

NATURAL SCIENCES TRIPOS, PART II

MICHAELMAS 2009

LENT 2010

EASTER 2010

ASTROPHYSICS

Course organiser: Prof. C. D. Mackay (email: cdm@ast.cam.ac.uk)Course website: <http://www.ast.cam.ac.uk/teaching/undergrad/partii/courseguide.php>

All lectures will be delivered in *the Raymond and Beverly Sackler Lecture Theatre, Hoyle Building, Institute of Astronomy* except * which will be held in the *Centre for Mathematical Sciences meeting rooms (MR)* and † in the *Pippard Lecture Theatre at the Cavendish Laboratory (West Cambridge)*.

PROF. B. D. SIMONS†

Advanced Quantum Physics. M. W. Th. 9

DR S. C. CHAPMAN

Structure and Evolution of Stars. M. W. 10, F 9

DR M. HAEHNELT

Theory of Relativity. Tu. Th. F. 10

PROF. C. D. MACKAY

Topics in Astrophysics. Tu. Th. F. 11

DR S. J. COWLEY*

Computational Projects. Friday 9 October. 2–4, MR2.

(One lecture)

PROF. C. J. CLARKE

Astrophysical Fluid Dynamics. M. W. F. 9

PROF. G. F. GILMORE

Stellar Dynamics and Structure of Galaxies. M.

W. F. 10

PROF. A. C. DAVIS*

Cosmology. M. W. F. 12 MR2

DR M. WINGATE*

Statistical Physics. (Sixteen lectures) Tu. Th. 11

MR3

BIOCHEMISTRY

BIOLOGICAL AND BIOMEDICAL SCIENCES: MAJOR SUBJECT BIOCHEMISTRY

Course Organiser: Dr N. M. Standart (email: nms@mole.bio.cam.ac.uk)Course Website: <http://www.bioc.cam.ac.uk/teaching/partii/index.html>

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

The course starts with an introductory lecture by PROF. C. J. HOWE at 9 a.m. on M. 5 October.

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

Core lectures

DR K. S. LILLEY

From genome to proteome: enabling technologies and mapping protein protein interaction (Two lectures, beginning 5 Oct.)

DR R. W. BROADHURST

From genome to proteome: spectroscopic methods for biomacromolecules (Three lectures, beginning 7 Oct.)

DR M. WELCH

Thermodynamics refresher for biochemists (One lecture, 9 Oct. at 2.00 p.m.)

DR D. NIETLISPACH

Chemistry refresher for biochemists (One lecture, 9 Oct. at 3.30 p.m.)

PROF. C. W. J. SMITH

Eukaryotic mRNA synthesis (Five lectures, beginning 12 Oct.)

PROF. C. J. HOWE

Gene expression in plants (Four lectures, beginning 12 Oct., at 12.00 on 12, 14 Oct.)

DR B. F. LUISI

Protein synthesis and translational control (Five lectures, beginning 19 Oct.)

DR L. PELLEGRINI

DNA recombination and repair (Four lectures, beginning 19 Oct.)

Options lectures

2. PROF. J. O. THOMAS AND OTHERS

Proteins, nucleic acids and their interactions (Fifteen lectures)

Option Organiser: Dr R. W. Broadhurst

3. DR J. HIRST AND OTHERS

Mitochondria and bioenergetics (Fifteen lectures)

Option organiser: Dr J. Hirst

4. PROF. C. J. HOWE AND OTHERS

Plant cell and molecular biology (Fifteen lectures)

Option organiser: Prof. C. J. Howe

5. PROF. C. W. J. SMITH AND OTHERS

Control of gene expression in eukaryotes (Fifteen lectures in part joint with Part II Zoology.)

Option Organisers: Prof. C. W. J. Smith and Dr T. Krude

6. PROF. K. SIDDLE AND OTHERS

Medical biochemistry – Obesity and diabetes, from genes to pathology (Fifteen lectures)

Option Organiser: Prof. K. Siddle

7. PROF. P. F. LEADLAY AND OTHERS

Enzyme mechanisms and chemical biology (Fifteen lectures)

Option Organiser: Prof. P. F. Leadlay

9. DR T. R. HESKETH AND OTHERS

Oncogenes, tumour suppressor genes, apoptosis and carcinogenesis (Fifteen lectures in part joint with Option A (module 3) of Part II Pathology.)

Option Organisers: Dr T. R. Hesketh and Dr P. Edwards

12. PROF. T. L. BLUNDELL AND OTHERS

Biotechnology (Fifteen lectures)

Option Organiser: Dr K. S. Lilley

NATURAL SCIENCES TRIPOS, PART II (continued)

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<p>DR A. D. J. SCADDEN RNAi and microRNAs (Three lectures, beginning 23 Oct.)</p> <p>DR A. A. GRACE Disease genes: function and manipulation (Two lectures, beginning 26 Oct.)</p> <p>DR T. R. HESKETH Signalling pathways in eukaryotic cells (Four lectures, beginning 28 Oct.)</p> <p>PROF. K. M. BRINDLE Molecular imaging (Three lectures, beginning 28 Oct.)</p> <p>PROF. P. F. LEADLAY Enzyme structure and function (Five lectures beginning 2 Nov.)</p> <p>DR A. P. JACKSON Protein sorting (Six lectures, beginning 6 Nov.)</p> <p>DR H. J. HONG Bacterial signalling systems (Two lectures, beginning 9 Nov.)</p> <p>PROF. A. DOWNIE Bacterial signalling systems (Two lectures, beginning 11 Nov.)</p> <p>PROF. J. O. THOMAS Protein-DNA interactions and gene expression (Five lectures, beginning 16 Nov.)</p> <p>PROF. R. W. FARNDAL Adhesive and immune receptor signalling (Four lectures, beginning 16 Nov.)</p> <p>DR T. J. STEVENS Bioinformatics (Four lectures, beginning 20 Nov.)</p> <p>DR T. J. STEPHENS Introduction to the problem-based bioinformatics project (One lecture, 23 Nov.)</p> <p>DR H. R. MOTT G protein-based signalling (Two lectures, beginning 24 Nov.)</p> <p>PROF. T. L. BLUNDELL G protein-based signalling (Two lectures, beginning 26 Nov.)</p> <p>DR G. C. BROWN Mitochondria and cell death (Seven lectures, beginning 26 Nov.)</p> <p>DR S. H. MCLAUGHLIN Protein folding <i>in vivo</i> (Three lectures, beginning 2 Dec.)</p> <p>Data handling classes 3–3.45, 9, 13 Nov., 2.30–3.15, 19 Nov., 3.1–4.00, 20 Nov.</p>	<p>13. DR D. M. CARRINGTON AND OTHERS Regulation of the eukaryotic cell cycle (Fifteen lectures) Option Organiser: Dr D. M. Carrington</p> <p>Data handling classes 3–3.45, 28, 29 Jan.</p>	
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BIOLOGICAL AND BIOMEDICAL SCIENCES

Course Organiser: Dr Greg Davis (email gjd@mole.bio.cam.ac.uk)
Course Website: www.bio.cam.ac.uk/sbs/facbiol/bbs/index.html

All students offer a Major Subject, a Minor Subject and a dissertation.

Major Subjects: Unless marked with a *, Major Subjects take their lectures from the corresponding NST Part II subject.

Biochemistry	(see p. 178)
Genetics	(see p. 178)
Mechanisms of Disease*	(see p. 178)
Neuroscience	(see p. 180)
Pathology	(see p. 180)
Pharmacology	(see p. 180)
Physiology, Development and Neuroscience	(see p. 181)
Plant Sciences	(see p. 181)
Psychology	(see p. 181)
Zoology	(see p. 181)

Minor Subjects: Unless marked with a *, Minor Subjects take their lectures from the related NST Part II subject.

Biology of Parasitism*	(see p. 182)
Biological Anthropology*	(Any of Papers BA1, BA2 or BA3 from Part IIB Biological Anthropology – see p. 182)
Education Studies*	(Any of the following papers from Part II of the Education Studies Tripos: Psychology of Education, Sociology of Education, Philosophy of Education, History of Education – see p. 182)
Genetics	(Any of Modules M2, M4, or M5 from NST Part II Genetics – see p. 182)
History of Medicine	(Either Paper 7 or Paper 8 from NST Part II History and Philosophy of Science – see p. 182)
History and Ethics of Medicine*	(see p. 183)
Neuroscience	(Any one of Modules N5 or N6 from NST Part II Neuroscience – see p. 183)
Social and Political Sciences*	(Either Paper Soc 10 or Paper Int 5 from Part II of the Social and Political Sciences Tripos – see p. 183)

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MAJOR SUBJECTS

BIOCHEMISTRY

Course Organiser: Dr N. M. Standart (email: nms@mole.bio.cam.ac.uk)
 Course Website: <http://www.bioc.cam.ac.uk/teaching/partii/index.html>

The Biological and Biomedical Sciences (Major Subject Biochemistry) course consists of the core lectures in the Michaelmas term from NST Part II Biochemistry, plus two options in the Lent term (see p. 176)

GENETICS

Course Organisers: Dr C. Farr and Dr S. Russell (email: partII.organisers@gen.cam.ac.uk)
 Course Website: www.gen.cam.ac.uk/

The Biological and Biomedical Sciences (Major Subject Genetics) course consists of a choice of four out of the five modules offered for NST Part II Genetics (see p. 185)
 Minor Subjects consist of any one of modules M2, M4 or M5.

A detailed timetable for this course will be available in the Department of Genetics.

MECHANISMS OF DISEASE: FROM PROCESS TO PATIENT

Course organisers: Dr J. H. Xuereb (email: jhx1000@cam.ac.uk) and Dr A. Ibrahim (email: aeik2@cam.ac.uk)

Lectures will be held at 10.30 a.m. daily in the *Lecture Theatre, First Floor, Department of Pathology, Tennis Court Road*, unless otherwise indicated.

Seminars and Case Studies will be held in the same venue at 2.00 p.m. unless otherwise indicated.

DR J. H. XUEREBS
 Introduction to course. Tu. 6 Oct.

PROF. A. H. WYLLIE.
 Welcome by the Head of Department. (Starts at 3.00 p.m.)
 W. 7 Oct.

MS I. KUHN
 Electronic literature searches.* group 1 (seminar) Tu. 6 Oct.
 Electronic literature searches.* group 2 (seminar) F. 9 Oct.
 Electronic literature searches.* group 3 (seminar) M. 12 Oct.

PROF. M.-Q. DU
 How to assess a scientific paper. (Seminar) Th. 15 Oct.

DR J. H. XUEREBS
 An introduction to dissertations (Seminar) (Starts at 1.30 p.m.) M. 19 Oct.

DR E. HOOK
 Essay-based discussion (Seminar) M. 30 Nov.

Pathogen and Host Factors in Infectious Disease

DR J. SULE
 Pneumonia- racing against the escalator. W. 7 Oct.

DR JESSICA WHITE
 The spectrum of disease due to mycobacterium tuberculosis. F. 9 Oct.

DR D. KUMARARATNE
 Mechanism of immunity to mycobacteria in humans. (Lecture: 11.00–12.00pm) M. 12 Oct.

PROF. A. MINSON
 The nature of prions. Tu. 13 Oct.

DR J. H. XUEREBS
 Phenotypic spectrum of spongiform encephalopathy. (Lecture: 2.00–3.00pm) Tu. 13 Oct.

DR N. BROWN
 Sepsis and the host's response to infection. W. 14 Oct.

DR TREVOR BAGLIN
 Disseminated intravascular coagulation. (Case Study) W. 14 Oct.

DR B. KINGSTON
 Malaria. Th. 15 Oct.

PROF. D. DUNNE
 Schistosomiasis. F. 16 Oct.

Diseases of Immune System

DR B. COTTRELL
 Infection and immunity in inflammatory bowel disease. M. 19 Oct.

DR J. H. XUEREBS
 Writing up dissertations (Seminar) Th. 28 Jan.

DR J. H. XUEREBS
 Essay-based discussion. (Seminar) Tu. 9 Feb.

DR J. H. XUEREBS
 Essay based discussion. (Seminar). F. 12 Mar.

Endocrine and metabolic disease

PROF. K. CHATTERJEE
 Principles of nuclear hormone action. Tu. 12 Jan.

DR J. H. XUEREBS
 Clinico-anatomical correlation of pituitary adenoma. (Case study). Tu. 12 Jan.

PROF. K. CHATTERJEE
 Nuclear receptors in human disease. W. 13 Jan.

PROF. K. CHATTERJEE
 Cushing's syndrome. (Case study) W. 13 Jan.

DR A. CHAUDHRY
 The kidney as endocrine organ. Th. 14 Jan.

DR D. SAVAGE
 How insulin works and how it goes wrong. F. 15 Jan.

DR J. H. XUEREBS
 Fasting hypoglycaemia. (Case study) F. 15 Jan.

DR A. CHAUDHRY
 Mechanism of renal damage in diabetes mellitus. M. 18 Jan.

DR J. H. XUEREBS
 Renal Colic. (Case study) M. 18 Jan.

DR A. CHAUDHRY
 Pathophysiology of progressive renal disease. Tu. 19 Jan.

DR A. COLL
 Understanding human obesity. W. 20 Jan.

DR J. BRADLEY
 End-stage renal failure. (Case study) W. 20 Jan.

PROF. J. COMPSTON
 Bone cell physiology. Th. 21 Jan.

PROF. J. COMPSTON
 Pathology of metabolic bone disease F. 22 Jan.

DR J. H. XUEREBS
 Paget's disease. (Case study) F. 22 Jan.

PROF. V. P. COLLINS
 Mitochondrial encephalomyopathies. M. 25 Jan.

DR J. H. XUEREBS
 Essay-based discussion and Review of Tripos format (Seminar) M. 17 May.

Transplantation

PROF. A. BRADLEY
 Clinical background to transplantation. M. 26 Apr.

PROF. A. BRADLEY
 Allograft rejection. (Lecture: 2.00–3.00pm) M. 26 Apr.

DR C. TAYLOR
 Histocompatibility. Tu. 27 Apr.

PROF. A. BRADLEY
 Immunosuppression (Lecture: 2.00–3.00pm) Tu. 27 Apr.

PROF. A. BRADLEY
 Xenotransplantation. W. 28 Apr.

DR E. BOLTON
 Transplantation tolerance. (Lecture: 2.00–3.00pm) W. 28 Apr.

DR A. CHAUDHRY
 Kidney graft for complications of diabetes mellitus. (Case study). Th. 29 Apr.

