)
PROF. JOHN GRAY (sessions 20–24)

Module M3
(Module organiser: Prof. Howard Griffiths)
Dynamics, History and Future of Vegetation. M. Tu. F. 12 (5 Oct.–27 Nov.)
Sessions in M3 are given by:
PROF. HOWARD GRIFFITHS (sessions 1–7)
DR EDMUND TANNER (sessions 8–11)
DR DAVID COOMES (sessions 12–18)
DR OLIVER RACKHAM (sessions 19–24)

Module M4
(Module organiser: Prof. Roger Leigh)
Transport and Signal Transduction. Tu. Th. 9, W. 12 (4 Oct.–28 Nov.)
Sessions in M4 are given by:
DR JULIA DAVIES (sessions 1–5)
ALL LECTURERS (session 6)
PROF. ROGER LEIGH (sessions 7–13)
DR CHRISTINE CHEFFINGS (sessions 14–17)
DR ALEX WEBB (sessions 18–23)
ALL LECTURERS (session 24)

Seminars and Workshops
M. 2–5 (Eight sessions, 21 Jan.–11 Mar.)

Module L1
(Module organiser: Dr David Hanke)
Development of Plants and Fungi. M. W. F. 9 (18 Jan.–13 Mar.)
Sessions in L1 are given by:
DR JULIA DAVIES (sessions 1–3)
DR JIM HASELOFF (sessions 4–10)
DR DAVID HANKE (sessions 11–17)
DR BEVERLEY GLOVER (sessions 18–24).

Module L2
(Module organiser: Dr Edmund Tanner)
Responses of Plants to Environment. M. W. F. 10 (18 Jan.–13 Mar.)
Sessions in L2 are given by:
DR EDMUND TANNER (sessions 1–5)
DR MARK TESTER (sessions 6–12)
PROF. HOWARD GRIFFITHS (sessions 13–20)
DR DAVID COOMES (sessions 21 and 22)
DR EDMUND TANNER AND DR DAVID COOMES (sessions 23 and 24)

Module L3
(Module organiser: Prof. John Parker)
Variation and Evolution. M. 11, Tu. Th. 9 (17 Jan.–12 Mar.)
Sessions in L3 are given by:
PROF. JOHN PARKER (sessions 1–18)
DR TIM UPSON (sessions 19–24)

Module L4
(Module organiser: Dr Thomas Martin)
Plant Metabolism. Tu. Th. 10, W. 11 (17 Jan.–13 Mar.)
Sessions in L4 given by:
DR THOMAS MARTIN (sessions 1–11)
DR JOHANNA CORNAH (sessions 12–16)
PROF. JOHN GRAY (sessions 17–20)
DR PAUL DUPREE (sessions 21–23)
DR JOHANNA CORNAH AND DR THOMAS MARTIN (session 24)

Module L5
(Module organiser: Dr Keith Johnstone)
Frontiers in Microbial Physiology and Ecology. M. W. F. 12 (18 Jan.–13 Mar.)
Sessions in L5 given by:
DR KEITH JOHNSTONE (sessions 1–6)
DR ALAN TUNNACLIFFE (sessions 7–10)
DR JULIA DAVIES (sessions 11–16)
DR KATE MAXWELL (sessions 17–20)
DR NEIL BRUCE (sessions 21–24)

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NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2001 LENT 2002 EASTER 2002

PLANT SCIENCES (continued)

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

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

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

Behavioural Ecology
Department of Zoology
PROF. N. B. DAVIES, PROF. T. H. CLUTTON-BROCK, DR W. A. FOSTER, DR R. BSHARI, DR R. A. JOHNSTONE
(Twenty-four lectures) Tu. Th. S 10.00
(Module organiser: Dr Rufus Johnstone)

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

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

Statistics for Part II and Graduate Biologists
Large Lecture Theatre, Department of Plant Sciences
DR B. J. McCABE
Ten lectures 1 Oct. at 9 *and* 1, 2, 3, 4, 5, 8, 9, 10, 11 Oct. at 2

Practical work in Statistics for Part II and Graduate Biologists
The Old Music School, Downing Place
M. W. 10–12 *or* 3–5 (1, 3, 5 Oct.) M. W. F. 3–5 (8, 10, 12, 15 Oct.)

