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

MICHAELMAS 2005 **LENT 2006** **EASTER 2006**

QUANTITATIVE BIOLOGY

Course Organiser: Prof. C. P. Ellington (email: c.ellington@zoo.cam.ac.uk)
Course Website: www.quns.cam.ac.uk/qb/

Quantitative Biology is intended for those students who have studied Mathematics at GCE A-level or its equivalent. It does not provide a qualification for offering Mathematics in Part IB of the Natural Sciences Tripos.

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

***Lectures** will be held in the Large Lecture Theatre, Department of Plant Sciences, **Computer practicals and Examples classes** in the Titan Teaching Room, New Museum Site, unless otherwise stated.*

Lectures. Tu. Th. 9

A. N. OTHER
Introduction to the Growth and Decline of Populations. (Ten lectures, 6 Oct. – 8 Nov.)

PROF. C. P. ELLINGTON
Physiological Modelling. (Six lectures, 10–29 Nov.)

MR J. J. TRAPP
Introduction to Modelling of Interacting Populations. (Seven lectures, 19 Jan. – 9 Feb.)

DR J. GOG
Interacting Populations: Ecological Applications. (Four lectures, 14–23 Feb.)

A. N. OTHER
Introduction to Statistical Methods. (Five lectures, 28 Feb. – 14 Mar.)

DR R. JOHNSTONE
Optimisation and Game Theory. (Four lectures, 27 Apr. – 9 May)

A. N. OTHER
Introduction to Statistical Methods. (Four lectures, 11–23 May)

Supplementary lectures. S. 9
These lectures are to aid the transition from A level, and to present worked examples from the syllabus.

Examples classes and Computer Practicals Th. 2–3.15, 3.30–4.45 *or* 4.45–6

A. N. OTHER, PROF. C. ELLINGTON AND DR R. JOHNSTONE

MR J. J. TRAPP. DR J. GOG, A. N. OTHER AND DR R. JOHNSTONE

DR R. JOHNSTONE

PART IB

ADVANCED PHYSICS

Course Organiser: Dr C. J. B. Ford (email: IB-advanced-physics@phy.cam.ac.uk)
Course Website: www.phy.cam.ac.uk/teaching/

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

DR C. J. FORD
Electromagnetism. Tu. Th. S. 9 (Not last two S.)

Those not taking NST Part IB Mathematics:

PROF. S. WITHINGTON
Mathematics and Theoretical Physics. M. F. 11 *Room B, Arts School, Bene't Street*

Laboratory Work

DR R. D. E. SAUNDERS
Systems and Measurement.

DR J. ELLIS
Classical Dynamics. (First ten lectures) Tu. Th. S. 9

DR W. ALLISON
Statistical Physics. (Last nine lectures, beginning 14 Feb.) Tu. Th. 9

Those taking NST Part IB Mathematics:

PROF. M. WARNER
Methods of Mathematical Physics. (Twelve lectures, beginning 6 Feb.) M. W. 9 *Room 1, Mill Lane Lecture Rooms*

DR R. J. BUTCHER
Waves and Optics.

DR W. ALLISON
The same continued. (First seven lectures) Tu. Th. S. 9

Laboratory Work takes place at the *Cavendish Laboratory (West Cambridge)*. The experimental laboratories are open M. 2–6, Tu. 10–6, Th. 10–6 and F. 2–6. Students will be allocated periods within these times. All students must attend an introductory talk and register for **Laboratory Work** at 2.30 p.m. on W. 5 Oct. at the *Cavendish Laboratory*. **Laboratory work is continuously assessed**.

continued >

NATURAL SCIENCES TRIPOS, PART IB (continued)

MICHAELMAS 2005 **LENT 2006** **EASTER 2006**

ANIMAL BIOLOGY

Course Organiser: Dr B. J. McCabe (email: bjm1@cam.ac.uk)
Course Website: www.zoo.cam.ac.uk/degree/1banimal/index.html

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

Lectures will take place at the Elementary Lecture Theatre Department of Zoology M. W. F. 11

DR A. RADFIRD AND PROF. P. P. G. BATESON
Behaviour and Ecology. (Twelve lectures, beginning 7 Oct.)
PROF. S. B. LAUGHLIN AND PROF. M. BURROWS
Brain and Behaviour. (Twelve lectures, beginning 4 Nov.)