* Seminar Room 9, Ground Floor, The Clinical School, Addenbrooke's Hospital

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<p>DR B. COTTRELL Inflammatory bowel disease. (Case study at 11:30am) M. 19 Oct.</p> <p>DR M. GURNELL Autoimmunity in the thyroid gland. (Lecture: 2.00–3.00pm) Tu. 20 Oct.</p> <p>DR J. H. XUEREB Inflammation in the CNS. (Lecture: 2.00–3.00pm) Tu. 20 Oct.</p> <p>DR J. H. XUEREB Aetiology and pathogenesis of demyelinating diseases. Th. 22 Oct.</p> <p>DR J. H. XUEREB Clinico-anatomical correlation in multiple sclerosis. (Case study) F. 23 Oct.</p> <p>PROF. J. H. GASTON The role of HLA antigens in the pathogenesis of arthritis. (Lecture: 2.00–3.00pm) F. 23 Oct.</p> <p>PROF. J. H. GASTON T Lymphocytes in joint inflammation. M. 26 Oct.</p> <p>PROF. J. H. GASTON Cytokines in arthritis: potential therapeutic targets. Tu. 27 Oct.</p> <p>DR J. H. XUEREB Polyarthritis. (Case study) Tu. 27 Oct.</p> <p>PROF. J. H. GASTON Infectious agents and arthritis: Lyme disease and Reactive arthritis. Th. 29 Oct.</p> <p>DR J. H. XUEREB Acute monoarthritis. (Case study) Th. 29 Oct.</p> <p>DR M. CLATWORTHY Systemic lupus erythematosus I. F. 30 Oct.</p> <p>DR M. CLATWORTHY Systemic lupus erythematosus II. M. 2 Nov.</p> <p>DR J. H. XUEREB Glomerulonephritis (Case study). M. 2 Nov.</p> <p>DR H. PARFREY Respiratory tract sensitivity. Tu. 3 Nov.</p> <p>DR R. ROSS-RUSSELL Asthma and its consequences. (Case study). Tu. 3 Nov.</p> <p>DR M. CLATWORTHY Polyarteritis and other microscopic arteritides. Th. 5 Nov.</p> <p>DR R. TOOZE Lymphoma: an immunological perspective I. F. 6 Nov.</p> <p>DR R. TOOZE Lymphoma: an immunological perspective II. (Lecture: 2.00–3.00pm) F. 6 Nov.</p> <p>DR D. KUMARARATNE Immunodeficiency-molecular mechanisms I. M. 9 Nov.</p> <p>DR D. KUMARARATNE Immunodeficiency: molecular mechanisms II. Tu. 10 Nov.</p> <p>DR M. FARRINGTON Infection in the immunocompromised host. (Case study) Tu. 10 Nov.</p> <p>DR D. KUMARARATNE Immunodeficiency: molecular mechanisms III. Th. 12 Nov.</p> <p>Diseases of the blood</p> <p>DR T. FOUKANELI Inherited haemolytic anaemias. F. 13 Nov.</p> <p>DR J. H. XUEREB Megaloblastic anaemia. (Case study) F. 13 Nov.</p> <p>DR A. WARREN Leukaemia I: transcriptional regulation of haemopoiesis. M. 16 Nov.</p> <p>DR A. WARREN Leukaemia II: molecular pathology. Tu. 17 Nov.</p> <p>DR J. CRAIG Pathogenesis and management of leukaemia. (Case study) Tu. 17 Nov.</p> <p>DR G. FOLLOWS Multiple myeloma. W. 18 Nov.</p> <p>DR J. CRAIG Renal failure and myeloma. (Case study). W. 18 Nov.</p>	<p>DR J. H. XUEREB Carcinoid syndrome. (Case study) M. 25 Jan.</p> <p>DR D. O'DONOVAN Peroxisomal disorders. Tu. 26 Jan.</p> <p>PROF. T. COX The Lysosome – a gateway to treatment. W. 27 Jan.</p> <p>Gestational, Paediatric and Inherited Diseases</p> <p>DR S. CHARNOCK-JONES Placental vascular morphogenesis. Th. 28 Jan.</p> <p>DR S. CHARNOCK-JONES Pathogenesis of pre-eclampsia. F. 29 Jan.</p> <p>DR S. CHARNOCK JONES Gestational trophoblastic disease. M. 1 Feb.</p> <p>DR K. ONG Fetal and early infant development. W. 3 Feb.</p> <p>DR E. HOOK Pathophysiology of disease in the premature baby. (Lecture: 2.00–3.00pm) W. 3 Feb.</p> <p>PROF. I. HUGHES Disorders of sex development. Th. 4 Feb.</p> <p>DR C. ACERINI Growth disorders of childhood. F. 5 Feb.</p> <p>DR E. REID Hereditary spastic paraplegia. M. 8 Feb.</p> <p>DR D. O'DONOVAN Biology and Pathology of muscular dystrophy. (Lecture: 2.00–3.00pm) M. 8 Feb.</p> <p>DR R. ILES Molecular and cell biology of cystic fibrosis. Tu. 9 Feb.</p> <p>Cardiorespiratory disease</p> <p>DR J. RUDD Atherosclerosis. W. 10 Feb.</p> <p>DR W. OUWEHAND Molecular and genetic mechanisms of arterothrombosis. (Lecture: 2.00–3.00pm) W. 10 Feb.</p> <p>PROF. M. BENNETT Pathobiology of intervention in coronary artery Disease Th. 11 Feb.</p> <p>PROF. M. BENNETT Coronary artery disease. (Case study: starts at 11.45am). Th. 11 Feb.</p> <p>DR M. GODDARD Ischaemic cardiomyopathy. M 22 Feb.</p> <p>DR J. H. XUEREB Infectious endocarditis – Part I. (Case study) M. 22 Feb.</p> <p>DR M. GODDARD Pathophysiology of pulmonary microvasculature. Tu. 23 Feb.</p> <p>DR J. H. XUEREB Infectious endocarditis – Part II. (Case study) Tu. 23 Feb.</p> <p>DR M. GRIFFITHS Chronic airways narrowing and alveolar wall destruction. W. 24 Feb.</p> <p>DR J. H. XUEREB Restrictive lung disease. (Case study) W. 24 Feb.</p> <p>Disorders of the skin</p> <p>DR J. STERLING Normal and abnormal skin structure. (Lecture: 11.30am–12.30pm) Th. 25 Feb.</p> <p>DR J. STERLING Skin as a renewable organ. (Lecture: 2.00–3.00pm) Th. 25 Feb.</p> <p>DR N. BURROWS Ehlers-Danlos syndrome. (Case study: starts at 10.30am). M. 1 Mar.</p> <p>DR J. STERLING Skin as organ of immunity. (Lecture: 2.00–3.00pm). M. 1 Mar.</p>	
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NATURAL SCIENCES TRIPOS, PART II (continued)

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<p>Pre-cancer and cancer DR J. WOODWARD Coeliac disease: malabsorption and malignancy. F. 20 Nov. DR J. WOODWARD Steatorrhoea. (Case study) F. 20 Nov. DR D. RASSL Lung cancer. M. 23 Nov. DR R. RINTOUL Lambert-Eaton syndrome. (Case study) M. 23 Nov. DR M. ARENDS Familial predisposition to cancer: colorectal cancer. Tu. 24 Nov. DR J. H. XUEREB Pancoast's syndrome. (Case study) Tu. 24 Nov. DR E. CAMERON Helicobacter infection, ulceration and malignancy. W. 25 Nov. DR E. CAMERON Reflux, Barrett's oesophagus and oesophageal carcinoma. (Case study) W. 25 Nov. PROF. C. CALDAS Molecular biology of breast cancer. Th. 26 Nov. DR A. CLUROE, DR S. BARTER, DR J. BENSON AND DR M. MOODY A lump in the breast: a multidisciplinary approach to cancer. (Case study) Th. 26 Nov. DR M. ARENDS Infection and cancer: molecular biology of cervical cancer. F. 27 Nov. DR H. SIMPSON Thyroid cancer. (Lecture: 2.30–3.30pm) F. 27 Nov. DR M. GURNELL Approach to the problem of an enlarged thyroid gland. (Case study) M. 30 Nov. DR E. HOOK Biology of some childhood neoplasms. Tu. 1 Dec. DR A. IBRAHIM Epigenetics in carcinogenesis. W. 2 Dec. PROF. D. FEARON Tumor immunology. Th. 3 Dec. PROF. V. P. COLLINS Cerebral gliomas: the pathway and molecular biology. F. 4 Dec. DR J. H. XUEREB Cerebral oedema and intracranial pressure. (Case study) F. 4 Dec.</p>	<p>DR J. STERLING Disorders of the skin immune system. (Lecture: 11.30am–12.30pm) Tu. 2 Mar. DR J. STERLING Bullous skin disease. (Case study). Tu. 2 Mar. Neurodegeneration DR J. H. XUEREB Alzheimer's disease. W. 3 Mar. DR J. H. XUEREB Non-Alzheimer dementia: abnormalities of tau. (Lecture: 11.30am–12.30pm) Th. 4 Mar. DR R. DAVIES Tau-related dementia syndromes. (Case study). Th. 4 Mar. DR J. H. XUEREB Movement disorders: ubiquitin-proteasome and mitochondrial dysfunction. F. 5 Mar. DR R. BARKER Movement disorders. (Case study). F. 5 Mar. Hepatobiliary disease DR M. HOARE Virological and immunological aspects of hepatotropic viruses. M. 8 Mar. DR J. H. XUEREB Patterns and pathogenesis of liver disease –I (Lecture: 12.00–1.00pm) Tu. 9 Mar. DR J. H. XUEREB Patterns and pathogenesis of liver disease –II W. 10 Mar. DR W. GRIFFITHS Cirrhosis of the liver. (Case study) (Lecture: 11.30am–1.00pm) Th. 11 Mar. DR R. PRASEEDOM Surgical aspects of jaundice. (Case study) Th. 11 Mar.</p>	
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NEUROSCIENCE

Course organiser: Dr Tim Bussey (email: tbj1000@cam.ac.uk)
Course Website: www.pdn.cam.ac.uk/teaching/

The Biological and Biomedical Sciences (Major Subject Neuroscience) course consists of any four of the eight modules offered for Part II Neuroscience. (see p. 190).

Detailed timetables will be posted in the Department

PATHOLOGY

Course Organiser: Dr A. Kelly (email: apk23@cam.ac.uk)
Course Website: www.path.cam.ac.uk/ugrad/third-year.html

All lectures will be given in the *Department of Pathology* unless otherwise stated.

The Biological and Biomedical Sciences (Major Subject Pathology) course consists of a choice of two out of the five modules of NST Part II Pathology (see p. 192).

(however, a combination of modules A and E is prohibited).

PHARMACOLOGY

Course Organiser: Prof. C. Taylor (email: cwt1000@cam.ac.uk)
Course Website: www.phar.cam.ac.uk/teaching/tea_part2.html

The Biological and Biomedical Sciences (Major Subject Pharmacology) course consists of the same lectures as for NST Single Subject Pharmacology (see p. 193).

NATURAL SCIENCES TRIPOS, PART II (continued)**PHYSIOLOGY, DEVELOPMENT AND NEUROSCIENCE**

Course organiser: Dr J. Rogers (email: jhr11@cam.ac.uk)
 General enquiries: Paul Frost and Vicky Johnson (Room E4, Physiology), or: pdn-part2-admin@lists.cam.ac.uk
 Course Website: www.pdn.cam.ac.uk/teaching/

The Biological and Biomedical Sciences (Major Subject Physiology, Development and Neuroscience) course consists of a series of lectures and seminars in a framework of modules offered for NST Part II P.D.N. The combinations offered are: Development and Reproductive Biology: P3, P4, P6, P7. Integrative Physiology: P1, P3, P7, P8. (see p. 194)

Detailed timetables will be posted in the Department

PLANT SCIENCES

Course Organiser: Prof. H. Griffiths (email: hg230@cam.ac.uk)
 Course Website: www.plantsci.cam.ac.uk/teaching/psii/index.html

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

The Biological and Biomedical Sciences (Major Subject Plant Sciences) course consists of lectures from modules from NST Part II Plant Sciences. Students can offer either Cellular Plant Sciences (modules M1, M2, L1 and L2), or Ecological Plant Sciences (modules M3 and either M1 or Zoology M3; and L2, Zoology. L2). (see p. 200)

PSYCHOLOGY

Course Organiser: Dr L. Clark (email lc260@cam.ac.uk)
 Course Website: www.psychol.cam.ac.uk/pages/undgrad.html#Courseb

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

The Biological and Biomedical Sciences (Major Subject Psychology) course consists of the same lectures as for NST Part II Psychology (see p. 201)

ZOOLOGY

Course Organiser: Prof. A. Balmford (email: apb12@cam.ac.uk)
 Course Website: www.zoo.cam.ac.uk/degree/2zoology/index.html

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

The Biological and Biomedical Sciences (Major Subject Zoology) course offers six Major Subjects, made up of modules offered in NST Part II Single Subject Zoology (see p. 202) and some modules offered in NST Part II Plants Sciences (see p. 200) and NST Part II Genetics (see p. 185) and NST Part II PDN (see p. 194). The following combinations are available:

Cells and Development: Choice of two modules from M6, M7 or M8 and a choice of two modules from L5, L6 or L7

Behaviour: Modules M4, M5, L2 and L3.

Vertebrate Biology: Two modules chosen from M1, M3 or M5 and L1 and L3.

Ecology and Conservation: Two modules from M2, M3 or M5 and L2 and L3

Ecology and Genetics: Two modules chosen from M2, M3 or M5, and two chosen from L2, L3 or the Genetics module M5 (Evolutionary Genetics)

Ecology and Plant Sciences: Two modules from M2 and M3, or Plant Sciences M3 (Dynamics, History and Future of Vegetation) and L2, L3

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2009

LENT 2010

EASTER 2010

MINOR SUBJECTS

BIOLOGY OF PARASITISM

Course Organiser: Dr S. Lloyd (email: ssl1000@hermes.cam.ac.uk)
 Course Website: <http://www.bio.cam.ac.uk/sbs/facbiol/bbs/bop.html>

All lectures take place in *the Department of Pathology* on M. Tu. Th. 4 unless otherwise stated.

Lecture 1. Overview of developments. Basic morphology and life cycles
 Lectures 2–6. Adaptations for transmission. Structural and behavioural modifications including host recognition by free-living stages (trematodes, nematodes, arthropods),
 Lectures 7–11. Epidemiology of fasciolosis, gastrointestinal nematodes and ticks and their associated diseases (liver pathology, anaemia, disease transmission, including endemic stability of infections)
 Lectures 12–14. Recognition of and development of *Plasmodium*, *Leishmania* and *Trypanosoma* in intermediate hosts
 Lecture 15, 16. Innate invertebrate responses to parasites
 Lectures 17–23. Zoonoses (*Taenia*, *Echinococcus*, *Toxocara*, *Cryptosporidium* *Giardia*, *Toxoplasma*)

Lectures 24–26. Zoonoses (*Trichinella*, fish-borne trematodes and arthropods)
 Lectures 27–31. Chemotherapy and resistance to insecticides and anthelmintics
 Lecture 32–35. Alternate methods of control, including bioinsecticides and biological control

BIOLOGICAL ANTHROPOLOGY

Course Organiser: Dr T. Kivisild (email: tk331@cam.ac.uk)
 Course Website: <http://www.bio.cam.ac.uk/sbs/facbiol/bbs/BioAnthWeblink.pdf>

The Biological and Biomedical Sciences (Minor Subject Biological Anthropology) courses consist of any one of the following three papers, which form part of Part IIB Biological Anthropology: Paper BA1: The Human Animal, Paper BA2: The Human Journey, or Paper BA3: The Human Lifespan (see p. 218)

EDUCATION STUDIES

Course Organisers: Dr J. Whitehead (Psychology of Education, email: jmw3@cam.ac.uk), Dr I. Frowe (Philosophy of Education, email: ilf21@cam.ac.uk), Dr R. Moore (Sociology of Education, email: rm233@cam.ac.uk), Dr P. Gardner (History of Education, email: pwg1000@cam.ac.uk)

Further information can be obtained at <http://www.educ.cam.ac.uk/undergradstudy/>

The Biological and Biomedical Sciences (Minor Subject Education) courses consist of any one of the following papers from Part II of the Education Studies Tripos:
 Psychology of Education, Sociology of Education, Philosophy of Education, History of Education (see p. 239)

GENETICS

Course Organisers: Dr C. Farr and Dr S. Russell (email: partII.organisers@gen.cam.ac.uk)
 Course Website: www.gen.cam.ac.uk/

The Biological and Biomedical Sciences (Minor Subject Genetics) courses consist of any one of modules M2, M4 or M5 offered for NST Part II Genetics (see p. 185)
 A detailed timetable for this course will be available in the Department of Genetics.