PSYCHOLOGY

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

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

General Courses
PROF. N. J. MACKINTOSH
General Introduction. Th. 9 (One lecture, 4 Oct.)
DR M. R. F. AITKEN
Statistics Lectures. Th. 2 (Three lectures, 4, 11, 18 Oct.), F. 2 (Three lectures, 5, 12, 19 Oct.), M. 2 (Two lectures, 8, 15 Oct.), Tu. 2 (Two lectures, 9, 16 Oct. *Lecture Theatre* Practical Classes 2 hours each: M. 2 (Four Classes, 22, 29 Oct, 5, 12 Nov.) *Practical Classroom*

Section A
PROF. B. C. J. MOORE
Hearing. M. 10 (Eight lectures, beginning 8 Oct.); W. 10 (Eight lectures, beginning 10 Oct.)
PROF. J. D. MOLLON
Vision. Tu. 10 (Eight lectures, beginning 9 Oct.)
DR G. J. DIGIROLAMO
Attention, Cognition and Control. F. 12 (Eight lectures, beginning 5 Oct.)

Section B
DR I. P. L. McLAREN
Learning, Memory and Cognition. Th. 10 (Seven lectures, 4, 11, 18, 25 Oct., 1, 8, 22 Nov.); F. 10 (Seven lectures, 5, 12, 19, 26 Oct., 2, 9, 23 Nov.)
DR I. P. L. McLAREN
Connectionism. M. 12 (Seven lectures, 8, 15, 22, 29 Oct., 5, 12, 26 Nov.)
DR D. R. J. LAMING
Human Judgment. Th. 12 (Eight lectures, beginning 4 Oct.), Tu. 12 (Eight lectures, beginning 9 Oct.), Tu. 5 (One lecture and Seven films, beginning 9 Oct.)

General Courses
PROF. J. D. MOLLON
Writing a Project Report. M. 5 (One class, 4 Feb.)

Section A
PROF. J. D. MOLLON
Vision. M. 11 (Eight lectures, 14, 21, 28 Jan., 4, 11, 25 Feb., 4, 11 Mar.)

Section B
DR H. E. MOSS
Language, Mind and Brain. M. 12 (Eight lectures, 14, 21, 28 Jan., 4, 11, 25 Feb., 4, 11 Mar.); W. 12 (Eight lectures, 16, 23, 30 Jan., 6, 13, 27 Feb., 6, 13 Mar.)
PROF. N. J. MACKINTOSH
Intelligience. Th. 12 (Eight lectures, 17, 24, 31 Jan., 7, 14, 28 Feb., 7, 14 Mar.)
DR D. R. J. LAMING
Human Motivation. Tu. 12 (Eight lectures, 15, 22, 29 Jan., 5, 12, 26 Feb., 5, 12 Mar.), F. 10 (Eight lectures, 18, 25 Jan., 1, 8, 15 Feb., 1, 8, 15 Mar.) Supplementary films: Tu. 5 (Eight meetings, 15, 22, 29 Jan., 5, 12, 26 Feb., 5, 12 Mar.)
DR L. M. SAKSIDA
Connectionism. Th. 9 (Four lectures, 17, 24, 31 Jan., 7 Feb.)

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2001 LENT 2002 EASTER 2002

PSYCHOLOGY (continued)

Section C

PROF. B. J. EVERITT AND DR J. PARKINSON

Brain Mechanisms of Motivation. M. 11 (Seven lectures, 8, 15, 22, 29 Oct., 5, 12, 19 Nov.); W. 11 (Seven lectures, 10, 17, 24, 31 Oct., 7, 14, 21 Nov.)

Section D

DR S. BARON-COHEN AND PROF. B. J. EVERITT

Abnormal Psychology. F. 11 (Eight lectures, beginning 5 Oct.)

DR K. C. PLAISTED

Social and Emotional Development. W. 12 (Eight lectures beginning 10 Oct.)

Section C

PROF. N. J. MACKINTOSH

Comparative Psychology of Learning and Cognition. W. 11 (Eight lectures, 16, 23, 30 Jan., 6, 13, 27 Feb., 6, 13 Mar.)

DR N. S. CLAYTON

Comparative Psychology of Learning and Cognition. F. 11 (Eight lectures, 18, 25 Jan., 1, 8, 15 Feb., 1, 8, 15 Mar.)