PROF. S. H. P. MADDRELL AND DR W. A. FOSTER
Adaptation and Evolution: Insect Biology. (Twelve lectures, beginning 20 Jan.)
DR J. A. CLACK AND DR A. E. FRIDAY
Adaptation and Evolution: Vertebrate Evolutionary Biology. (Twelve lectures, beginning 17 Feb.)

PROF. C. P. ELLINGTON AND DR M. T. WILKINSON
Physiology and the Environment. (Twelve lectures, beginning 26 Apr.)
Note the early start of this course.

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

BIOCHEMISTRY AND MOLECULAR BIOLOGY

Course Organiser: Dr T. R. Hesketh (email: t.r.hesketh@bioc.cam.ac.uk)
Course Website: www.bioc.cam.ac.uk/teaching/BMB/

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 F. 7 Oct.

Lectures are given in the Lecture Theatre of the Sanger Building, Department of Biochemistry , Old Addenbrooke's Site on M. W. F. at 10

Genes and proteins: macromolecules in action
DR C. J. HOWE
Gene Cloning and Manipulation. (Five lectures, beginning 7 Oct.)
PROF. DAME JEAN THOMAS
Control of Gene Expression: DNA Structure and DNA-Protein Interactions. (Five lectures, beginning 19 Oct.)
DR C. W. J. SMITH
Control of Gene Expression: Transcription, RNA Processing and Translation. (Five lectures, 31 Oct., 2, 4, 11, 14 Nov.)
PROF. SIR TOM BLUNDELL
Protein Structure, Flexibility and Function. (Five lectures, 7, 9, 16, 18, 21 Nov.)
PROF. P. F. LEADLAY
Enzyme Catalysis and Protein Engineering. (Five lectures, beginning 23 Nov.)

Energy transduction, cell signalling and cell proliferation
DR G. C. BROWN
Energy Transduction in Bacteria, Mitochondria and Chloroplasts. (Six lectures, beginning 18 Jan.)
Note the early start of this course.
DR P. H. RUBERY AND DR J. GRIFFIN
Control of Metabolism. (Six lectures, beginning 1 Feb.)
DR R. W. FARNDALE
Transmembrane Signalling; Molecules and Mechanisms. (Six lectures, beginning 15 Feb.)
DR D. M. CARRINGTON
Control of Eukaryotic Cell Growth. (Four lectures, beginning 1 Mar.)
DR T. R. HESKETH
Oncogenes, Tumour Suppressor Genes, and Cancer (Four lectures, beginning 10 Mar.)

Biochemistry of microorganisms
DR M. WELCH AND PROF. G. P. C. SALMOND
Bacterial Chemotaxis, Signalling, and Secretion Systems. (Five lectures, beginning 26 Apr.)
Note the early start of this course.
DR D. M. CARRINGTON
Molecular Biology of Protozoa. (Four lectures, beginning 8 May)

Practical work: Practicals are given at the *Hopkins Building, Department of Biochemistry, Downing Site* four hours from 11 a.m. on M. Tu. W. Th. *or* F. Students should register for all biological practical courses on W. 5 Oct. between 11.00 and 12.15 in the *Senate House.*

CELL AND DEVELOPMENTAL BIOLOGY

Course Organiser: Dr T. Krude (email: tk1@mole.bio.cam.ac.uk)
Course Website: www.bio.cam.ac.uk/teaching/cdb/index.html

All lectures take place in the *Biffen Lecture Theatre, Department of Genetics* on Th. S. Tu. 10, unless otherwise stated

DR T. KRUDE AND PROF. S. P. JACKSON
Molecular Biology of the Cell Nucleus. (Nine lectures, 6–25 Oct.)
DR D. SUMMERS AND DR P. OLIVER
Genetic Systems of Prokaryotes. (Six lectures, 27 Oct. – 8 Nov.)
DR B. SANSON
Genome Structure and Evolution. (Five lectures, 10–19 Nov.)
DR D. MACDONALD
Molecular Genetics of Yeast Cells. (Four lectures, 22–29 Nov.)

PROF. J. C. GRAY
Organelle Biogenesis. (Six lectures, 17–28 Jan.)
Note the early start to this course.
DR M. SEGAL
Cytoskeleton. (Four lectures, 31 Jan. – 7 Feb.)
DR P. DUPREE
Membrane Traffic. (Four lectures, 9–16 Feb.)
DR K. JOHNSTONE AND DR H. SKAER
Intercellular Communication. (Four lectures, 18–25 Feb.)
DR H. SKAER
Development I. (Four lectures, 28 Feb. – 7 Mar.)
PROF. J. SMITH
Development II. (Four lectures, 9–16 Mar.)