HISTORY OF MEDICINE

Course Organiser: Dr L. Kassell (email: ltk21@cam.ac.uk)

Students can choose one of the following two papers, which form part of NST Part II History and Philosophy of Science
 Paper 7: Medicine from Antiquity to the Enlightenment or Paper 8: Modern Medicine and Biomedical Sciences (see p. 188)

Students taking the BBS one-paper subjects in History of Medicine should come to the Part II induction meeting on Wednesday 7 October at 11am in Seminar Room 2, Department of History and Philosophy of Science, Free School Lane.

NATURAL SCIENCES TRIPOS, PART II (continued)

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HISTORY AND ETHICS OF MEDICINE

Course Organiser: Dr T. Lewens (email: tml1000@cam.ac.uk).
 Further information can be obtained at www.hps.cam.ac.uk/students

Lectures are held in *Mill Lane Lecture Room 4*.

DR T. LEWENS, DR K. BROSNAN AND DR S. JOHN

Medical Ethics. Tu. 4 (weeks 1–8)

PROF. J. FORRESTER, DR V. HEGGIE AND DR L. KASSELL

History of Medicine. M. 4 (weeks 1–8)

The same continued. Tu. 4 (weeks 1–4)

The same continued. M. 4 (weeks 1–4)

NEUROSCIENCE

Course organiser: Dr J. Rogers (email: jhr11@cam.ac.uk)

General enquiries: Paul Frost and Vicky Johnson (Room E4, Physiology), or: pdn-part2-admin@lists.cam.ac.uk

Course Website: www.pdn.cam.ac.uk/teaching/

The Biological and Biomedical Sciences (Minor Subject Neuroscience) courses consist of (either module N5 or N6). (see p. 190)

SOCIAL AND POLITICAL SCIENCES

Course Website: <http://www.ppsis.cam.ac.uk/current/undergraduate/index.html>

The Biological and Biomedical Sciences (Minor Subject Social and Political Sciences) courses consist of either of the following two papers, which form part of Social and Political Sciences Tripos Part II

Course Organiser: Dr D. Weinberg (email: dtw23@cam.ac.uk)

Paper Soc 10: Medicine, Body, and Society (see p. 124)

Course Organiser: Prof. S. Golombok (e-mail seg42@cam.ac.uk)

Paper Int 5: The Family (see p. 124)

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CHEMISTRY (OPTION A AND OPTION B)
PHYSICAL SCIENCES: HALF SUBJECT CHEMISTRYCourse Organiser: Dr J. H. Keeler (email: jhk10@cam.ac.uk)
Course Website: www-teach.ch.cam.ac.ukAll 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 0900 and 1300 or 1400 and 1600 on Tu. 6 Oct.

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 Organiser. 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 1200 on W. 7 Oct. in the *Pfizer Lecture Theatre*.All lectures will be given in the *Department of Chemistry, Lensfield Road* unless otherwise stated.EXPERIMENTAL AND THEORETICAL PHYSICS
PHYSICAL SCIENCES: HALF SUBJECT EXPERIMENTAL AND THEORETICAL PHYSICSDepartmental Contact: Dr R. Padman (email: II-physics@phy.cam.ac.uk)
Course Website: www.phy.cam.ac.uk/teaching/Students offering **Option A** must take all 4 **Core courses** in the Michaelmas Term, 2 of the **Options courses** in the Lent and Easter Terms, and **Computational Physics**. They must in addition take either **Physics in Action** or **Physics Education** or both, and a suitable selection from **Theoretical Options** and **Other Further Work**.Students offering **Option B** must take all 4 **Core courses** in the Michaelmas Term, 3 of the **Options courses** in the Lent and Easter Terms, and **Computational Physics**. They must in addition take 3 courses from **Physics Education**, **Theoretical Options** and **Other Further Work**.The material of the **Theoretical Options** is examined at the start of the term following that in which each block, TP1 and TP2, is given.All students are recommended to attend the **Non-examinable courses** Concepts in Physics and Current Research Work in the Cavendish Laboratory.The course will begin with a meeting on the first Wednesday of Full Term (7 Oct.) at 9.30 a.m. in the *Pippard Lecture Theatre*.Students taking Half Subject Experimental and Theoretical Physics as part of Part II Physical Sciences will take any 2 of the **Core courses** in the Michaelmas term and any one of the **Options courses** in the Lent and Easter terms. Candidates also take 2 units of further work selected from **Theoretical Options**, **Physics in Action**, **Physics Education** and **Other Further Work**. A prior knowledge of Physics equivalent to the material covered in Part IB Physics A and Part IB Physics B will be assumed.Lectures are given at the *Cavendish Laboratory (West Cambridge)*, in the *Pippard Lecture Theatre* unless otherwise stated.**Core Courses**PROF. E. M. TERENTJEV
Thermal and Statistical Physics. (Eighteen lectures) W. 11
(First two weeks only) Tu. F. 9
PROF. B. D. SIMONS
Advanced Quantum Physics. M. W. Th. 9
DR H. P. HUGHES
Optics and Electrodynamics. M. W. 10
DR M. HAEHNELT
Relativity Tu. Th. F. 10 *Sackler Lecture Theatre, IoA***Computational Physics****Non-examinable courses**PROF. C. D. MACKAY
Topics in Astrophysics. Tu. Th. F. 11 *Sackler Lecture Theatre, IoA***Theoretical Options**PROF. B. R. WEBBER AND PROF. W. J. STIRLING
Theoretical Physics TP1. M. W. 12 (Twelve lectures
beginning 12 Oct.); Tu. 2–4 (Four classes, 20 Oct.,
3 Nov., 17 Nov., 1 Dec.)**Physics in Action****Options Courses**DR M. GROSCHE
Quantum Condensed Matter Physics. Tu. Th. 10
PROF. C. J. CLARKE
Astrophysical Fluids. M. W. F. 9 *Sackler
Lecture Theatre, IoA*
PROF. D. R. WARD AND DR C. G. LESTER
Particle and Nuclear Physics. M. W. 10
DR P. CICUTA
Soft Condensed Matter. T. Th. 9DR J. S. RICHER AND OTHERS
Computational Physics. M. W. 12 (First eight
lectures)PROF. P. B. LITTLEWOOD
Concepts in Physics. M. W. 12 (Eight lectures
beginning 22 Feb.)
THE STAFF OF THE CAVENDISH LABORATORY
Current Research Work in the Cavendish
Laboratory (not examinable). See Part III
Experimental and Theoretical Physics
(p. 205)PROF. M. C. PAYNE AND PROF. N. J. COOPER
Theoretical Physics TP2. Tu. Th. 12 (Twelve
lectures, beginning 21 Jan.); Tu. 2–4 (Four
classes, 26 Jan., 9 Feb., 23 Feb., 9 Mar.)DR J. S. RICHER AND PROF. A. M. DONALD
Physics in Action. F. 11.30 *Mott Seminar Room*
Group Project Work. F. 2–4 *Ryle Seminar Room***Options Courses (continued)**DR M. GROSCHE
The same continued. Tu. W. F. 10 (First six
lectures)
PROF. D. R. WARD AND DR C. G. LESTER
The same continued. M. W. F. 9 (First six
lectures)
DR P. CICUTA
The same continued. M. 10. Tu. Th. 9 (First
six lectures)

NATURAL SCIENCES TRIPOS, PART II (continued)

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Physics EducationDR L. JARDINE-WRIGHT AND OTHERS
Physics Education.**Other Further Work**DR W. ALLISON AND OTHERS
Experiment E1.
DR F. M. GROSCHE AND OTHERS
Research Review.
DR D. F. BUSCHER
Long Vacation ProjectDR L. JARDINE-WRIGHT AND OTHERS
The same continued.DR W. ALLISON AND OTHERS
Experiment E2.
DR F. M. GROSCHE AND OTHERS
The same continued.**GENETICS**Course Organisers: Dr C. Farr and Dr S. Russell (email: partII.organisers@gen.cam.ac.uk)
Course Website: www.gen.cam.ac.uk/Camonly/Part2camonly/index.htmAll lectures take place in the *Part II Lecture Room (G6)*, Department of Genetics, on M. Tu. W. Th. F., unless otherwise stated.

A detailed timetable for this course will be available in the Department of Genetics.

M3: Developmental GeneticsDR J. AHRINGER, PROF. D. ST JOHNSTON, PROF. A. MARTINEZ-ARIAS, DR B. SANSON, DR S. BRAY AND PROF. F. WATT
(Twenty-four lectures, beginning 8 Oct.)**M2: Plant and Microbial Genetics**DR P. OLIVER, MR C. FIELD, DR J. ARCHER AND DR I. FURNER
(Twenty-four lectures, beginning 8 Oct.)**M1: Chromosomes, the Cell Cycle and Cancer**PROF. D. GLOVER, DR C. FARR, DR V. DRAVIAM, DR C. LINDON AND PROF. M. ASHBURNER
(Twelve lectures, beginning 16 Nov.)**M4: Human Genetics, Genomics and Systems Biology**DR D. MACDONALD, DR R. LOOS, DR C. FARR, DR S. RUSSELL, DR G. MICKLEM AND PROF. M. ASHBURNER
(Twelve lectures, beginning 16 Nov.)**Long Reading Weekend.** 6 Nov. – 9 Nov.**M5: Evolutionary Genetics**DR F. JIGGINS, DR D. MACDONALD, DR C. TYLER-SMITH AND DR R. WARE
(Twenty-four lectures, beginning 13 Jan.)**M1: Chromosomes, the Cell Cycle and Cancer**

The same continued. (Twelve lectures, beginning 13 Jan.)

M4: Human Genetics, Genomics and Systems Biology

The same continued. (Twelve lectures, beginning 27 Jan.)

Reading Week. 8 Feb. – 12 Feb.**GEOLOGICAL SCIENCES AND MINERAL SCIENCES****PHYSICAL SCIENCES: HALF SUBJECT GEOLOGICAL SCIENCES AND MINERAL SCIENCES**Course Website: <https://camtools.caret.cam.ac.uk/> and <http://www.esc.cam.ac.uk/teaching/geological-sciences> and <http://www.esc.cam.ac.uk/teaching/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 GeophysicsPROF. J. A. JACKSON, DR F. TILMANN AND PROF. D. MCKENZIE
Convenor: Prof. J. A. Jackson
Lectures. Tu. Th. 9 *Harker Room*
Practicals. Tu. Th. 10–12 *Petrology Laboratory***Core C2 Petrology and Geochemistry**DR T. J. B. HOLLAND, DR A. GALY AND DR S. GIBSON
Convenor: Dr T. J. B. Holland
Lectures. T. F. 2 *Harker Room*
Practicals. T. F. 3–5 *Petrology Laboratory***Core C3 Sedimentology and Palaeontology**DR N. HOVIUS, DR K. MCNAMARA AND DR L. HARPER
Convenor: Dr N. Hovius
Lectures. W. F. 9 *Harker Room*
Practicals. W. F. 10–12 *Palaeontology Laboratory***Option 1 Basin Dynamics**DR N. J. WHITE ET AL
Convenor: Dr N. J. White
Lectures. Tu. Th. 2 *Tilley Room*
Practicals. Tu. Th. 3–4.30 *Petrology Laboratory*

The same continued. (Eight revision sessions)

Option 2 Earth's Critical ZoneDR A. GALY, DR N. HOVIUS, DR A. TURCHYN
Convenor: Dr N. Hovius
Lectures. W. F. 9 *Harker Room*
Practicals. W. F. 10–11.30 *Petrology Laboratory*

The same continued. (Eight revision sessions)

Option 3 Metamorphic and Igneous ProcessesPROF. M. J. BICKLE, DR M. EDMONDS AND DR J. MACLENNAN
Convenor: Prof. M. J. Bickle
Lectures. M. W. 2 *Harker Room*
Practicals. M. W. 3–4.30 *Palaeontology Laboratory*

The same continued. (Eight revision sessions)

NATURAL SCIENCES TRIPOS, PART II (continued)

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Core C4 Mineralogy

PROF. M. A. CARPENTER AND DR R. J. HARRISON

Convenor: Dr R. J. Harrison

Lectures. M. 9, W. 2 *Harker 2 room***Practicals.** M. 10–12, W. 3–5 *IB Mineralogy Laboratory***Core C5 Mineral Physics**

PROF. E. ARTACHO, DR K. TRACHENKO AND MR P. WELCHE

Convenor: Prof. E. Artacho

Lectures. W. 9, F. 2 *Harker 2 room***Practicals.** W. 10–12, F. 3–5 *IB Minerals Laboratory***Skills Course S1**

DR N. H. WOODCOCK

Convenor: Dr N. H. Woodcock

Harker Room and Computer Room (First two weeks)

M. Tu. W. Th. F. 12–1 and M. Th. 2–5

Field Course to Greece

4–12 December or 8–16 December

DR N. J. WHITE AND PROF. R. S. WHITE

Option 4 Climate Change

PROF. D. HODELL, DR A. PIOTROWSKI, DR L.

SKINNER, DR A. TURCHYN

Convenor: Prof. D. Hodell

Lectures. Tu. Th. 9, *Harker Room***Practicals.** Tu. Th. 10–11.30, *Petrology Laboratory*

The same continued. (Eight revision sessions)

Option 5 Evolutionary Palaeobiology

DR D. B. NORMAN

Convenor: Dr D. B. Norman

Lectures. M. 9, F. 2 *Harker Room***Practicals.** M. 10–11.30, F. 3–4.30
Palaeontology Lab

The same continued. (Eight revision sessions)

Option M1 Mineralogy of the Deep Earth

DR A. DEUSS, PROF. S. A. T. REDFERN AND PROF. E.