DR R. M. RIDLEY

Brain Mechanisms of Memory and Cognition. M. 10 (Eight lectures, 14, 21, 28 Jan., 4, 11, 25 Feb., 4, 11 Mar.) *Zoology Main Lecture Theatre*

DR R. A. MCCARTHY

Cognitive Neuropyschology. Tu. 10 (Eight lectures, 15, 22, 29 Jan., 5, 12, 26 Feb., 5, 12 Mar.) *Zoology Main Lecture Theatre*; Th. 10 (Eight lectures, 17, 24, 31 Jan., 7, 14, 28 Feb., 7, 14 Mar.) *Psychology Lecture Theatre*

Section D

DR S. BARON-COHEN AND PROF. B. J. EVERITT

Abnormal Psychology. W. 9 (Eight lectures, 16, 23, 31 Jan., 6, 13, 27 Feb., 6, 13 Mar.)

DR J. RUSSELL

Cognitive Development. W. 10 (Eight lectures, 16, 23, 30 Jan., 6, 13, 27 Feb., 6, 13 Mar.), F. 12 (Eight lectures, 18, 25 Jan., 1, 8, 15 Feb., 1, 8, 15 Mar.)

DR J. STEVENSON-HINDE

Developmental Psychology. W. 5 (Eight meetings, 16, 23, 30 Jan., 6, 13, 27 Feb., 6, 13 Mar.)

DR P. L. APPLETON

Clinical Aspects of Abnormal Psychology. Th. 5 (three meetings, 28 Feb., 7, 14 Mar.)

Attention is drawn to lectures given by Professor R. A. Hinde on Psychology of Relationships Tu. 4 (Four lectures beginning 6 Oct.), *Maxwell lecture theatre*, and to lectures given by Prof. J. Forrester on Freud, Psychoanalysis and the Twentieth-Century M. 11 (Four lectures beginning 8 Oct.) and W. 11 (Four lectures beginning 10 Oct.) in *Department of History and Philosophy of Science.*

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-five lectures)

Module Organiser: Dr B. Hedwig

Topics in Vertebrate Evolution

DR P. BARRETT, E. RAYFIELD, DR J. CLACK, DR P. FOREY, DR A. MILNER DR A. E. FRIDAY AND DR P. UPCHURCH

M. W. F. 10 (Twenty-five lectures)

Module Organiser: Dr J. A. Clack

Aquatic Ecology

DR M. BROOKE, DR D. ALDRIDGE, DR R. S. K.BARNES, DR P. HERRING AND DR A. CLARKE

M. W. F. 11 (Twenty-four lectures)

Module Organiser: Dr R. S. K. Barnes

Behavioural Ecology

PROF. N. B. DAVIES, PROF. T. H. CLUTTON-BROCK, DR J. ROUSE, DR W. A. FOSTER, DR R. BSHARY AND DR R. A. JOHNSTONE

Tu. Th. S. 11 (Twenty-four lectures)

Module Organiser: Dr R. Johnstone

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: Dr R. G. Boutilier

Control of Gene Expression

DR T. KRUDE, DR S. BELL, DR A. BANNISTER, DR A. NEWMAN, DR R. JACKSON, DR D. SCADDEN, DR S. SCOTT-DREW AND DR D. SZÜTS

M. W. F. 9 (Twenty-four lectures)

Commencing 18 Jan. *Lectures take place in the Department of Biochemistry from 9 Feb.*

Module Organiser: Dr T. Krude

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 II (continued)

MICHAELMAS 2001 **LENT 2002** **EASTER 2002**

ZOOLOGY

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. 4 (Twenty-four lectures)
Module Organiser: Dr M. Skaer

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

Statistics for Part II and Graduate Biologists
DR B. J. McCABE
(1 Oct.) M. Tu. W. Th. F. 9 and 2 (8 Oct.) M. Tu. W. Th. F. 2 (Ten lectures) *All lectures held in Large Lecture Theatre, Department of Plant Sciences*. Please note early start of course.