DR C. ALONSO
Development III. (Four lectures, 27 Apr. – 4 May)
DR D. HANKE AND DR J. HASELOFF
Development IV. (Six lectures, 6–18 May)

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

NATURAL SCIENCES TRIPOS, PART IB (continued)

MICHAELMAS 2005 **LENT 2006** **EASTER 2006**

CHEMISTRY A

Course Organiser: Dr J. H. Keeler (email:jhk10@ cam.ac.uk)
Course Website: www-teach.ch.cam.ac.uk/

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

DR A. J. STONE AND DR P. D. WOTHERS
Quantum Mechanics and Spectroscopy. (Seventeen lectures)
DR S. C. ALTHORPE
Symmetry and Bonding. (Six lectures)

DR S. C. ALTHORPE
Symmetry and Bonding. (Six lectures, continued)
DR J. H. KEELER
Molecular Energy Levels and Thermodynamics. (Fourteen lectures)
PROF. S. R. ELLIOTT AND PROF. R. M. LAMBERT
Electrons in Solids. (Four lectures)

PROF. S. R. ELLIOTT AND PROF. R. M. LAMBERT
Electrons in Solids. (Eleven lectures, continued)

Practical Chemistry. Michaelmas and Lent Terms M. Tu. W. Th. F. 1.45–5. Students must register in the *Department of Chemistry, Lensfield Road*, between 9 and 1 or 2 and 4 on Tu. 4 Oct., 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 W. 5 Oct. at 10.45 a.m. in the *Bristol-Myers Squibb Lecture Theatre.*

CHEMISTRY B

Course Organiser: Dr J. H. Keeler (email: jhk10@cam.ac.uk)
Course Website: www-teach.ch.cam.ac.uk/

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

DR S. G. WARREN AND DR M. D. SMITH
Key Organic Reactions. (Twelve lectures)
DR N. BAMPOS
Structure Determination. (Six lectures)
DR A. E. H. WHEATLEY
Electron Deficient Compounds. (Six lectures)

DR R. A. LAYFIELD
Cooordination Chemistry. (Eight lectures)
DR P. T. WOOD
Organometallic Chemistry. (Six lectures)
DR J. M. GOODMAN AND DR P. D. WOTHERS
Shape and Organic Reactivity. (Ten lectures)

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

Practical Chemistry. Michaelmas and Lent Terms M. Tu. W. Th. F. 1.45–6 Students must register in the *Department of Chemistry, Lensfield Road* between 9 and 1 *or* 2 and 4 on Tu. 4 Oct., 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 W. 5 Oct. at 10 a.m. in the *Bristol-Myers Squibb Lecture Theatre.*

ECOLOGY

Course Organiser: Dr M. E. N. Majerus (email: m.majerus@gen.cam.ac.uk)
Course Website: www.plantsci.cam.ac.uk/plantsci/teaching/ec1b/index.html

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

DR D. K. A. BARNES
The Global Marine Ecosystem. (Six lectures, 7–19 Oct.)
DR E. V. J. TANNER, PROF. H. GRIFFITHS AND DR D. A. COOMES
The Ecology of Change. (Eighteen lectures, 21 Oct–29 Nov.)

DR O. KRUGER
Predators and Prey. (Six lectures, 20 Jan.–1 Feb.)
PROF. T. CLUTTON-BROCK
Breeding Systems. (Six lectures, 3–15 Feb.)
DR F. BALLOUX
Ecological Genetics. (Six lectures, 17 Feb.–1 Mar.)
DR A. MANCIA
Ecological Dynamics. (Six lectures, 3–15 Mar.)

DR E. V. J. TANNER
Biodiversity. (Six lectures, 26 Apr.–8 May)
Note the early start of this course
DR A. BALMFORD
Humans and Ecology. (Six lectures, 10–22 May)

continued >

NATURAL SCIENCES TRIPOS, PART IB (continued)

MICHAELMAS 2005 LENT 2006 EASTER 2006

EXPERIMENTAL PSYCHOLOGY

Course Organiser: Dr. K. C. Plaisted (email: kcp1000@cam.ac.uk)
Course Website: www.psychol.cam.ac.uk/pages/undgrad.html#Courseb

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

PROF. T. W. ROBBINS
Introduction to the study of Experimental Psychology. (One lecture, 6 Oct.)
DR G. J. DAVIS AND OTHERS
Human Experimental Psychology: Perception; Attention; Memory; Action; Psycholinguistics. (Twenty-three lectures, 8 Oct. – 29 Nov.)