ARTACHO

Convenor: Prof. S. A. T. Redfern

Lectures: Tu. F. 2 *Harker 2 room***Practicals.** Tu. F. 3–4.30 *IB Minerals Laboratory*

The same continued. (Eight revision sessions)

Option M2 Phase Transitions

PROF. M. T. DOVE, PROF. M. A. CARPENTER AND DR

I. FARNAN

Convenor: Prof. M. T. Dove

Lectures. M. 9, W. 2 *Harker 2 room***Practicals.** M. 10–11.30, W. 3–4.30 *IB Minerals Lab.*

The same continued. (Eight revision sessions)

Option M3 Dynamics of atoms in Minerals

PROF. M. T. DOVE, PROF. S. A. T. REDFERN AND DR I.

FARNAN

Convenor: Dr I. Farnan

Lectures. Th. 2, F. 9 *Harker 2 room***Practicals.** Th. 3–4.30, F. 10–11.30 *IB Minerals*

The same continued. (Eight revision sessions)

HISTORY AND PHILOSOPHY OF SCIENCE

Course Organiser: Dr L. Kassell (email: ltk21@cam.ac.uk)A detailed timetable and course handbook are available from the Department and at www.hps.cam.ac.uk/timetable*Dr Kassell would like to see all Part II students taking HPS on Wednesday 7 Oct. at 11 a.m. in Seminar Room 2, Department of History and Philosophy of Science. All classes and seminars will be held in the History and Philosophy of Science Seminar Rooms, Free School Lane unless otherwise stated.***Primary Source Seminars***It is essential that students attend four seminars: three from the papers they are taking and one other.*

Paper 1: DR L. TAUB, PROF. N. JARDINE AND DR S. KUSUKAWA

Galileo Galilei, *Sidereus Nuncius* (*The Sidereal Messenger*, or, *Starry Messenger*). W. 4 (weeks 1–4)

Paper 2: DR N. REEVES, DR P. FARA AND MR R. GASKELL

Sir James Pringle, *Six discourses delivered on the occasion of six annual assignments of Sir Godfrey Copley's Medal* (1783). W. 11 (weeks 1–4)

Paper 3: PROF. J. SECORD, DR P. WHITE, MS S. INNES AND DR A. PEARN

Selected letters from Charles Darwin's correspondence (www.darwinproject.ac.uk). Tu. 12 (weeks 1–4)

Paper 4: DR S. BANGU, DR C. MCLEISH AND DR T. LEVENS

Larry Laudan, 'A Confutation of Convergent Realism' (1981). Th. 10 (weeks 1–4)

Paper 5: DR A. BROADBENT AND DR S. JOHN

The International Panel on Climate Change's Fourth Assessment Synthesis Report. Tu. 4 (weeks 1,3–5)

Paper 6: PROF. J. FORRESTER

Foucault, *Abnormal*. W. 2 (weeks 1–4)

Paper 7: DR L. KASELL AND DR R. RALLEY

Helkiah Crooke, *Microcosmographia* (1615), Book 4. F. 12 (weeks 1–4)

Paper 8: DR R. BARNETT

John Snow, 'On the Mode of Communication of Cholera' (1849, 1855). Tu. 2 (weeks 1–4)

Paper 9: PROF. N. JARDINE AND MS H. MACDONALD

C.P. Snow, *The Two Cultures and the Scientific Revolution* (1959) and F.R. Leavis, *Two Cultures? The Significance of C.P. Snow* (1962). M. 10 (weeks 1–4)*Lab.***Dissertation Seminars**

Tu. W. 4 (weeks 3–6)

It is essential that students attend at least two of these seminars.

NATURAL SCIENCES TRIPOS, PART II (continued)

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(Paper 1) Classical Traditions in the Sciences

Course Organisers: Dr E. Robson (email: er264@cam.ac.uk) and Dr L. Taub (email: lct1001@cam.ac.uk)

DR L. TAUB, PROF. N. JARDINE AND DR S. KUSUKAWA
Primary Source. W. 4 (weeks 1–4)
PROF. N. JARDINE, PROF. R. MCKITTERICK AND DR L. TAUB
Introduction. F. 11 (weeks 1–4)
DR L. TAUB AND DR C. EAGLETON
Instruments, Books and Collections. F. 11 (weeks 5–8)
DR L. TAUB
Ancient Mediterranean Science. Tu. 11 (weeks 1–8)
DR A. CUNNINGHAM
Sects and Nature. M. 2 (weeks 5–8)

(Paper 2) Natural Philosophies: Renaissance to Enlightenment

Course Organiser: Dr N. Reeves (email: nr218@cam.ac.uk)

DR N. REEVES, DR P. FARA AND MR R. GASKELL
Primary Source. W. 11 (weeks 1–4)
DR N. REEVES, DR P. FARA, MR R. GASKELL AND MS N. KAOUKJI
Natural Philosophy and Exact Sciences. Tu. 3 (weeks 1–8); W. 11 (weeks 5–8)

(Paper 3) Science, Industry and Empire

Course Organiser: Prof. J. Secord (email: jas1010@cam.ac.uk)

PROF. J. SECORD, DR P. WHITE, MS S. INNES AND DR A. PEARN
Primary Source. Tu. 12 (weeks 1–4)
PROF. J. SECORD
Science, Industry and Empire: An Introduction. F. 2 (weeks 1–4)
DR R. BARNETT
Evolution, Time and Progress. W. 10 (weeks 1–8)
DR N. HOPWOOD, DR V. HEGGIE AND DR N. REEVES
Laboratories, Disciplines and Exhibitions. F. 2 (weeks 5–8); Tu. 12 (weeks 5–8)

(Paper 4) Metaphysics, Epistemology and the Sciences

Course Organisers: Dr T. Lewens (email: tml1000@cam.ac.uk) and Dr S. Bangu (email: sib24@cam.ac.uk)

DR S. BANGU, DR C. MCLEISH AND DR T. LEWENS
Primary Source. Th. 10 (weeks 1–4)
DR A. BROADBENT
Causation, Explanation and Law. M. 11 (weeks 1–8)
(*Mill Lane Lecture Room 4*)
DR T. LEWENS AND DR S. BANGU
Induction and the Sciences. W. 12 (weeks 1–8) (*Mill Lane Lecture Room 4*)
DR S. BANGU
Philosophy of Physics. Th. 10 (weeks 5–8)

(Paper 5) Science in Society

Course Organiser: Dr A. Broadbent (email: abb24@cam.ac.uk)

DR A. BROADBENT AND DR S. JOHN
Primary Source. Tu. 4 (weeks 1, 3–5)
DR N. HOPWOOD AND DR R. BARNETT
Reproductive Technologies. F. 3 (weeks 1–8)
DR A. BOSTANCI
Sociology of Scientific Knowledge. M. 3 (weeks 1–8)

DR E. ROBSON
Patronage and Science in the Middle East. W. 11 (weeks 1–8)
PROF. SIR GEOFFREY LLOYD
Greek and Chinese Science. M. 3 (weeks 1–4)
DR N. EL-BIZRI AND DR S. MALIK
Arabic Science. M. 3 (weeks 5–8)
DR A. CUNNINGHAM
Quicksilver: A Social History of Mercury. Th. 2 (weeks 5–8)

PROF. N. JARDINE, DR E. SPARY AND DR P. WHITE
Natural Histories. M. 11 (weeks 1–8)
DR L. KASSELL
Occult Philosophy. Th. 3 (weeks 1–8)
DR C. EAGLETON
Instruments, Models and Tools. F. 10 (weeks 1–4)
DR C. CULLEN
Science and Cross-Cultural Encounter in China: From Matteo Ricci to the Macartney Embassy. F. 10 (weeks 5–8)

PROF. J. SECORD
Science and Empire. Tu. 11 (weeks 1–8)
DR P. WHITE
The Experimental Novel. M. 10 (weeks 1–4)
DR E. ROBSON
Empire, Science and Biblical Archaeology. M. 10 (weeks 5–8)
DR S. QURESHI
Science and Race. W. 10 (weeks 5–8)

DR T. LEWENS AND DR K. BROSNAN
Philosophy of Biology. Tu. 10 (weeks 1–8)
PROF. J. FORRESTER
Thinking in Cases. Th. 11 (weeks 1–4)
DR S. BANGU
Philosophy of Mathematics. Th. 11 (weeks 5–8)
DR C. MCLEISH
The Language of Scientific Theories. M. 2 (weeks 1–4)

DR E. ROBSON
The Material Culture of Mathematics. Th. 12 (weeks 1–8)
DR A. NATHOO AND PROF. J. SECORD
Science Communication. W. 12 (weeks 1–8)
DR P. FARA, PROF. J. FORRESTER, DR S. QURESHI AND DR E. ROBSON
Science and Gender. F. 3 (weeks 1–4)
DR T. LEWENS
Bioethics. F. 3 (weeks 5–8)

NATURAL SCIENCES TRIPOS, PART II (continued)

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(Paper 6) History and Philosophy of Mind

Course Organiser: Prof. J. Forrester (email: jpf11@cam.ac.uk)

PROF. J. FORRESTER

Primary Source. W. 2 (weeks 1–4)

PROF. J. FORRESTER

Freud, Psychoanalysis and the Twentieth Century.

Th. 11 (weeks 1–8); W. 2 (weeks 5–8)

DR D. THOM

Eugenics and Psychology in the UK, 1869–1971. M. 2 (weeks 1–4)

DR A. BROADBENT

Mind, Knowledge and Meaning. F. 10 (weeks 1–8) (*Mill Lane Lecture Room 4*)**(Paper 7) Medicine from Antiquity to the Enlightenment**

Course Organiser: Dr L. Kassell (email: ltk21@cam.ac.uk)

DR L. KASSELL AND DR R. RALLEY

Primary Source. F. 12 (weeks 1–4)

PROF. SIR GEOFFREY LLOYD, DR R. FLEMMING, DR D. LEITH AND DR C. SALAZAR

Medicine and Society in Greco-Roman Antiquity F. 12 (weeks 5–8)

DR L. KASSELL, DR R. RALLEY, DR H. POWELL AND DR E. BRENNER

Medicine and Society, 1100–1700. Th. 3 (weeks 1–8)

(Paper 8) Modern Medicine and Biomedical Sciences

Course Organiser: Dr N. Hopwood (email: ndh12@cam.ac.uk)

DR R. BARNETT

Primary Source. Tu. 2 (weeks 1–4)

DR N. HOPWOOD, DR R. BARNETT AND DR V. HEGGIE

Making Modern Medicine. M. 12 (weeks 1–5); Tu. 2 (weeks 5–6); Th. 2 (weeks 1–5)

DR R. BARNETT, DR V. HEGGIE AND DR N. HOPWOOD

Medicine in the Twentieth Century. M. 12 (weeks 6–8); Tu. 2 (weeks 7–8); Th. 2 (weeks 6–8)

(Paper 9) Images of the Sciences

Course Organiser: Prof. N. Jardine (email: nj103@cam.ac.uk)

PROF. N. JARDINE AND MS H. MACDONALD

Primary Source. M. 10 (weeks 1–4)

PROF. N. JARDINE, PROF. J. FORRESTER AND DR T. LEWENS

Ideologies of Science. Tu. 10 (weeks 1–8); M. 10 (weeks 5–8)

DR M. FRASCA-SPADA AND DR S. JOHN

Sources of Knowledge: Locke, Berkeley and Hume. Th. 12 (weeks 1–8)

DR N. TREANOR

Mind and Matter. F. 11 (weeks 1–4) (*Mill Lane Lecture Room 1*)

DR R. WOODWARD

Personal Identity. F. 11 (weeks 5–8) (*Mill Lane Lecture Room 1*)

PROF. G. BERRIOS

History of Psychopathology and Psychiatry. W. 2 (weeks 1–4)

PROF. T. CRANE

Meaning and Mental Representation. Th. 9 (weeks 5–8)

PROF. SIR GEOFFREY LLOYD, DR R. FLEMMING, DR D. LEITH AND DR C. SALAZAR

The same continued. F. 12 (weeks 1–8)

DR L. KASSELL, DR R. RALLEY, DR H. POWELL AND DR E. BRENNER

The same continued. F. 2 (weeks 1–8)

DR E. ROBSON

Mesopotamian Medicine. Tu. 2 (weeks 1–4)

DR L. KASSELL

How to Live Forever. Tu. 2 (weeks 5–8)

MR P. JONES

Medicine and Communication, 1375–1640. Th. 2 (weeks 1–4)

DR R. BARNETT

Birth and the Hospital. M. 12 (weeks 1–4)

PROF. J. FORRESTER

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

DR A. NATHOO

History and Politics of Global Health. Tu. 12 (weeks 1–4)

DR M. FRASCA-SPADA, PROF. N. JARDINE AND DR A. BREITNEBACH

Sources of Knowledge: Kant. Th. 10 (weeks 1–8)

PROF. N. JARDINE AND DR C. CHIMISSO

Histories of Science and their Uses. Tu. 3 (weeks 1–8)

DR P. FARA

People and Pictures. W. 10 (weeks 1–4)

Attention is drawn to courses announced by other authorities. Students are particularly advised to attend relevant courses in the Faculties of Classics, History, Philosophy, and Politics, Psychology, Sociology and International Studies.

NATURAL SCIENCES TRIPOS, PART II (continued)

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LENT 2010

EASTER 2010

MATERIALS SCIENCE AND METALLURGY

Course Organiser: Dr S. M. Best (email: PartII@msm.cam.ac.uk)
 Course Website: www.msm.cam.ac.uk/teaching/PartIIAB/

A detailed timetable is available on the Department course website, as above.

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

DR J. A. ELLIOTT

C1 Introduction to Materials Modelling (Six lectures)

DR K. M. KNOWLES

C3 Mathematical Methods. (Six lectures)

PROF. P. A. MIDGLEY

C4 Tensor Properties. (Twelve lectures)

PROF. H. K. D. BHADSHIA

C6 Crystallography. (Nine lectures)

PROF. A. H. WINDLE

C10 Structure and Properties of Polymers. (Twelve lectures)

DR K. M. KNOWLES

C12 Plasticity and Deformation Processing. (Nine lectures)

DR W. J. CLEGG

C13 Ceramics. (Nine lectures)

DR C. RAE

C15 Fracture, Fatigue and Deformation. (Twelve lectures)**Speakers from Industry**

Details available from the Department website.

Visit to Industry

Details available from the Department website.

Examples Classes

Timetable available on the Department website.

Practical Work

Details available from the Department website.

Management or Language Options

Details available from the Department website.

PROF. M. G. BLAMIRE

C5 Physical Properties. (Twelve lectures)

PROF. A. L. GREER

C7 Kinetics. (Nine lectures)

DR J. A. LITTLE

C8 Chemical Stability. (Nine lectures)

DR J. A. LITTLE

C9 Alloys (Nine lectures)

PROF. S. M. BEST

C11 Surfaces and Interfaces. (Six lectures)

PROF. R. E. CAMERON

C14 Polymer Processing. (Six lectures)

PROF. T. W. CLYNE

C16 Composite Materials. (Twelve lectures)

DR R. V. KUMAR

C17 Heat and Mass Transfer. (Six lectures)**Speakers from Industry**

Details available from the Department website.

Visit to Industry

Details available from the Department website.

Examples Classes

Timetable available on the Department website.

Practical Work and Literature Review

Details available from the Department website.