Practical work
The Old Music School, Downing Place
(1 Oct.) M. Tu. W. Th. F. 10 *or* 2 (8 Oct.) M. W. F. 3
Module Organiser: Dr B. J. McCabe
(*Note:* early start of course)

Developmental Biology
PROF. J. GURDON, DR A. MARTINEZ ARIAS, DR D. ST. JOHNSTON, DR J. AHRINGER AND OTHERS
M. W. F. 5 (Twenty-four lectures)
Module Organiser: Dr P. Simpson

Conservation Biology
DR M. BROOKE, DR W. AMOS, DR A. BALMFORD, DR E. V. J. TANNER, DR D. COOMBES AND OTHERS
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 OTHERS
M. W. F. 11 (Twenty-four lectures)
Module Organiser: Prof. M. Akam

NATURAL SCIENCES TRIPOS, PART III

MICHAELMAS 2001 **LENT 2002** **EASTER 2002**

BIOCHEMISTRY

Course Organiser: Prof. D. J. Ellar E-mail: dje1@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 1 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*
Option Course lectures take place throughout the day in Lent Term

Research project support
DR R. W. FARNDALE AND OTHERS
Laboratory Safety, preparation of scientific figures and scientific reports, record keeping, experimental design, seminar presentation. 1–5 Oct.

Data Handling Classes
W. 2.30–4.30 from 24 Oct.

Research Project Colloquium
PROF. D. J. ELLAR AND DR T. R. HESKETH
(Joint chairs) Presentation of Interim reports. 3–4 Dec.

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. O. THOMAS AND OTHERS
Proteins, nucleic acids and their interactions (Fifteen lectures)
Option Organiser: Prof. J. O. 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. PROF. R. J. JACKSON AND OTHERS
Control of gene expression in eukaryotes (Fifteen lectures in part joint with Part II Zoology)
Option Organiser: Prof. R. J. Jackson and Dr T. Krude
6. DR J. P. LUZIO AND OTHERS
Medical biochemistry (Fifteen lectures)
Option Organiser: Dr J. P. Luzio
7. DR F. HOLLFELDER AND OTHERS
Enzyme mechanisms and the evolution of enzyme function (Fifteen lectures)
Option Organiser: Dr F. Hollfelder
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
12. DR N. J. GAY AND OTHERS
Biotechnology (Fifteen lectures)
Option Organiser: Dr N. J. Gay
13. DR D. M. CARRINGTON AND OTHERS
Regulation of the eukaryotic cell cycle (Fifteen lectures)
Option Organiser: Dr D. M. Carrington
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. (9–10 May)

NATURAL SCIENCES TRIPOS, PART III (continued)

MICHAELMAS 2001 **LENT 2002** **EASTER 2002**

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 2 October. A booklet containing details of the times of the lecture courses will be given out on registration. Others interested in the lecture courses can obtain a copy of this booklet on application to the Course Co-ordinator. This information is also available on the website, www.teach.ch.cam.ac.uk

All students must attend an introductory talk concerning the course at 10 a.m. on Wednesday 3 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 (3 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. Tu. Th. S. 11

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

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

DR J. R. BATLEY (*P*)
Particle Physics. M. W. F. 12

DR K. F. PRIESTLEY AND PROF. D. MACKENZIE (*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 (*S*)
Gauge Field Theory. Tu. Th. 9

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

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

DR 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 AND PROF. G. G. LONZARICH (*M*)
Experimental Aspects of Superconductivity and Generalised Quantum Order. M. W. 10

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

DR D. HASKO (*M*)
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

PROF. A. N. LASENBY AND DR C. J. L. DORAN (*S*)
Physical Applications of Geometric Algebra. M. W. 10

DR C. A. HANIFF (*S*)
The Frontiers of Experimental Astrophysics. Tu. Th. 10

DR S. THOMAS AND OTHERS (*S*)
Medical Physics. Tu. Th. 12

DR W. G. REES (P*)*
Physics of Remote Sensing. Tu. Th. 11

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

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.

NATURAL SCIENCES TRIPOS, PART III (continued)

EXPERIMENTAL AND THEORETICAL PHYSICS (continued)