DR R. A. MCCARTHY
Neuropsychology of Language. (Two lectures, 19, 21 Jan.)
PROF. A. DICKINSON
Biological Aspects of Learning, Memory, Motivation and Emotion. (Three lectures, 24–28 Jan.)
DR I. P. L. MCLAREN
Learning and Memory. (Four lectures, 31 Jan. – 7 Feb.)
DR K. C. PLAISTED
Developmental Psychology. (Six lectures, 9–21 Feb.)
DR L. M. SAKSIDA
Decision Making. (Two lectures, 23, 25 Feb.)
DR K. C. PLAISTED
IQ. (Two lectures, 28 Feb., 2 Mar.)
DR K. C. PLAISTED AND MS E. S. BENNETT
Social Psychology. (Five lectures, 4–14 Mar.)

DR J. ROISER
Abnormal Psychology. (Six lectures, 27 Apr. – 16 May)

Practical Work. Tu. 9–11 *or* W. 10–12 *or* 2–4 and Th. 2–4 *or* F. 10–12 *or* 2–4. Two 2-hour sessions per week, one chosen from Tu. 9–11 *or* W. 10–12 *or* 2–4, and the other from Th. 2–4 *or* F. 10–12 *or* 2–4. The computing facilities used for the practical work will be available for informal use throughout the year. Students should register for all biological practical courses on W. 5 Oct. between 11.00 and 12.15 in *the Senate House*.

GEOLOGICAL SCIENCES A

Course Organiser: Dr. N. H. Woodcock (email: nhw1@esc.cam.ac.uk)
Course Website: www.esc.cam.ac.uk/new/v10/teaching/geology/ib-a/courses.html

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

DR N. H. WOODCOCK
Maps and Structures. (Eight lectures)
PROF. R. S. WHITE
Earth Systems. (Eight lectures)
PROF. H. ELDERFIELD
Evolution of the Hydrosphere. (Eight lectures)

DR J. A. D. DICKSON
Biogenic and Chemical Sediments. (Seven lectures)
PROF. I. N. MCCAVE
Mechanics of Sediment Transport and Clastic Sedimentology. (Nine lectures)
DR N. J. BUTTERFIELD
Evolutionary Palaebiology and Micropalaeontology. (Eight lectures)

Introduction to Southwest England field trip. Th. 10 (16 Mar.)

Geological Sciences Field Class. (31 Mar – 10 Apr.)

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: students choose one from each set (Set 1: F. 11–1, F. 2–4; Set 2: M. 11–1, M. 2–4, Tu. 10-1; Set 3: W. 11–1, W. 2–4, Th. 10–1). Students should go to the *Department of Earth Sciences* on Wednesday, 5 Oct., between 9.30 and 12.30, *or* 2.30 and 4.30, to register their choice of times from those available.

GEOLOGICAL SCIENCES B

Course Organiser: Dr D. M. Pyle (email: dmp11@esc.cam.ac.uk)
Course Website: www.esc.cam.ac.uk/new/v10/teaching/geology/ib-b/courses.html

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)
PROF. M. J. BICKLE
Crystallography and Optical Petrography. (Five lectures)
DR R. J. HARRISON
Principles of Mineral Behaviour. (Eight lectures)
DR J. M. BUNBURY
Introductory Igneous Petrology. (Four lectures)
DR J. M. BUNBURY
Chemical Differentiation of the Earth. (Three lectures)

DR D. M. PYLE
Magmatic Settings. (Five lectures)
DR J. M. BUNBURY
Metamorphic Mineralogy. (Five lectures)
DR T. J. B. HOLLAND
Introduction to Metamorphism. (Nine lectures)
DR M. B. HOLNESS
Metabasites. (Five lectures)

Introduction to South West England field trip. Th. 10 (16 Mar.)

Geological Sciences Field Class (31 Mar – 10 Apr.)