Management or Language Options

Details available from the Department website.

DR E. R. WALLACH

C2 Selection of Materials. (Six lectures)

PROF. S. M. BEST

C18 Biomaterials. (Six lectures)**Examples Classes**

Timetable available on the Department website.

Project

Details available from the Department website.

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2009

LENT 2010

EASTER 2010

NEUROSCIENCE

BIOLOGICAL AND BIOMEDICAL SCIENCES: MAJOR AND MINOR SUBJECT NEUROSCIENCE

Course Organiser: Dr T. J. Bussey (email: tjb1000@cam.ac.uk)
 Course Website: www.bio.cam.ac.uk/teaching/neuroscience

The course consists of a series of workshops, lectures and seminars around a framework of modules.
 Details and amendments to timetables will be posted on CamTools.

Module N1: Developmental Neurobiology

M. 9, Th. 9, F. 10

Module Organisers: Prof. R. J. Keynes (rjk10@cam.ac.uk)

Venue: Hodgkin Huxley Seminar Room

PROF. M. BATE

Neurogenesis and patterning (Six lectures, 8–19 Oct.)

DR G. M. W. COOK AND PROF. C. E. HOLT

Axon guidance (Four lectures, 22–29 Oct.)

DR M. LANDGRAF

Synapse formation (Three lectures: 30 Oct., 2 and 5 Nov.)

DR J. H. ROGERS

Synapse elimination and neurotrophic factors (Two lectures, 6 and 9 Nov.)

DR R. LIVESEY

Development of cerebral cortex (Three lectures, 12–16 Nov.)

PROF. W. A. HARRIS

Topographic map formation and tuning (Three lectures, 19–23 Nov.)

PROF. E. B. KEVERNE

Genetics and evolution of brain development (Three lectures, 26–30 Nov.)

Journal Clubs, Tu. 2–4 pm:

DR M. LANDGRAF (10 Nov.)

DR J. H. ROGERS (17 Nov.)

DR R. LIVESEY (24 Nov.)

Module N2: Molecular Neuroscience

(Molecular and Cellular Pharmacology) M. 10, W. 9, F. 9

Module Organiser: Dr L. Heisler (lkh30@cam.ac.uk)

Venue: Pharmacology Lecture Theatre

DR R. D. MURRELL-LAGNADO

Voltage-gated Ion channels. (Five lectures, 9–19 Oct.) M. 10, W. F. 9

DR S. CHAWLA

Regulation of Gene Transcription. (Two lectures, 21–23 Oct.) W. F. 9

DR B. BILLUPS

Glutamatergic Transmission. (Five lectures, 26 Oct.–4 Nov.) M. 10, W. F. 9

DR S. B. HLADKY

Cys-Loop Family of Ligand-gated Ion Channels. (Three lectures, 6–11 Nov.) M. 10, W. F. 9

PROF. C. W. TAYLOR

Ca²⁺ Signalling (Three lectures, 13–18 Nov.) M. 10, W. F. 9

PROF. J. M. EDWARDSON

Synaptic Mechanisms (Six lectures, 20 Nov.–2 Dec.) M. 10, W. F. 9

Module N5: Neural Degeneration and Regeneration

M. 9, W. 9, Th. 9

Module Organiser: Dr J. H. Rogers

(jhr11@cam.ac.uk)

Venue: Physiology Lecture Theatre 1 (M. and W. until 3 Feb.); Plant Sciences (from 4 Feb.)

DR J. H. ROGERS

Neurodegenerative diseases (Four lectures, 14–21 Jan.) [in Biffen Lec. Th. on 14 and 21 Jan.]

DR R. TASKER

Damage to neurons: Ischaemia, excitotoxicity, and stroke (Four lectures, 25 Jan. – 1 Feb.) [in Plant Sciences on 28 Jan.]

PROF. J. FAWCETT

Spinal cord injury (Two lectures, 3 and 4 Feb.)

DR J. H. ROGERS

Regeneration of axons (Four lectures, 8–15 Feb.)

DR R. BARKER

Parkinson's disease and neural grafting (Four lectures, 17–24 Feb.)

DR J. BETSCHINGER

Neural stem cells and adult neurogenesis (Three lectures: 25 Feb., 1 and 3 Mar.)

PROF. R. FRANKLIN

Glial degeneration and repair (Three lectures, 4–10 Mar.)

Module N6: Central Mechanisms of Sensation and Behaviour

Tu. 9, Tu. 11, Th. 10

Module Organiser: Prof. R. H. S. Carpenter

(rhsc1@cam.ac.uk)

Venue: Hodgkin Huxley Seminar Room

PROF. R. H. S. CARPENTER

Introduction to central processing (One lecture, 12 Jan.)

PROF. R. D. PATTERSON

Central processing of auditory information (Four lectures, 19–26 Jan.)

DR D. J. TOLHURST

Higher processing of visual information (Three lectures, 26 Jan. – 2 Feb.)

PROF. D. WOLPERT

Computational sensorimotor control (Four lectures, 2–9 Feb.)

PROF. R. H. S. CARPENTER

Neurobiology of decision (Four lectures, 11–18 Feb.)

PROF. W. SCHULTZ

Neurobiology of reward (Four lectures, 23 Feb.– 2 Mar.)

PROF. A. C. ROBERTS

Neural basis of emotion, and its regulation (Four lectures, 2–9 Mar.)

PROF. R. H. S. CARPENTER AND PROF. W. SCHULTZ

NeuroDebate (One workshop: F. Mar. 5, 2–4 pm)

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2009

LENT 2010

EASTER 2010

Module N3: Control of Action

Tu. 9, Tu. 11, F. 11

Module Organiser: Dr D. J. Parker (djp27@cam.ac.uk)

Venue: Hodgkin Huxley Seminar Room

PROF. R. H. S. CARPENTER

Introduction to the module (One lecture, 11 am on 6 Oct.)

DR T. HOLTZMAN

Cerebellum (Four lectures, 9–16 Oct.)

DR H. R. MATTHEWS

Long latency reflexes (Four lectures: 20, 23, 30 Oct.)

PROF. R. N. LEMON

Corticospinal system (Four lectures: 27 Oct. and 3 Nov.)

PROF. R. H. S. CARPENTER

Introduction to oculomotor control (One lecture: 6 Nov.)

PROF. R. H. S. CARPENTER

Oculomotor control (Six lectures: 10, 13, 20, 27 Nov., 1 Dec.)

PROF. J. C. ROTHWELL

Basal ganglia (Four lectures: 17 and 24 Nov.)

Module N4: Sensory Transduction

M. 12, W. 10, Th. 10

Module Organiser: Dr H. R. Matthews (hrm1@cam.ac.uk)

Venue: Anatomy Lecture Theatre

DR H. R. MATTHEWS

Vertebrate phototransduction (Five lectures, 7–19 Oct.)

PROF. R. HARDIE

Invertebrate phototransduction (Four lectures, 21–28 Oct.)

DR B. HEDWIG

Insect hearing (Two lectures: 29 Oct., 2 Nov.)

DR H. R. MATTHEWS

Muscle spindles (Two lectures: 4 and 5 Nov.)

PROF. P. MCNAUGHTON

Pain (Four lectures: 9–16 Nov.)

DR H. R. MATTHEWS

Olfactory transduction (Three lectures: 18–23 Nov.)

PROF. A. C. CRAWFORD

Peripheral auditory system (Four lectures: 25, 26, 30 Nov., 2 Dec.)

Workshops, F. 2–4 pm

(Hodgkin Huxley Seminar Room):

DR H. R. MATTHEWS (23 Oct.)

PROF. R. HARDIE (30 Oct.)

DR B. HEDWIG (6 Nov.)

DR H. R. MATTHEWS (13, 27 Nov.)

PROF. P. A. MCNAUGHTON (20 Nov.)

PROF. A. C. CRAWFORD (4 Dec.)

Module N7: Local Circuits and Neural Networks

M. 11, W. 10, F. 9

Module Organiser: Dr D. J. Parker

(djp27@cam.ac.uk)

Venue: Bryan Matthews Room

DR D. J. PARKER

Principles of network function/spinal cord networks (Four lectures: 15–22 Jan.)

DR S. JONES

Local circuits in midbrain dopaminergic nuclei (Four lectures: 25 Jan.–1 Feb.)

DR A. FAISAL

From neural circuits to neural computation (Four lectures: 5–12 Feb.)

PROF. W. HARRIS

The development and genetics of neural networks (Two lectures: 15–17 Feb.)

DR D. BURDAKOV

Hypothalamic networks (Three lectures: 19–24 Feb.)

DR T. BELLAMY

Glia in network function (Two lectures: 26 Feb., 1 Mar.)

DR B. HEDWIG

Local circuit mechanisms in invertebrate model systems (Four lectures: 3–10 Mar.)

DR D. J. PARKER

Overview (One lecture: 12 Mar.)

Module N8: Learning, Memory and Cognition

M. 10, Tu. 10, F. 10

Module Organiser: Dr T. Bussey

(tjb1000@cam.ac.uk)

Venue: Physiology Lecture Theatre 1

DR T. BUSSEY AND DR L. SAKSIDA

Memory, Amnesia, Animal and Computational Models (Six lectures: 15–26 Jan.)

DR A. MILTON

Mechanisms of Cellular-level Consolidation and Reconsolidation (Three lectures: 29 Jan., 1 and 2 Feb.)

DR T. BUSSEY

Emotional Memory (Two lectures: 5 and 8 Feb.)

DR T. BUSSEY, DR L. SAKSIDA AND DR B. J. MCCABE

Learning and Memory in Simple Systems (Four lectures: 9–16 Feb.)

DR A. MILTON, DR J. SIMONS AND DR L. CLARK

Higher Cognitive Functions (Nine lectures: 19 Feb.–12 Mar.)

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2009

LENT 2010

EASTER 2010

PATHOLOGY
BIOLOGICAL AND BIOMEDICAL SCIENCES: MAJOR SUBJECT PATHOLOGY

Course Organiser: Dr A. Kelly (email: apk23@cam.ac.uk)
 Course Website: www.path.cam.ac.uk

All lectures will be given in the *Department of Pathology* unless otherwise stated.

Introductory lecture

All options. W. 3 (One lecture, 7 Oct.) *It is important that all students attend the introductory lecture*

Option A: Cellular and Genetic Pathology Tu. Th. Sa. 9

Option Organiser: Prof. N. Affara (email: na@mole.bio.cam.ac.uk. Tel. 33700)

PROF. A. WYLLIE, DR H. LAMAN, DR P. D'AVINO, DR P. JONES, DR C. WATSON, DR W. KHALED, DR J. CAMPBELL, DR J. STINEL AND PROF. R. PEDERSON

Part I: Cell and Tissue Biology.

DR I. FURNER, DR C. SARGENT, DR S. BLOTT, PROF. D.

GRIFFIN, PROF. N. AFFARA, DR A. BANNISTER AND DR J. CONSTANCIA

Part II: Genome Organisation and its Regulation.

DR P. EDWARDS, PROF. M.-Q. DU, PROF. V. P. COLLINS, DR A. BANNISTER, DR H. LAMAN, DR R. HEKETH, DR S. TURNER, DR C. WATSON AND DR P. D'AVINO

Part III: The Molecular Biology of Cancer
 PROF. D. RUBINSTEIN, DR A. RICHARDS, DR A.

MURRELL AND DR J. CONSTANCIA

Part IV: Mendelian and Non-mendelian Inheritance in disease

DR M. HURLES, DR P. ELLIS, DR C. SARGENT AND PROF. J. KAUFMAN

Part V: Genome Evolution and Disease.

Option B: Immunology Tu. Th. 5, Sa. 10.15

Option Organiser: Dr N. Holmes (email: nh106@cam.ac.uk. Tel: 33871)

PROF. J. TROWSDALE, DR A. KELLY, DR P. LEHNER, DR C. BRYANT, PROF. A. COOKE, DR M. CLARK, PROF. K. G. C. SMITH, PROF. D. T. FEARON, DR N. HOLMES, PROF. J. KAUFMAN, DR B. A. BLACKLALIS, DR J. BONAME AND PROF. C. RUDD

DR N. HOLMES, DR P. MASTROENI, DR H. REYBURN, DR D. B. PALMER, PROF. A. GREEN, DR H. SCHNEIDER, PROF. A. C. COOKE, DR M. CLARK AND PROF. H. GASTON

DR N. HOLMES

Option C: Microbiology and Parasitology M. W. F. 9

Option Organiser: Dr I. B. Kingston (email: ibk1000@cam.ac.uk. Tel: 33330)

DR R. HAYWARD, PROF. V. KORONAKIS, PROF. C. HUGHES AND DR G. FRASER

Bacterial Disease and Pathogenicity.

DR N. BROWN AND PROF. A. M. LEVER

Fungal Infections.

DR I. B. KINGSTON, DR J. AJIOKA, DR M. SHIRLEY, DR C. FITZSIMMONS, PROF. D. DUNNE AND PROF. M. FIELD

Major Protozoal Diseases.

DR I. B. KINGSTON, DR E. MICHAEL AND PROF. M. FIELD

Major Helminth Diseases.

DR I. B. KINGSTON, PROF. M. FIELD AND DR J. W. AJIOKA

Journal Research Seminars

DR E. MICHAEL
 Epidemiology.
 DR H. DE KONING
 Parasite Chemotherapy.

DR G. FRASER AND PROF. C. HUGHES

Journal Research Seminars

Project Seminars Dates to be confirmed

Option D: Virology M. W. F. 5

Option Organiser: Dr T. D. K. Brown (email: tdkb@mole.bio.cam.ac.uk. Tel: 36917)

DR T. D. K. BROWN, DR S. WYNNE, DR P. DIGARD, DR J. GRAY, DR I. BRIERLEY, DR S. EFSTATHIOU, PROF. J. SINCLAIR, DR C. CRUMP, DR B. A. BLACKLALIS AND DR J. BONAME

DR G. TURNER, DR P. BORROW, DR S. EFSTATHIOU, PROF. A. C. MINSON, DR P. DIGARD, DR T. D. K. BROWN, DR J. C. STERLING, DR H. BROWNE, DR P. D. MINOR, PROF. G. K. DARBY, DR P. GOON, PROF. R. FOUCHIER, DR C. CRUMP, DR A. CONLAN, DR I. BRIERLEY AND PROF. D. SMITH

DR T. D. K. BROWN, DR P. DIGARD, DR S. EFSTATHIOU AND DR A. CARMICHAEL

Option E: Dynamics of Infectious Diseases Tu. Th. 9, Th. 10

Venue: Rm. FW26 Computer Laboratory, William Gates Bldg

Option Organiser: Dr L. S. Tiley (email: lst21@cam.ac.uk. Tel: 39554)

DR I. BROWN, DR T. FOOKS, DR A. GRANT, DR D. KING, DR J. MCCAULEY, PROF. D. MASKELL, DR T. J. MCKINLEY, DR O. RESTIF, DR C. RUSSELL, DR L. TILEY AND DR J. WOOD

DR S. FROST, DR R. CLIFTON-HADLEY, DR M. J. CORKE, DR A. DAVISON, DR T. DREW, DR H. FIELD, DR A. GRANT, DR S. GUBBINS, PROF. J. HEENEY, DR G. HEWINSON, PROF. R. FOUCHIER, PROF. T. HUMPHREY, DR R. KAO, DR P. MELLOR, DR P. MASTROENI, DR O. PYBUS, DR O. RESTIF, PROF. J. SLATER, DR K. SMITH AND DR L. TILEY

DR R. BUJDOSO, DR D. GREEN, DR A. THACKERY, DR L. TILEY AND DR J. WOOD

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2009

LENT 2010

EASTER 2010

PHARMACOLOGY
BIOLOGICAL AND BIOMEDICAL SCIENCES: MAJOR SUBJECT PHARMACOLOGY

Course Organiser: Professor Colin Taylor (email: cwt1000@cam.ac.uk)
 Course Website: www.phar.cam.ac.uk/teaching/tea_part2.html

The introductory session for students will be at 9 a.m., Wednesday, 7 Oct. in the *Lecture Theatre, Department of Pharmacology*.