MICHAELMAS 2001	LENT 2002	EASTER 2002
Not more than one of the following courses from Part III Mathematics (p. 151) *may be offered for examination.*	*The following course from* Part III Mathematics (p. 151) *may be offered for examination.*	
PROF. I. T. DRUMMOND Quantum Field Theory. Tu. Th. S. 9 (*MR3*)	DR J. M. EVANS Advanced Quantum Field Theory. Tu. Th. S. 11 (*MR3*)	
DR C. A. TOUT Formation and Evolution of Stars. M. W. F. 12 (*MR11*)		
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 M. D. SEGALL AND OTHERS (*S*) Modelling with Supercomputers. F. 10 (last four lectures) THE STAFF OF THE CAVENDISH LABORATORY Current Research Work in the Cavendish Laboratory Open Days for students reading Part II or Part III Physics. W. 2–5 The Open Days will start with introductory talks at 2 p.m. in the *Cavendish Laboratory* Research in the Rutherford Building (30 Jan. in *Small Lecture Theatre*) Research in the TCM Group (6 Feb. 2.15 in *TCM Seminar Room*) Research in the Mott Building I (13 Feb. in *Small Lecture Theatre*) Research in the Mott Building II (20 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 1 Basin Dynamics** DR N. J. WHITE AND DR J. A. JACKSON *Lectures.* Tu. Th. 9 *Tilley Room* *Practicals.* Tu. 10–11.30, Th. 10–11.30 *Petrology Laboratory* Convenor: Dr N. J. White	**Option 1 Basin Dynamics** The same continued. (Eight revision sessions)
	Option 2 Sedimentary Systems DR J. A. D. DICKSON AND DR A. GALY *Lectures.* Tu. Th. 2 *Harker Room* *Practicals.* Tu. Th. 3–4.30 *Petrology Laboratory* Convenor: Dr J. A. D. Dickson	**Option 2 Sedimentary Systems** The same continued. (Eight revision sessions)
	Option 3 Metamorphic and Igneous Processes PROF. D. P. McKENZIE, DR S. A. GIBSON AND DR D. M. PYLE *Lectures.* M. W. 2 *Harker Room* *Practicals.* M. W. 3–4.30 *Palaeontology Laboratory* Convenor: Dr D. M. Pyle	**Option 3 Metamorphic and Igneous Processes** The same continued. (Eight revision sessions)

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NATURAL SCIENCES TRIPOS, PART III (continued)

MICHAELMAS 2001	LENT 2002	EASTER 2002

GEOLOGICAL SCIENCES AND MINERAL SCIENCES (continued)

Option 4 Climate and Sedimentary History
PROF. I. N. McCAVE, PROF. H. ELDERFIELD, PROF. T. H. VAN ANDEL, DR A. G. SMITH, DR P. VALDES AND DR C. DE LA ROCHA
Lectures. M. 9, F. 2 *Harker Room*
Practicals. M. 10–11.30, F. 3–4.30 *Structural Laboratory*
Convenor: Prof. I. N. McCave

Option 4 Climate and Sedimentary History
The same continued. (Eight revision sessions)

Option 5 Evolutionary Paleobiology
DR D. B. NORMAN AND PROF. R. B. RICKARDS
Lectures. W. F. 9 *Harker Room*
Practicals. W. F. 10–11.30 *Palaeontology Laboratory*
Convenor: Prof. R. B. Rickards

Option 5 Evolutionary Paleobiology
The same continued. (Eight revision sessions)

Option M1 High Pressure Mineralogy
DR M. T. DOVE, DR E. ARTACHO, DR M. WELCH AND A. N. OTHER
Lectures. M. W. 2 *Harker Room 2*
Practicals. M. W. 3–4.30 *IB Minerals Laboratory*
Convenor: Dr M. T. Dove

Option M1 High Pressure Mineralogy
The same continued. (Eight revision sessions)

Option M2 Disordered Materials
DR I. FARNAN, DR M. T. DOVE AND DR S. RIOS BANOS
Lectures. W. F. 9 *Harker Room 2*
Practicals. W. F. 10–11.30 *IB Minerals Laboratory*
Convenor: Dr I. Farnan

Option M2 Disordered Materials
The same continued. (Eight revision sessions)

Easter Field Course
14–21 March 2002 in Spain

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)

NATURAL SCIENCES TRIPOS, PART III (continued)

MICHAELMAS 2001	LENT 2002	EASTER 2002

MATERIALS SCIENCE AND METALLURGY (continued)

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	**Management Option** (Details to be announced) **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		

QUANTITATIVE MODELLING

Industrial Processes in the Natural Resource Sector to be held at the B.P. Institute

PROF. A. WOODS Modelling Industrial and Environmental Flows. Tu. Th. 9–11 *Seminar Room* DR S. FITZGERALD AND OTHERS Essential Business Skills for Scientists and Engineers Lectures. Th. F. 11 *Lecture Room* Seminars. Th. 4.30 *Lecture Room*	The same continued.	

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 2001. It may be necessary to limit numbers.

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