DR A. GALY
Evolution of the Himalayas. (Five lectures)
DR S. GIBSON
Igneous Case Studies. (Four lectures)

Practical Work. There are three practicals per week of about 1½ hours, to be taken between successive lectures. Students should go to the *Department of Earth Sciences* on Wednesday, 5 Oct., between 9.30 and 12.30, *or* 2.30 and 4.30, to register their choices of times from those available, which are M. W. F. 11–1, Tu. Th. S. 9–12.

NATURAL SCIENCES TRIPOS, PART IB (continued)

MICHAELMAS 2005 **LENT 2006** **EASTER 2006**

HISTORY AND PHILOSOPHY OF SCIENCE

Course Organisers: Dr L. Kassell (email: ltk21@cam.ac.uk) (Michaelmas Term) and Prof. S. Schaffer (email: sjs16@cam.ac.uk) (Lent and Easter Terms)
Course Website: www.hps.cam.ac.uk/studying/studyug.html

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

DR P. FARA AND DR L. KASSELL
Natural Philosophy. M. 5 (weeks 1–8); F. 5 (weeks 1–4)
PROF. M. KUSCH
Epistemology: Radical Scepticism. W. 5 (weeks 1–4)
PROF. M. KUSCH
Sociology of Scientific Knowledge. W. 5 (weeks 5–8)
PROF. P. LIPTON
Philosophy of Science. F. 5 (weeks 5–8)

DR J. AGAR, DR S. DE CHADAREVIAN AND PROF. S. SCHAFFER
History of Science and Medicine. M. 5 (weeks 1–8); W. 5 (weeks 5–8)
DR I. SINGH
Psychopharmacology. W. 5 (weeks 1–4)
PROF. P. LIPTON
Philosophy of Science. F. 5 (weeks 1–8)

DR J. AGAR, PROF. S. SCHAFFER AND DR N. HOPWOOD
History of Science and Medicine. F. 5 (weeks 1–4)
DR R. JENNINGS
Ethics in Science. M. 5 (weeks 1–4)
DR T. LEWENS
Philosophy of Biology. W. 5 (weeks 1–4)

MATERIALS SCIENCE AND METALLURGY

Readers of the Lecture-List are advised to contact the Department for details

MATHEMATICS

Course Organiser: (email: nst@maths.cam.ac.uk)
Course Website: www.maths.cam.ac.uk/undergrad/NST/sched/node12.html

Students taking this course must also register electronically for the assessed **Computer Practical Course** before 3 Nov. 2005. Details are given in the course booklet distributed at the first lecture of Mathematical Methods I in Oct. 2005 and can also be found on www.maths.cam.ac.uk/undergrad/tripos/nstcomp/

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

DR G. I. OGILVIE
Mathematical Methods I. *Arts School Room A*

Examples Class W. 2.15–4.15 (Two classes, 9, 23 Nov.) *Arts School Room A*

DR M. SPIVACK
Mathematical Methods II.

Examples Class W. 2.15–4.15 (Two classes, 15 Feb., 8 Mar.)

PROF. M. E. MCINTYRE
Mathematical Methods III. (Ten lectures)

Examples Class W. 2.15–4.15 (Two classes, 3, 10 May)

The Examples Class interleaves with the Examples Class in Mathematical Physics (Part IB Advanced Physics Course F) (p. 173).

continued >

NATURAL SCIENCES TRIPOS, PART IB (continued)

MICHAELMAS 2005 **LENT 2006** **EASTER 2006**

MINERAL SCIENCES

Course Organiser: Dr I. Farnan (email: i.farnan@esc.cam.ac.uk)
Course Website: www.esc.cam.ac.uk/new/v10/teaching/minsci/body.html

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

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

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

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

Practical Work. M. Th. 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, 5 Oct.

NEUROBIOLOGY

Course Organiser: Dr L.M. Saksida (email: lms42@cam.ac.uk)
Course Website: www.physiol.cam.ac.uk/

All lectures take place in *Physiology Lecture Theatre 3* at Tu. Th. S. 12

PROF. P. A. MCNAUGHTON
Introduction to the Brain. (One lecture, 6 Oct.)
DR M. EDWARDSON
G-Protein Coupled Receptors. (One lecture, 8 Oct.)
PROF. W. A. HARRIS
Neural Determination (Four lectures, 11–18 Oct.)
DR H. ROBINSON
Electrical Properties of Neurons. (Four lectures, 20–27 Oct.)
DR M. EDWARDSON
Chemical Properties of Neurons. (Four lectures, 29 Oct. – 5 Nov.)
PROF. S. LAUGHLIN
Vision. (Six lectures, 8–19 Nov.)
PROF. L. K. TYLER
Language and the Brain. (Two lectures, 22–24 Nov.)
DR I. M. WINTER
Hearing. (Three lectures, 26 Nov. – 1 Dec.)