Lectures will be given in the *Lecture Theatre, Department of Pharmacology*, unless otherwise indicated.

Systems Pharmacology

DR L. J. MACVINISH
 Pharmacology of Transporting Epithelia. (Four lectures, 8–15 Oct.) M. Tu. Th. 9

TECH TALK – Molecular Biology (8 Oct. Th. 2)

DR L. J. MACVINISH
 Study Skills (9 Oct. F. 10)

DR L. K. HEISLER
 Neurocircuitry Regulating Satiety. (Four lectures, 14, 16, 20, 22 Oct.) W. F. 10. Tu. Th. 9

TECH TALK – Protein Expression and Detection (15 Oct. Th. 2)

DR M. A. BARRAND
 Drug Delivery at the Blood Brain Barrier. (Three lectures, 19–23 Oct.) M. 9, W. F. 10

TECH TALK – Protein Purification and Reconstitution (22 Oct. Th. 2)

DR Z. SARNYAI
 Pharmacology of Psychiatric Disorders. (Six lectures, 27 Oct.–12 Nov.) Tu. Th. 9

DR H. VENTER
 Drug Targets in Bacterial Iron Acquisition Systems (Two lectures, 27, 29 Oct.) Tu. Th. 10

TECH TALK – Biophysics and Structural Analysis (29 Oct. Th. 2)

DR K. M. O'SHAUGHNESSY
 Cardiovascular Pharmacology I – Nitric Oxide (Two lectures, 3, 4 Nov.) Tu. W. 10

DR A. DAVENPORT
 Cardiovascular Pharmacology II – Endothelins (Two lectures, 5, 6 Nov.) Th. F. 10

TECH TALK – Imaging (5 Nov. Th. 4)

DR J. MAGUIRE
 Cardiovascular Pharmacology III – Other Vasoactive Peptides (Two lectures, 10, 12 Nov.) Tu. Th. 10

TECH TALK – Imaging and Cell Signalling (12 Nov. Th. 2)

DR F. MARSHALL
 Drug Discovery (Two lectures, 17, 19 Nov.) Tu. Th. 10

PROF. V. K. K. CHATTERJEE
 Drugs, Receptors and DNA. (Two lectures, 23–25 Nov.) M. W. 9

TECH TALK – siRNA and Transgenics (19 Nov. Th. 2)

DR H. L. RODERICK
 Calcium Signalling and the Heart. (Two lectures, 24, 26 Nov.) Tu. Th. 9

DR M. A. BARRAND
 Mechanisms of Drug Resistance. (Four lectures, 24 Nov. – 3 Dec.) Tu. Th. 10

TECH TALK – Behavioural Techniques (26 Nov. Th. 2)

Molecular and Cellular Pharmacology

DR R. D. MURRELL-LAGNADO
 Voltage-gated Ion channels. (Five lectures, 9–19 Oct.) M. 10, W. F. 9

DR S. CHAWLA
 Regulation of Gene Transcription. (Two lectures, 21–23 Oct.) W. F. 9

DR B. J. BILLUPS
 Glutamatergic Transmission. (Five lectures, 26 Oct. – 4 Nov.) M. 10, W. F. 9

DR S. B. HLADKY
 Cys-Loop Family of Ligand-gated Ion Channels. (Three lectures, 6–11 Nov.) M. 10, W. F. 9

PROF. C. W. TAYLOR
 Ca²⁺ Signalling (Three lectures, 13–18 Nov.) M. 10, W. F. 9

PROF. J. M. EDWARDSON
 Synaptic Mechanisms (Six lectures, 20 Nov.–2 Dec.) M. 10, 25 Nov. W. 10, 2 Dec. W. 9, F. 9

DR F. GRIBBLE
 Pancreatic Islet and Gut Hormones. (Three Lectures, 14–21 Jan.) Th. M. 9

DR R. M. HENDERSON
 Cholesterol and Diabetes. (Six lectures, 25 Jan. – 5 Feb.) M. W. F. 9

DR D. I. BURDAKOV
 Sleep and Appetite. (Four lectures, 26 Jan. – 4 Feb.) Tu. Th. 9.

DR T-P. FAN
 Pharmacology of Inflammation and Angiogenesis (Six lectures, 16 Feb. – 4 Mar.) Tu. Th. 9

PROF. D. M. F. COOPER
 Signalling by Cyclic AMP. (Five lectures, 13–22 Jan.) W. F. M. Tu. W. F. 9

PROF. C. W. TAYLOR
 G proteins and G-protein Coupled Receptors. (Four lectures, 5–12 Feb.) M. W. 9, F. 10

PROF. P. A. MCNAUGHTON
 Nociception. (Four lectures, 9–15 Feb.) Tu. Th. F. M. 9

PROF. R. F. IRVINE
 Inositol Signalling. (Five lectures, 17–28 Feb.) W. F. M. W. F. 9

DR H. W. VAN VEEN
 Molecular Aspects of Multidrug Transport. (Five lectures, 1–10 Mar.) M. W. F. 9

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2009

LENT 2010

EASTER 2010

PHYSIOLOGY, DEVELOPMENT AND NEUROSCIENCE

BIOLOGICAL AND BIOMEDICAL SCIENCES: MAJOR AND MINOR SUBJECT PHYSIOLOGY, DEVELOPMENT AND NEUROSCIENCE

Course Organiser: Dr R. J. Adams (email: rja46@cam.ac.uk)
 Course Website: www.pdn.cam.ac.uk/teaching/

The course consists of a series of workshops, lectures and seminars around a framework of modules.
 Detailed timetables will be posted in the Department.

Module N1: Developmental Neurobiology

M. 9, Th. 9, F. 10

Module Organisers: Prof. R. J. Keynes (rjk10@cam.ac.uk)
 Venue: Hodgkin Huxley Seminar Room

PROF. M. BATE

Neurogenesis and patterning (Six lectures)

DR G. M. W. COOK AND PROF. C. E. HOLT

Axon guidance (Four lectures)

DR M. LANDGRAF

Synapse formation (Three lectures)

DR J. H. ROGERS

Synapse elimination and neurotrophic factors (Two lectures)

DR M. LANDGRAF

Journal Club (One journal club)

DR R. LIVESEY

Development of cerebral cortex (Three lectures)

DR J. H. ROGERS

Journal Club (One journal club)

PROF. W. A. HARRIS

Topographic map formation and tuning (Three lectures)

DR R. LIVESEY

Journal Club (One journal club)

PROF. E. B. KEVERNE

Genetics and evolution of brain development (Three lectures)

Module N2: Molecular Neuroscience

M. 10, W. 9, F. 9

Module Organiser: Dr L. Heisler (lkh30@cam.ac.uk)
 Venue: Pharmacology Lecture Theatre

DR R. D. MURRELL-LAGNADO

Voltage-gated ion channels (Five lectures)

DR S. CHAWLA

Regulation of gene transcription (Two lectures)

DR B. BILLUPS

Glutamatergic transmission (Five lectures)

DR S. B. HLADKY

Cys-loop family of ligand-gated ion channels (Three lectures)

PROF. C. W. TAYLOR

Ca²⁺ signalling (Three lectures)

PROF. J. M. EDWARDSON

Synaptic mechanisms (Six lectures)

Module N5: Neural Degeneration and Regeneration

M. 9, W. 9, Th. 9

Module Organiser: Dr J. H. Rogers
 (jhr11@cam.ac.uk)

Venue: TBA

DR J. H. ROGERS

Neurodegenerative diseases (Four lectures)

DR R. TASKER

Damage to neurons: Ischaemia, excitotoxicity, and stroke (Four lectures)

PROF. J. FAWCETT

Spinal cord injury (Two lectures)

DR J. H. ROGERS

Regeneration of axons (Four lectures)

DR R. BARKER

Parkinson's disease and neural grafting (Four lectures)

DR J. BETSCHINGER

Neural stem cells and adult neurogenesis (Three lectures)

PROF. R. FRANKLIN

Glial degeneration and repair (Three lectures)

Module N6: Central Mechanisms of Sensation and Behaviour

Tu. 9, Tu. 11, Th. 10

Module Organiser: Prof. R. H. S. Carpenter
 (rhsc1@cam.ac.uk)

Venue: Hodgkin Huxley Seminar Room

PROF. R. H. S. CARPENTER

Introduction to central processing (One lecture)

PROF. R. D. PATTERSON

Central processing of auditory information (Four lectures)

DR D. J. TOLHURST

Higher processing of visual information (Three lectures)

PROF. D. WOLPERT

Computational sensorimotor control (Four lectures)

PROF. R. H. S. CARPENTER

Neurobiology of decision (Four lectures)

PROF. W. SCHULTZ

Neurobiology of reward (Four lectures)

PROF. A. C. ROBERTS

Neural basis of emotion, and its regulation (Four lectures)

PROF. R. H. S. CARPENTER AND PROF. W. SCHULTZ

NeuroDebate (One workshop)

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2009

LENT 2010

EASTER 2010

Module N3: Control of Action

Tu. 9, Tu. 11, F. 11

Module Organiser: Dr D. J. Parker (djp27@cam.ac.uk)

Venue: Hodgkin Huxley Seminar Room

PROF. R. H. S. CARPENTER

Introduction to the module (One lecture)

DR T. HOLTZMAN

Cerebellum (Four lectures)

DR H. R. MATTHEWS

Long latency reflexes (Four lectures)

PROF. R. N. LEMON

Corticospinal system (Four lectures)

PROF. R. H. S. CARPENTER

Introduction to oculomotor control (One lecture)

PROF. R. H. S. CARPENTER

Oculomotor control (Six lectures)

PROF. J. C. ROTHWELL

Basal ganglia (Four lectures)

Module N4: Sensory Transduction

M. 12, W. 10, Th. 10

Module Organiser: Dr H. R. Matthews

(hrm1@cam.ac.uk)

Venue: Anatomy Lecture Theatre/Hodgkin Huxley Seminar Room

DR H. R. MATTHEWS

Vertebrate phototransduction (Five lectures)

PROF. R. HARDIE

Invertebrate phototransduction (Four lectures)

DR H. R. MATTHEWS

Vertebrate phototransduction workshop (One workshop)

DR B. HEDWIG

Insect hearing (Two lectures)

PROF. R. HARDIE

Invertebrate phototransduction workshop (One workshop)

DR H. R. MATTHEWS

Muscle spindles (Two lectures)

DR B. HEDWIG

Insect hearing workshop (One workshop)

PROF. P. MCNAUGHTON

Pain (Four lectures)

DR H. R. MATTHEWS

Muscle spindles workshop (One workshop)

DR H. R. MATTHEWS

Olfactory transduction (Three lectures)

PROF. P. MCNAUGHTON

Pain workshop (One workshop)

PROF. A. C. CRAWFORD

Peripheral auditory system (Four lectures)

DR H. R. MATTHEWS

Olfactory transduction workshop (One workshop)

PROF. A. C. CRAWFORD

Peripheral auditory system workshop (One workshop)

Module N7: Local Circuits and Neural Networks

M. 11, W. 10, F. 9

Module Organiser: Dr D. J. Parker

(djp27@cam.ac.uk)

Venue: Bryan Matthews Room

DR D. J. PARKER

Principles of network function/spinal cord networks (Four lectures)

DR S. JONES

Local circuits in midbrain dopaminergic nuclei (Four lectures)

DR A. FAISAL

From neural circuits to neural computation (Four lectures)

PROF. W. HARRIS

The development and genetics of neural networks (Two lectures)

DR D. BURDAKOV

Hypothalamic networks (Three lectures)

DR T. BELLAMY

Glia in network function (Two lectures)

DR B. HEDWIG

Local circuit mechanisms in invertebrate model systems (Four lectures)

DR D. J. PARKER

Overview (One lecture)

Module N8: Learning, Memory and Cognition

M. 10, Tu. 10, F. 10

Module Organiser: Dr T. Bussey

(tjb1000@cam.ac.uk)

Venue: Lecture Theatre 1

DR T. BUSSEY AND DR L. SAKSIDA

Memory, Amnesia, Animal and Computational Models (Six lectures)

DR A. MILTON

Mechanisms of Cellular-level Consolidation and Reconsolidation (Three lectures)

DR T. BUSSEY

Emotional Memory (Two lectures)

DR T. BUSSEY, DR L. SAKSIDA AND DR B. J.

MCCABE

Learning and Memory in Simple Systems (Four lectures)

DR A. MILTON, DR J. SIMONS AND DR L. CLARK

Higher Cognitive Functions (Nine lectures)

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2009

LENT 2010

EASTER 2010

Module P1: Cellular Physiology

M. 11, Tu. 10, W. 9

Module Organiser: Dr C. J. Schwiening
(cjs30@cam.ac.uk)

Venue: Hodgkin Huxley Seminar Room

DR V. L. LEW

Cellular calcium (Two lectures)

MR A. HARPER AND DR S. O. SAGE

Calcium signalling (Five lectures)

PROF. C. L-H. HUANG

Voltage gated calcium channels (One lecture)

DR M. J. MASON

Patch clamping (One lecture)

TBA

Molecular techniques (One lecture)

PROF. R. C. THOMAS

Cellular pH (Three lectures)

DR O. LARINA

pH (Two lectures)

PROF. C. L-H. HUANG

Excitation-contraction coupling (Two lectures)

DR M. J. MASON

Fluorescence measurements of Ca²⁺ (Two lectures)

DR D. J. PARKER

Synaptic and metaplasticity (Three lectures)

DR J. FRASER

Cellular modelling (Two lectures)

Module P6: Development: Cell Differentiation and Organogenesis

M. 2, Tu. 2, W. 2, F. 2

Module Organisers: Dr H. Skaer
(hs17@cam.ac.uk) and Dr N. Brown
(nb117@mole.bio.cam.ac.uk)

(Interdepartmental Course with Zoology)

Venue: Zoology Part II Lecture
Theatre/Hodgkin Huxley Seminar RoomPROF. S. BRAY, DR N. BROWN AND DR H. SKAER
Introduction: setting out the questions (One lecture)

PROF. A. SURANI

Stem cells, germ cells and sex determination
(Four lectures)

PROF. S. BRAY, DR N. BROWN AND DR H. SKAER

Introduction to P6 Journal Clubs (One lecture)

PROF. A. SURANI

Journal Club: Stem cells, germ cells and sex
determination (One journal club)

PROF. S. BRAY

Limb development (Four lectures)

PROF. S. BRAY

Journal Club: Limb development (One journal club)

DR C. V. H. BAKER

Neural crest, cranial placodes and cell
migration (Four lectures)

DR N. BROWN, DR K. ROEPER AND DR H. SKAER

Epithelial polarity and tubulogenesis (Four lectures)

DR C. V. H. BAKER

Journal Club: Neural crest, cranial placodes
and cell migration (One journal club)

DR N. BROWN, DR K. ROEPER AND DR H. SKAER

Journal Club: Epithelial polarity and
tubulogenesis (One journal club)

DR P. SCHOFIELD AND DR B. DENHOLM

Development of internal organs (Four lectures)

DR P. SCHOFIELD AND DR B. DENHOLM

Journal Club: Development of internal organs
(One journal club)

DR M. AGATHOCLEOUS AND PROF. W. A. HARRIS

Growth control and cancer (Three lectures)

DR M. AGATHOCLEOUS AND PROF. W. A. HARRIS

Journal Club: Growth control and cancer
(One journal club)

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2009

LENT 2010

EASTER 2010

Module P2: Early development and Assisted Reproductive Technologies

M. 2, Tu. 11, F. 9

Module Organiser: Prof. M. H. Johnson
(mhj21@cam.ac.uk)

Venue: Bryan Matthews Room

PROF. M. H. JOHNSON

Fecundity, fertility and sub-fertility (One seminar)

PROF. M. H. JOHNSON

The IVF/ICSI treatment cycle: what's involved? (Two lectures)

PROF. M. H. JOHNSON

Fertilisation and early development. The mouse as a model system – cell biology (Three lectures)

DR A. BRUCE

The mouse as a model system – molecular biology (Two lectures)

DR K. ELDER

How does the human embryo differ from the mouse and what makes a good one? (Two lectures)

PROF. M. H. JOHNSON

Journal club (One journal club)

PROF. P. BRAUDE

Preimplantation genetic diagnosis – science and ethics collide (One lecture)

DR A. SHARKEY

Mechanisms of implantation (Two lectures)

DR A. SHARKEY

New treatments for infertility. New approaches to contraception (One lecture)

DR J. NICHOLS

Embryonic stem cells – what are they? How do they relate to embryos? How do we generate them? (Two lectures)

DR V. ENGLISH

Law, ethics and reproduction (One lecture)

PROF. M. H. JOHNSON

Journal club (One journal club)

PROF. M. H. JOHNSON

Why state interference in reproduction? (One lecture)

MS Z. GURTIN-BROADBENT

Patients' perspectives on assisted reproduction (One lecture)

Module P7: Genomics and the Future of Medicine

M. 10, Th. 2, F. 10

Module Organiser: Prof. A. Ferguson-Smith
(afsmith@mole.bio.cam.ac.uk)

Venue: Bryan Matthews Room

PROF. A. FERGUSON-SMITH

Introduction to genomic science (One lecture)

PROF. A. FERGUSON-SMITH

Background to genomic science (One lecture)

PROF. A. FERGUSON-SMITH

The evolution and application of genomic technology (One lecture)

L. RAYMOND

Medical genetics (One lecture)

PROF. A. FERGUSON-SMITH

Current genomics technology. Deep sequencing/arrays/CGH (One lecture)

PROF. A. FERGUSON-SMITH

Principles of genome association studies – methodology (One lecture)

PROF. A. FERGUSON-SMITH

Genome association studies – application to disease (One lecture)

DR L. VALLIER

Regeneration and stem cells (Two lectures)

PROF. S. BRAY AND PROF. M. H. JOHNSON

Risk and uncertainty (One lecture)

DR J. BRENTON

Genomics and cancer (Two lectures)

DR F. WARDLE

Journal Club I – Functional and medical genomics (One lecture)

DR J. CHAN

Gene and cell replacement therapy (Two lectures)

A. HENDRICK

Drug discovery and therapeutics in the biotech industry (Two lectures)

PROF. A. FERGUSON-SMITH

Journal Club II – Stem cells and regenerative medicine (One lecture)

DR F. WARDLE

Future genome science and society (Two lectures)

PROF. A. FERGUSON-SMITH

Review session I (One lecture)

PROF. A. FERGUSON-SMITH

Review session II – preparing for exams (One lecture)

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2009

LENT 2010

EASTER 2010

Module P3: Fetal and Placental Physiology

M. 12, Th. 10, F. 12

Module Organiser: Dr D. A. Giussani
(dag26@cam.ac.uk)

Venue: Hodgkin Huxley Seminar Room

PROF. A. L. FOWDEN

Growth and metabolism of the fetus (Four lectures)

PROF. G. BURTON

Placental development and function (Three lectures)

DR M. CONSTANCIA

Role of epigenetics and imprinting in fetoplacental development (Two lectures)

DR S. K. L. ELLINGTON

Early development: effects of oxygen and glucose (Three lectures)

DR D. A. GIUSSANI

Cardiovascular function (Three lectures)

DR E. J. CAMM

Development of fetal organs: brain (One lecture)

DR J. K. JELLYMAN

Development of fetal organs: heart/lungs/kidney (Three lectures)

PROF. A. L. FOWDEN

Development of fetal organs: adrenal (One lecture)

DR A. J. FORHEAD

Development of fetal organs: thyroid (One lecture)

DR A. J. FORHEAD

Fetal maturation in preparation for birth (One lecture)

DR D. A. GIUSSANI

Mechanisms of parturition (One lecture)

DR S. E. OZANNE AND DR A. J. FORHEAD

Intrauterine programming of adult pathophysiology (Two lectures)

DR D. A. GIUSSANI

Fetal and postnatal breathing (One lecture)

Module P4: Development: Patterning the Embryo

M. 11, Tu. 12, W. 2, F. 11

Module Organiser: Dr R. J. Adams (rja46@cam.ac.uk)
(Interdepartmental Course with Zoology)

Venue: Anatomy Lecture Theatre/Austin Building Lecture Theatre

DR R. WHITE AND DR I. PALACIOS

Introduction: setting up the problems (One lecture)

DR I. PALACIOS AND DR R. J. ADAMS

Model organisms and experimental approaches (One lecture)

DR N. BROWN

How cells become different from one another (Four lectures)

DR R. WHITE AND DR I. PALACIOS

Introduction to journal club (One journal club)

DR N. BROWN

Journal club (One journal club)

DR I. PALACIOS, DR H. BAYLIS AND DR M. ZERNICKA-GOETZ

Egg polarity and body axes (Six lectures)

DR I. PALACIOS, DR H. BAYLIS AND DR M. ZERNICKA-GOETZ

Journal club (One journal club)

PROF. J. C. SMITH, DR R. J. ADAMS, DR B. SANSON AND DR M. ZERNICKA-GOETZ

Gastrulation (Six lectures)

PROF. J. C. SMITH, DR R. J. ADAMS, DR B. SANSON AND DR M. ZERNICKA-GOETZ

Journal club (Two journal clubs)

DR R. WHITE, DR M. VERMEREN AND DR B. SANSON

Dividing up the embryo (segmentation) and segment identity (Six lectures)

DR R. WHITE, DR M. VERMEREN AND DR B. SANSON

Journal club (One journal club)

DR N. BROWN, DR I. PALACIOS AND DR R. J. ADAMS

Fun finale (One journal club)

Module P8: Systems and Clinical Physiology

M. 11, W. 11, F. 11

Module Organiser: Dr S. O. Sage
(sos10@cam.ac.uk)

Venue: Hodgkin Huxley Seminar Room

DR S. O. SAGE

Introduction and Renal autoregulation (Two lectures)

DR R. J. BARNES

Cardiovascular system in exercise (Four lectures)

DR I. SABIR

Cardiac arrhythmia (Two lectures)

DR A. GETGOOD

Cartilage physiology (One lecture)

PROF. J. COMPSTON

Bone physiology (Two lectures)

DR N. W. MORRELL

Pulmonary circulation (Two lectures)

PROF. D. B. DUNGER

Diabetes mellitus (Two lectures)

DR A. MURRAY

Genetics and energetics of heart failure (Two lectures)

DR G. S. H. YEO

Genetics of obesity (Three lectures)

DR J. ROCHFORD

Adipogenesis and lipodystrophy (Two lectures)

DR J. BRADLEY

Chronic renal failure (Two lectures)

DR J. FIRTH

Acute renal failure (Two lectures)

Module P10: Making Human Embryology

M. 12, M. 3

Module Organiser: Dr N. Hopwood
(ndh12@cam.ac.uk) and Prof. M. H. Johnson
(mhj21@cam.ac.uk)

Venue: Room 78, Anatomy Building

DR N. HOPWOOD AND PROF. M. H. JOHNSON

Producing development (Two lectures)

DR N. HOPWOOD AND PROF. M. H. JOHNSON

Seeing evolution (Two lectures)

DR N. HOPWOOD AND PROF. M. H. JOHNSON

Models and norms (Two lectures)

DR N. HOPWOOD AND PROF. M. H. JOHNSON

Workshop (Two workshops)

DR N. HOPWOOD AND PROF. M. H. JOHNSON

Experimental cultures (Two lectures)

PROF. M. H. JOHNSON, DR N. HOPWOOD AND PROF. S. FRANKLIN

In-vitro fertilization (Two lectures)

PROF. M. H. JOHNSON, DR N. HOPWOOD AND PROF. S. FRANKLIN

Recent debates (Two lectures)

PROF. M. H. JOHNSON, DR N. HOPWOOD AND PROF. S. FRANKLIN

Workshop (Two workshops)

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2009

LENT 2010

EASTER 2010

Module P9: Cell Assembly and Interactions

M. 4, W. 4, Th. 2, F. 4

Module Organisers: Dr H. A. Baylis (hab28@cam.ac.uk)
and Dr N. Brown (nb117@mole.bio.cam.ac.uk)

(Interdepartmental Course with Zoology)

Venue: Zoology Part II Lecture Theatre/Basement
Seminar Room

DR H. BAYLIS AND DR N. BROWN

Introduction (One lecture)

DR R. J. ADAMS

Cytoskeleton and cell movement (Three lectures)

TBA

Introduction to journal clubs (One journal club) *Joint
with P4*

DR M. ROBINSON

Coated vesicles and traffic through the Golgi (Three
lectures)

DR R. J. ADAMS

Cytoskeleton and cell movement (One journal club)

PROF. P. LUZIO

Post-Golgi traffic (Three lectures)

DR M. ROBINSON

Coated vesicles and traffic through the Golgi (One
journal club)

DR H. BAYLIS

Cell signalling (Four lectures)

J-P. VINCENT

Vesicular trafficking and intercellular signalling (Two
lectures)

DR H. BAYLIS

Cell signalling (One journal club)

DR N. BROWN

Adhesion and junctions (Three lectures)

DR H. SKAER

The extracellular matrix (One lecture)

DR H. SKAER

The polarized cell (Three lectures)

DR N. BROWN

Adhesion and junctions (One journal club)

DR H. BAYLIS AND DR N. BROWN

Integrative finale (One lecture)

DR H. SKAER

The polarized cell (One journal club)

**Neuroscience workshops: Experimental Approaches in Brain
Research**

W. 3, Th. 3

Module Organiser: Prof. A. C. Roberts (acr4@cam.ac.uk)

Venue: Bryan Matthews Room

PROF. W. A. HARRIS

Neuronal determination

DR D. J. PARKER

Understanding neuronal networks: current progress and
future promises

PROF. W. SCHULTZ

Designing behavioural neurophysiological studies

PROF. A. BRAND

Cell biological approaches to the study of neurons

**Neuroscience workshops: Experimental
Approaches in Brain Research**

Tu. 3, W. 3

Module Organiser: Prof. A. C. Roberts

(acr4@cam.ac.uk)

Venue: Bryan Matthews Room

DR S. JONES

Long term synaptic potentiation: molecular
mechanisms and behavioural significance

PROF. A. C. ROBERTS

Behavioural neuroscience: only as good as its
behavioural test

DR J. GRAHN

Functional Magnetic Resonance Imaging
(fMRI): uses and abuses

DR G. M. W. COOK

Experimental approaches to axon guidance

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2009

LENT 2010

EASTER 2010

PLANT SCIENCES

BIOLOGICAL AND BIOMEDICAL SCIENCES: MAJOR SUBJECT PLANT SCIENCES

Course Organiser: Professor Howard Griffiths (email: hg230@cam.ac.uk)

Module Organisers appear below. email: firstname.surname@plantsci.cam.ac.uk unless otherwise specified

Course Website: <http://www.plantsci.cam.ac.uk/teaching/ps.html>All lectures take place in the *Tom ap Rees Lecture Theatre, Department of Plant Sciences* unless otherwise stated.

The Biological and Biomedical Sciences (Major Subject Plant Sciences) course consists of lectures from the modules below. Students can offer either Cellular Plant Sciences (modules M1, M2, L1 and L2), or Ecological Plant Sciences (modules M3, Zoology M3; and L2, Zoology L2).

Module M1: Plant Signalling Networks

Module organiser: Dr Alex Webb

DR J. M. DAVIES, DR D. E. HANKE AND DR A. A. R. WEBB
M. W. F. 12 (Twenty-four lectures, 9 Oct. – 2 Dec.)**Module M2: Frontiers Plant Metabolism and Exploration of Plants**

Module organiser: Prof. Alison Smith

DR J. M. HIBBERD, PROF. A. SMITH, PROF. J. NAPIER AND DR J. MORTIMER

M. W. F. 10 (Twenty-four lectures, 9 Oct. – 2 Dec.)

Module M3: Dynamics, History and Future of Vegetation

Module organiser: Prof. Howard Griffiths

PROF. H. GRIFFITHS, DR D. A. COOMES, DR E. V. J. TANNER AND PROF. O. RACKHAM

M. F. 9 Tu. 10 (Twenty-four lectures, 9 Oct. – 1 Dec.)

Module L1: Development of Plants

Module organiser: Dr David Hanke

DR J. HASELOFF, DR D. E. HANKE AND DR B. J. GLOVER

M. W. F. 9 (Twenty-four lectures, 15 Jan. – 10 Mar.)

Module L2: Plant Responses to the Environment

Module organiser: Dr Ed Tanner

DR E. V. J. TANNER, PROF. H. GRIFFITHS, DR D. PURVES AND DR P. CAREY

M. W. F. 10 (Twenty-four lectures, 15 Jan. – 10 Mar.)

Module L3: Evolution of the Eukaryotic Cell

Module organiser: Dr Janneke Balk

PROF. C. HOWE, PROF. A. SMITH, PROF. H. GRIFFITHS AND DR J. BALK

Tu. Th. 10, W. 11 (Twenty-four lectures, 14 Jan. – 10 Mar.)