PROF. P. A. MCNAUGHTON
Somatosensation and Pain. (Four lectures, 17–24 Jan.)
Note the early start of this course.
DR D. PARKER
Motor System. (Seven lectures, 26 Jan. – 9 Feb.)
PROF. J. HERBERT
The Chemical Brain. (Three lectures, 11–16 Feb.)
DR M. LANDGRAF
Development of Neural Connections. (Four lectures, 18–25 Feb.)
PROF. B. J. EVERITT
Motivation and Emotion. (Four lectures, 28 Feb. – 7 Mar.)
DR B. J. MCCABE
Synaptic Efficacy. (Four lectures, 9–16 Mar.)

DR T. J. BUSSEY
Learning and Memory. (Four lectures, 25 Apr. – 2 May)
Note the early start of this course.
DR T. J. BUSSEY
Higher Functions of the Nervous System. (Three lectures, 4–9 May)
DR H. R. MATTHEWS
Olfaction and Taste. (Two lectures, 11–13 May)

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

NATURAL SCIENCES TRIPOS, PART IB (continued)

MICHAELMAS 2005 **LENT 2006** **EASTER 2006**

PATHOLOGY

Course Organiser: Dr I. B. Kingston (email: ibk1000@cam.ac.uk)
Course Website: www.path.cam.ac.uk/ugrad/part1/

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

PROF. A. H. WYLLIE
Cell Injury. (One lecture, 7 Oct.)
DR A. MOFFETT
Innate Immune System; Acute Inflammation: Defence Mechanisms; Healing and Chronic Inflammation. (Three lectures, beginning 10 Oct.)
DR A. KELLY
The Adaptive Immune System; B Cells and Antibodies; The Major Histocompatability Complex; T Cells. (Four lectures, beginning 17 Oct.)
PROF. J. TROWSDALE
Tolerance; Autoimmunity; Hypersensitivity; Transplantation. (Four lectures, beginning 26 Oct.)
PROF. A. C. MINSON
Viral Multiplication in the Host Cell; Nature of Viruses; Responses to Viral Infection; Acute and Chronic Infection; Epidemiology of Viral Infection; Combating Viral Infection; Prion Diseases. (Seven lectures, beginning 4 Nov.)
DR I. B. KINGSTON
Introduction to Parasitic Diseases; Key Examples of Parasitic Diseases: Malaria; Key Examples of Parasitic Diseases: Schistosomiasis. (Three lectures, beginning 21 Nov.)
DR A. CARMICHAEL
Fungi (One lecture, 28 Nov.)

DR G. FRASER
Bacterial Disease – Past, Present and Re-emerging; Bacteria: Prokaryotic Pathogens; Bacteria – Host Interaction: Pathogenicity; Host Damage – Toxins, the Host Response; Bacterial Pathogenicity in the Respiratory Tract; Bacterial Pathogenicity in the Gastrointestinal Tract; Combating Bacterial Disease. (Seven lectures, beginning 18 Jan.)
Note the early start of this course.
PROF. A. WYLLIE
Vascular Reactions to Injury; Atherosclerosis; Ischaemia, Infaction and their Results. (three lectures, beginning 3 Feb.)
PROF. M. A. STANLEY
The Regulation of Tissue Growth and Organisation; Clinical Pathology of Tumours; Biology of Tumours; Genetic Basis of Neoplasia; Causes of Cancer. (Five lectures, beginning 10 Feb.)
PROF. A. WYLLIE
Discovering Genes Mutated in Human Cancer I; Discovering Genes Mutated in Human Cancer II; New Therapeutic Targets in Cancer. (Three lectures, beginning 22 Feb.)
DR S. EFSTATHIOU
Emerging Virus Infections; Virus Latency and Immune Invasion; HIV. (Three lectures, beginning 1 Mar.)
DR P. DIGARD
Flu Pandemics. (One lecture, 8 Mar.)
DR S. MELVILLE
Zoonoses – Trypanosomiasis; Zoonoses – Leishmaniasis. (Two lectures, beginning 10 Mar.)
DR J. AJIOKA
Zoonoses – Toxoplasmosis. (One lecture, 15 Mar.)

DR R. BUJDOSO
Molecular Aspects of PrP^{C} and PrP^{Sc}; Scrapie, BSE, vCJD. (Two lectures, beginning 26 Apr.)
Note the early start of this course.
PROF. M. A. STANLEY
Tuberculosis. (One lecture, 1 May.)
PROF. D. MASKELL
The Evolution of Pathogenic Bacteria; Bacterial Zoonosis. (Two lectures, beginning 3 May.)

Practical Work. *Department of Pathology* Tu. W. Th. F. a.m. and p.m. Students should register for all biological practical courses on W. 5 October between 11.00 and 12.15 in the Senate House and attend an Introduction to Normal Histology for NST students, 6 and 7 Oct.

PHARMACOLOGY

Course Organiser: Dr T. P. Fan (email: tpf1000@cus.cam.ac.uk)
Course Website: www.phar.cam.ac.uk/teaching/tea_nst1b.html

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

PROF. C. W. TAYLOR
Introduction. Structure and function of receptors. Diabetes mellitus and obesity. (Nine lectures, 7–26 Oct.)
PROF. R. F. IRVINE
Intracellular Messengers. (Four lectures, 28 Oct. – 4 Nov.)
DR P. THORN
Synaptic Pharmacology. (Five lectures, 7–16 Nov.)
DR A. J. MORTON
Central Nervous System. (Six lectures, 18–30 Nov.)

DR H. W. VANVEEN
Antibiotics and Antiparasitics. (Four lectures, 20–27 Jan.)
DR S. B. HLADKY
Pharmacokinetics, Drug Metabolism and General Anaesthetics. (Six lectures, 30 Jan. – 10 Feb.)
DR C. R. HILEY
Cardiovascular and Renal Pharmacology. (Ten lectures, 13 Feb. – 6 Mar.)
DR Z. SARNYAI
Steroid Receptors and Reproductive Pharmacology. (Four lectures, 8–15 Mar.)

DR T. P. FAN
Inflammation and Peripheral Control of Pain. (Six lectures, 28 Apr. – 10 May)
PROF. D. M. F. COOPER
Cell Growth and Cancer. (Three lectures, 12–17 May)

Practical Work. (Tu. 1–2 *or* W. 1–2) and (Tu. 2.15–5 *or* W. 2.15–5). A detailed timetable will be posted in the Department. Students should register for all biological practical courses on W. 5 Oct. between 11.00 and 12.15 in *the Senate House.*

continued >

NATURAL SCIENCES TRIPOS, PART IB (continued)

MICHAELMAS 2005 **LENT 2006** **EASTER 2006**

PHYSICS

Course Organiser: Dr R. D. E. Saunders (email: IB-single-physics@phy.cam.ac.uk)
Course Website: www.phy.cam.ac.uk/teaching/

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

DR N. GREENHAM
Oscillations, Waves and Optics. M. F. 12
DR R. D. E. SAUNDERS
Experimental Methods. W. 12

Laboratory Work
DR R. D. E. SAUNDERS
Systems and Measurement.

PROF. D. R. WARD
Classical Thermodynamics. M. W. F. 12 (First ten lectures)
DR H. P. HUGHES
Quantum Physics. M. W. F. 12 (Last fourteen lectures, beginning 13 Feb.)

DR R. J. BUTCHER
Waves and Optics.

DR H. P. HUGHES
The same continued. (First ten lectures)

Laboratory Work takes place at the *Cavendish Laboratory (West Cambridge)*. The experimental laboratories are open M. 2–6, Tu. 10–6, Th. 10–6 and F. 2–6. Students will be allocated periods within these times. All students must attend an introductory talk at 2.30 p.m. on W. 5 Oct. at the *Cavendish Laboratory*. Students taking Part IB Physics but *not* IB Advanced Physics must also register between 2.00 p.m. and 4.00 p.m. on Tu. 4 Oct. at the *Cavendish Laboratory*, where they will be allocated practical sessions that fit with their other IB subjects. **Laboratory work is continuously assessed.**

PHYSIOLOGY

Course Organiser: Dr R. J. Barnes (email: rjb4@cam.ac.uk)
Course Website: www.physiol.cam.ac.uk/

Lectures are given in the *Department of Physiology, Lecture Theatre 1*, Tu. Th. S. 9 (Michaelmas & Lent Terms) F. M. W. 9 (Easter Term)

Lectures: Tu. Th. S. 9
DR R. J. BARNES
Introduction, the Autonomic Nervous System and the Cardiovascular System. (Six lectures, 6–18 Oct.)
DR MICHAEL J. MASON
Respiration. (Six lectures, 20 Oct. –1 Nov.)
DR MATTHEW J. MASON
Endocrinology. (Three lectures, 3–8 Nov.)
DR S. O. SAGE
Renal Physiology and Body Fluid Homeostasis. (Nine lectures, 10–29 Nov.)