Module L4: The Genetic and Epigenetic Aspects of the Plant Nuclear Genome

Module organiser: Prof. Sir David Baulcombe

PROF. SIR D. C. BAULCOMBE, DR I. HENDERSON, DR I. FURNER AND DR A. N. OTHER

M. W. F. 12 (Twenty-four lectures, 15 Jan. – 10 Mar.)

The modules below may also be offered in Part II Plant Sciences (Part II Zoology modules). All lectures to take place in the Zoology Main Lecture

Aquatic Ecology*Interdepartmental Module*

Module organiser: Dr D. Aldridge

DR D. ALDRIDGE, DR M. BROOKE, DR R. BARNES AND PROF. A. CLARKE

M. W. F. 11 (Twenty-four lectures, 9 Oct. – 2 Dec.)

Population Biology*Interdepartmental Module*

Module organiser: Dr A. Manica

DR A. MANICA, DR C. RUSSELL, PROF. D. SMITH, DR D. COOMES, PROF. W. AMOS AND DR R. JOHNSTONE

M. W. F. 2 (Twenty-four lectures, 9 Oct. – 2 Dec.)

Conservation Biology*Interdepartmental Module*

Module organiser: Prof. A. Balmford

DR M. BROOKE, DR A. ROGERS, DR I. HODGE, PROF. W. AMOS, PROF. W. SUTHERLAND, PROF. R. GREEN, DR D. COOMES, DR S. MOON AND PROF. A. BALMFORD

M. W. F. 4 (Twenty-four lectures, 15 Jan. – 10 Mar.)

Behavioural Ecology*Department of Zoology*

Module organiser: Dr R. A. Johnstone

PROF. N. B. DAVIES, DR R. JOHNSTONE, DR R. KILNER, PROF. T. H. CLUTTON-BROCK AND DR S. SUMNER

Tu. Th. Sa. 10 (Twenty-four lectures, 16 Jan. – 11 Mar.)

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

Statistics for Part II Biologists

DR B. J. MCCABE

(5 Oct.) M. 9 and 2, M. Tu. W. Th. F. 2 (Ten lectures, 5 – 15 Oct.) *Main Lecture Theatre, Department of Zoology*

Please note early start of course.

Practical work(Ten classes) M. W. F. 10–12 or 3–5 (5, 7, 9 Oct.); M. W. F. 3–5 (12, 14, 16, 19 Oct.) *The Titan Teaching Rooms, New Museums Site*

Please note early start of course

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2009

LENT 2010

EASTER 2010

PSYCHOLOGY

BIOLOGICAL AND BIOMEDICAL SCIENCES: MAJOR SUBJECT PSYCHOLOGY

Course Organiser: Dr L. Clark (email: lc260@cam.ac.uk)

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

PROF. T. W. ROBBINS
General Introduction. Th. 5 (One lecture, 8 Oct.)
DR M. R. F. AITKEN
Statistics. Th. F. 2 (Six lectures, 15–30 Oct.)
Practical Classes. M. 2–4 (Three classes, 19 Oct.–2 Nov.),
Titan Teaching Rooms
Analysis of Variance. M. F. 2 (Four lectures, 20–30 Nov.)
Practical Classes. W. Th. 2–4 (Two classes, 25 Nov., 3
Dec.), *Titan Teaching Rooms*

Module A1: Visual Perception and Cognition

DR G. J. DAVIS
Visual Cognition M. 9 (Eight lectures, 12 Oct.–30 Nov.)
PROF. J. D. MOLLON
Vision F. 9 (Eight lectures, 9 Oct.–27 Nov.)

Module A2: Auditory and Speech Perception

PROF. B. C. J. MOORE
Hearing W. Th. 9 (Sixteen lectures, 14 Oct.–3 Dec.)

Module A3: Comparative Psychology of Learning and Cognition

PROF. N. S. CLAYTON
Comparative Psychology M. Th. 12, W. 10 (Thirteen
lectures, 12 Oct.–30 Nov.)
DR G. URCELAY
Comparative Psychology W. 10, Th. F. 12 (Eleven
lectures, 16 Oct.–3 Dec.)

Module B1: Motivation and Psychopathology

PROF. B. J. EVERITT AND PROF. T. W. ROBBINS
Brain Mechanisms of Motivation M. 10, W. 11 (Thirteen
lectures, 12 Oct.–2 Dec.) M. 4 (One lecture, 19 Oct.)

Module C1: Developmental Psychology

DR J. RUSSELL
Cognitive Development F. 10 (Eight lectures, 9 Oct.–27
Nov.)

Module C2: Atypical Psychology

PROF. S. BARON-COHEN
Atypical Psychology: Neurocognitive Perspectives Tu.
12 (Eight lectures, 13 Oct.–1 Dec.)
DR J. VAN NIEKERK
Atypical Psychology: Clinical Aspects Tu. 5 (Four
lectures, 10 Nov.–1 Dec.)
DR G. FAIRCHILD
Atypical Psychology: Developmental Disorders F. 12
(Four lectures, 13 Nov.–4 Dec.)
DR N. WALSH
Atypical Psychology: Social Development Tu. Th. 10
(Four lectures, 24 Nov.–3 Dec.)

Module C4: Individual Differences

PROF. N. J. MACKINTOSH
Intelligence Tu. Th. 10 (Ten lectures, 13 Oct.–12 Nov.)
DR L. CLARK
Personality M. 11 (Eight lectures, 12 Oct.–30 Nov.)

PROF. M. P. HAGGARD
Data Analysis and Interpretation. Th. 2 (Two
classes, 14, 21 Jan.)

PROF. J. D. MOLLON
Writing a Research Project. Th. 2 (One class, 4
Feb.)

PROF. M. P. HAGGARD
Qualitative Methods and their Application. Tu.
4 (Four classes, 12 Jan.–2 Feb.)

DR M. R. F. AITKEN
Experimental Design. Th. 2–4 (One class, 11 Mar.)

Module A1: Visual Perception and Cognition

PROF. J. D. MOLLON
Vision M. 9 (Eight lectures, 11 Jan.–1 Feb., 15
Feb.–8 Mar.)

Module A2: Auditory and Speech Perception

DR J. I. ALCÁNTARA
Speech Perception W. 9 (Eight lectures, 13
Jan.–3 Feb., 17 Feb.–10 Mar.)

Module A4: Human Memory and Decisions

DR M. R. F. AITKEN
Human Learning and Memory M. W. 11
(Eight lectures, 11 Jan.–3 Feb.)
DR J. SIMONS
Human Memory Tu. 12 (Four lectures, 12
Jan.–2 Feb.)
DR M. R. F. AITKEN AND DR L. CLARK
Judgment and Decisions M. W. 11 (Eight
lectures, 15 Feb.–10 Mar.)
DR L. SAKSIDA
Connectionist Models Tu. 12 (Four lectures,
16 Feb.–9 Mar.)

Module B1: Motivation and Psychopathology

PROF. B. J. EVERITT
Abnormal Psychology: Biological
Perspectives W. 10 (Six lectures, 20 Jan.–3
Feb., 17 Feb.–3 Mar.)
DR P. FLETCHER
Cognitive Neuropsychiatry Th. 5 (Four
lectures, 14 Jan.–4 Feb.)

Module B2: Memory and Higher Functions

DR T. J. BUSSEY ET AL
M. Tu. F. 10 (Twenty-four lectures, 15 Jan.–8
Mar., 12 Mar.) *Physiology Main Lecture
Theatre*

Module B3: Language

DR M. MIOZZO ET AL
Language, Mind and Brain M. 12, 5, Th. 9
(Twenty Three lectures, 11 Jan.–4 Feb., 15
Feb.–8 Mar.)

Modules B1, B2 and B3

DR T. J. BUSSEY AND DR L. M. SAKSIDA
Advanced Topics in Cognitive Neuroscience
Tu. 2–4 (Eight seminars, 19 Jan.–9 Mar.)

Module C1: Developmental Psychology, Social Psychology and Individual Differences

DR J. STEVENSON-HINDE AND PROF. R. HINDE
Socio-Emotional Development M. 3, Tu. 4
(Eight lectures, 15 Feb.–9 Mar.)
DR J. RUSSELL
Cognitive Development F. 11 (Eight lectures,
15 Jan.–5 Feb., 19 Feb.–12 Mar.)

Module C2: Atypical Psychology

DR E. WEISBLATT
Trauma, Development and Psychiatry Th. 5
(Four seminars, 18 Feb.–11 Mar.)

Module C4: Individual Differences

PROF. J. D. MOLLON
Genetics of individual differences F. 9 (Four
lectures, 15 Jan.–5 Feb.)

Attention is drawn to lectures organised by the Faculty of Politics, Psychology, Sociology and International Studies for the Paper Psy 1 (Social Psychology) given for Parts IIA and IIB of the Social and Political Sciences Tripos, Tu. 2 and W. 12 throughout the Michaelmas Term; and M. 2 and W. 12 throughout the Lent Term.

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2009

LENT 2010

EASTER 2010

ZOOLOGY

BIOLOGICAL AND BIOMEDICAL SCIENCES: MAJOR SUBJECT ZOOLOGY

Course Organiser: Prof. A. Balmford (email: apb12@cam.ac.uk)
 Course Website: www.zoo.cam.ac.uk/degree/2zoology/index.html

Lectures will be given in the *Department of Zoology, Part II Lecture Theatre* unless otherwise stated.

M1 Topics in Vertebrate Evolution

Module organiser: Prof. J. A. Clack
 DR R. ASHER, DR R. SANSOM, DR Z. JOHANSON, PROF. J. A. CLACK, DR L. NOË, PROF. S. E. EVANS, DR D. M. UNWIN AND DR R. BENSON
 M. W. F. 10 (Twenty-four lectures, beginning 9 Oct.)

M2 Aquatic Ecology

Module organiser: Dr D. Aldridge
 DR D. ALDRIDGE, DR M. BROOKE, DR R. BARNES AND PROF. A. CLARKE
 M. W. F. 11 (Twenty-four lectures, beginning 9 Oct.)

M3 Population Biology

Module organiser: Dr A. Manica
 DR A. MANICA, DR C. RUSSELL, PROF. D. SMITH, DR D. COOMES, PROF. W. AMOS AND DR R. JOHNSTONE
 M. W. F. 2 (Twenty-four lectures, beginning 9 Oct.)

M4 Neural Mechanisms of Behaviour

Module organiser: Dr B. Hedwig
 PROF. M. BURROWS, DR B. HEDWIG, DR J. NIVEN, DR B. MCCABE, PROF. E. B. KEVERNE AND PROF. C. M. BATE
 Tu. Th. Sa. 10 (Twenty-four lectures, beginning 8 Oct.)

M5 Behaviour

Module organiser: Prof. E. B. Keverne
 PROF. P. BATESON, DR B. MCCABE, PROF. E. B. KEVERNE, DR N. EMERY, PROF. N. CLAYTON AND DR N. MUNDY
 Tu. Th. Sa. 10 (Twenty-four lectures, beginning 8 Oct.)

M6 Cell Assembly and Interactions

(*Interdepartmental course with PDN*)
 Module organisers: Dr H. Baylis and Dr N. Brown
 DR H. BAYLIS, DR N. BROWN, DR R. ADAMS, PROF. M. ROBINSON, PROF. P. LUZIO, DR J-P. VINCENT AND DR H. SKAER
 M. W. F. 4 (Twenty-four lectures plus six journal clubs beginning 9 Oct.)

M7 Control of Cell Growth and Genome Stability

Module organiser: Prof. S. P. Jackson
 DR J. PINES, PROF. S. P. JACKSON, DR K. DRY, DR F. GERGELY, DR M. JACKMAN, DR P. VARGA-WEISZ, DR G. DE LA CUEVA MÉNDEZ, DR A. KAIDI, DR S. POLO AND DR T. LITTLEWOOD
 M. W. F. 9 (Twenty-four lectures, beginning 9 Oct.)

M8 Development: Patterning an embryo

(*Interdepartmental course with PDN*)
 Module organisers: Dr H. Skaer and Dr R. Adams
 DR R. WHITE, DR N. BROWN, PROF. P. SIMPSON, DR H. SKAER, DR R. ADAMS, DR B. SANSON, DR I. PALACIOS, DR H. BAYLIS, DR M. ZERNICKA-GOETZ, PROF. J. SMITH AND DR R. KEYNES
 M. 11, Tu. 12, F. 11 (Twenty-four lectures plus six journal clubs beginning 9 Oct.)

L1 Mammalian Evolution and Faunal History

Module organiser: Dr R. Asher
 DR T. KEMP, DR R. ASHER, DR E. WESTON, DR A. GOSWAMI AND DR R. C. PREECE
 M. W. F. 10 (Twenty-four lectures, beginning 15 Jan.)

L2 Conservation Biology

Module organiser: Prof. A. Balmford
 DR M. BROOKE, DR A. ROGERS, DR I. HODGE, PROF. W. AMOS, PROF. W. SUTHERLAND, PROF. R. GREEN, DR D. COOMES, DR S. MOON AND PROF. A. BALMFORD
 M. W. F. 4 (Twenty-four lectures, beginning 15 Jan.)
 All lectures to take place in the Main Lecture Theatre.

L3 Behavioural Ecology

Module organiser: Dr R. A. Johnstone
 PROF. N. B. DAVIES, DR R. JOHNSTONE, DR R. KILNER, PROF. T. H. CLUTTON-BROCK AND DR S. SUMNER
 Tu. Th. Sa. 10 (Twenty-four lectures, beginning 14 Jan.)
 All lectures to take place in the Main Lecture Theatre.

L5 Genes, Genomes and Animal Evolution

Module organiser: Prof. M. Akam
 PROF. W. AMOS, DR G. WALKER, DR N. MUNDY, PROF. M. AKAM AND DR C. JIGGINS
 M. W. F. 11 (Twenty-four lectures, beginning 15 Jan.)

L6 Development: Cell differentiation and organogenesis

(*Interdepartmental course with PDN*)
 Module organisers: Dr H. Skaer and Dr N. Brown
 DR H. SKAER, DR N. BROWN, PROF. S. BRAY, PROF. A. SURANI, DR C. BAKER, DR K. ROEPER, DR P. SCHOFIELD, DR B. DENHOLM, DR M. AGATHOCLEOUS AND PROF. W. HARRIS
 M. W. F. 2 (Twenty-four lectures plus six journal clubs beginning 15 Jan.)

L7 Control of Gene Expression

Module organiser: Dr I. Palacios
 DR I. PALACIOS, DR M. CHRISTOPHOROU, DR A. BANNISTER, DR M. DAWSON, DR J. MATA, PROF. C. SMITH, DR T. POYRY, DR N. STANDART AND DR H. BAYLIS
 M. W. F. 9 (Twenty-four lectures, beginning 15 Jan.)
 First nine lectures in the *Department of Zoology*; the following fifteen lectures take place in the *Department of Biochemistry*

Human Biology

Module organiser: Prof. T. H. Clutton-Brock
 PROF. R. FOLEY, PROF. W. SUTHERLAND, PROF. A. P. BALMFORD, DR N. MUNDY, DR R. JOHNSTONE AND DR R. ASHER
 M. W. F. 10 (Six lectures, beginning 23 Apr.)