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

Lectures: Tu. Th. S. 9
DR A. J. FORHEAD
Reproduction. (Six lectures, 19–31 Jan.)
DR S. K. L. ELLINGTON
Development. (Two lectures, 2, 4 Feb.)
DR D. R. J. BAINBRDGE AND DR J. GIBSON
Biology of Pregnancy. (Four lectures, 7–14 Feb.)
DR D. R. J. BAINBRIDGE
Birth, Lactation and the Neonate. (Three lectures, 16–21 Feb.)
DR MATTHEW J. MASON
Digestion and Absorption. (Seven lectures, 23 Feb. – 9 Mar.)
DR M. P. MAHAUT-SMITH
Weight Regulation and Nutrition. (Two lectures, 14, 16 Mar.)

The same continued

Lectures: M. W. F. 9
DR R. J. BARNES
Physiology of Exercise. (One lecture, 28 Apr.)
DR R. J. BARNES
Limits of Performance. (One lecture, 1 May)
DR J. JENNER
Muscle in Exercise. (One lecture, 3 May)
DR A. N. OTHER
Training (One lecture, 5 May)
DR D. GORDON
Exercise in Stressful Environments. (One lecture, 8 May)
DR MATTHEW J. MASON
Man in the Arctic. (One lecture, 10 May)
Man in the Desert. (One lecture, 12 May)
Vertebrates in the Desert. (One lecture, 15 May) Optional for Medics
DR MICHAEL J. MASON
Man in Space. (One lecture, 17 May)

The same continued

Practical Work: Students should register for all biological practical courses on W. 5 Oct. between 11.00 and 12.15 in *the Senate House.*

PLANT AND MICROBIAL SCIENCES

Course Organiser and Departmental Contact: Dr E. V. J. Tanner (email: evt1@cam.ac.uk)
Course Website: http://www.plantsci.cam.ac.uk/plantsci/teaching/ps1b/

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

PROF. R. A. LEIGH
Introduction and Overview. (One lecture, 6 Oct.)
PROF. J. C. GRAY
Current Molecular Tools and Techniques. (Two lectures, 8–11 Oct.)
DR J. M. HIBBERD AND DR A. G. SMITH
Photosynthesis and Management of Reserves. (Eight lectures, 13–29 Oct.)
PROF. R. A. LEIGH, PROF. H. GRIFFITHS AND DR E. V. J. TANNER
Plants in the Abiotic Environment: Water, Nutrients and Temperature. (Thirteen lectures, 1–29 Nov.)

DR K. JOHNSTONE
Environmental Microbiology. (Six lectures, 19–31 Jan.)
DR J. P. CARR
Plant Pathology. (Seven lectures, 2–16 Feb.)
DR J. M. DAVIES
Beneficial Plant-Microbe Interactions. (Five lectures, 18–28 Feb.)
DR K. WILKINS
Plant Development. (Six lectures, 2–14 Mar.)

DR A. G. SMITH
Plants and Animals. (Three lectures, 25–29 Apr.)
Please note the early start of this course.
DR D. A. COOMES
Conservation. (Four lectures, 2– 9 May)
PROF. J. C. GRAY
Exploitation of Plants. (Three lectures, 11–16 May)

Practical Work: Students will be expected to do four hours practical work between 12 noon and 5 pm on M. *or* Tu. in four of the eight weeks of the Michaelmas term; four of the eight weeks of Lent Term, and in three weeks of the Easter Term. Other activities which students will also be expected to attend will be scheduled in vacant practical slots. A field course will take place in Portugal in the Easter Vacation 2006 (17–24 Mar.); places are limited and are allocated in order of application. Students should register for all biological practical courses on Wednesday, 5 Oct. between 11.00 and 12.15 in *the Senate House.*