



## Reading and activities list for Biology & Medicine

### Checklist of Actions for Oxbridge preparation

- Complete the course and college research booklet which covers entry requirements for your course (e.g. admissions tests during interviews). Use it to help you make informed choices.
- Respond and maintain email contact with your OMS Mentor and do not hesitate to ask questions which may help your Oxbridge preparation.
- Read British broadsheets such as The Daily Telegraph, The Independent or The Guardian preferably every day (if not feasible, then at weekends). Think critically about what you have read; what issues are raised?; What assumptions are being made? What information is being relied on to draw which conclusions? How would you frame a counter-argument?
- Make note of subject-related terminology to look up definitions with the aim of working them into future academic discussions on your chosen Oxbridge course.
- Keep a "Learning Log". Note down (i) book titles/ articles (ii) author (iii) your thoughts, feelings and observations (iv) context and relevance of the book/article (v) whether you agree with what you have read.
- Visit the Royal Society website, which contains all the important science news. It also lists all forthcoming science programmes and public lectures.
- Start/continue reading science journals i.e. New Scientist or Scientific American. Physics, Biology, Chemistry
- Look at a wide range of science books to familiarise yourself with ideas, problems and terminology. Try to pick two to three books from each list below. The choice should be based on your own interests, but make sure not all are on the same topic.
- Jot down key insights you have gained from these books, but don't take detailed notes. Start with the biology and chemistry books, as they will help you with your AS levels. The medicine ones can wait until the summer holidays.

### GENERAL/PREPARATORY

- Ashcroft, F. *Life at the Extremes*. Univ California Press, 2002
- Brown A *The Darwin wars*
- Calvin W H; Ojamann G A. *Conversations with Neil's Brain: The Natural Nature of Thought and Language*, 1995
- Campbell N A. *Biology*
- Dawkins R. *The blind watchmaker; The selfish gene*
- De Kruif P. *Microbe Hunters*. 2005
- Glynn I. *Elegance in Science*. Oxford University Press, 2010
- Goldacre, B. *Bad Science*. Harper Perennial, 2009. (also see Ben Goldacre's columns for the Guardian at <http://www.guardian.co.uk/profile/bengoldacre>); <http://williamcalvin.com/bk7/bk7.htm>)
- Greenfield S. *The human brain: a guided tour*
- Gribbin J. *Science: A History 1534-2001*
- Henig R M. *A monk and two peas: the story of Gregor Mendel*
- Jones S. *The language of the genes*
- Le Fanu J. *The Rise and Fall of Modern Medicine*. 2011
- Medawar P. *Advice to a young scientist*. Perseus Books, 1989
- Postgate J. *Microbes and man*

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- Ridley M. *Genome*
- Rose S. *The making of memory: from molecules to mind*
- Sacks O. *The Man who mistook his Wife for a Hat*. Pan Macmillan Picador, 1986
- Sykes B. *Blood of the Isles*. Corgi Books, 2007
- Wilson, E O. *The diversity of life*
- Wishart A. *One in Three*. Profile Books, 2007

### MEDICINE

- Alder B; Abraham C; van Teijlingen E; Porter M. *Psychology and sociology applied to medicine*
- Baillie-Hamilton P. *Stop the 21st Century Killing You: Toxic Chemicals Have Invaded Our Life. Fight Back! Eliminate Toxins, Tackle Illness, Get Healthy and Live Longer*
- Black J; Boyd C; Noble D. *The Logic of Life: Challenge of Integrative Physiology*
- Davies P. *Catching Cold: 1918's Forgotten Tragedy and the Scientific Hunt for the Virus That Caused it*
- Guarneri M. *The Heart Speaks*
- Hodges W. *Logi*
- Hope T. *Medical Ethics: A Very Short Introduction*
- Jeffreys D. *Aspirin: The Remarkable Story of a Wonder Drug*
- Konner M. *The Trouble with Medicine (BBC)*
- Le Fanu J. *Rise and Fall of Modern Medicine*
- Marieb E N. *Human anatomy & physiology*
- Nuland S B. *How We Die: Reflections of Life's Final Chapter; How We Live Sherwin*
- *Passing the UKCAT and BMAT: Advice, Guidance and Over 600 Questions for Revision and Practice* (Student Guides to University Entrance Series)
- Revill J. *Everything You Need to Know About Bird Flu and What You Can Do to Prepare For it*
- Roberts. *A Don't Die Young: An Anatomist's Guide to Your Organs and Your Health*
- Seedhouse D; Lovett L. *Practical Medical Ethics*
- Taubes G. *How We Get Fat*
- Williams D. *Body Story*

### ANATOMY

- MacKinnon P; Morris J. *Oxford Textbook of Functional Anatomy*, Oxford University Press, 2005

### BIOCHEMISTRY

- Stryer L. *Biochemistry*. W.H.Freeman & Co Ltd, 2006

### PHARMACOLOGY

- Rang H. et al. *Pharmacology*. Elsevier Health Sciences (Churchill Livingstone), 2007

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### PHYSIOLOGY

- Aidley D. *The Physiology of Excitable Cells*. Cambridge University Press, 1998
- Alberts B et al. *Molecular Biology of the Cell*. Taylor & Francis Inc (Garland Publishing), 2008
- Berne; Levy. *Physiology*. Elsevier Health Sciences (Mos), 2009
- Boron W. & Boulpaep, E. *Medical Physiology*. Elsevier Health Sciences (Saunders), 2008
- Keynes R; Aidley D. *Nerve and Muscle*. Cambridge University Press, 2001

### ONLINE RESOURCES

- Start looking for websites providing information on topics you might be interested in, or read the science sections of newspapers. There are plenty of useful resources out there so do explore.
  - Here is a list of websites offering podcasts and videos relevant to medical sciences:
  - Oxford Podcasts iTunesU > Oxford University > Medical Sciences or <http://podcasts.ox.ac.uk/>
  - BBC Science & Nature
  - <http://www.bbc.co.uk/sn/>
  - Radio 4 Science & Nature podcasts
  - <http://www.bbc.co.uk/radio4/programmes/genres/factual/scienceandnature>
  - Horizon (BBC archive)
  - <http://www.bbc.co.uk/sn/tvradio/programmes/horizon/broadband/>
  - science.tv (Bristol-based group of filmmakers, scientists, educationalists)
  - <http://www.science.tv/videos/ben-goldacre-on-homeopathy.html>
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- If you can find the time, continue to read literary novels, both for style and as a window on the wider world. You must follow your own tastes, but might enjoy Galileo's Daughter Dava Sobel or The Constant Gardener John Le Carré, which touches on some moral dilemmas in medical research.
  - Keep your maths skills fresh and teach yourself enough statistics to construct and interpret basic medical charts. You can find interesting maths problems and help with solving them on two Cambridge websites:
    - NRICH - <http://nrich.maths.org/public/index.php>
    - Plus magazine - <http://pass.maths.org.uk/>
  - Learn to express your own views referring to what you have read or heard from a reputable source. When researching, use reliable sources and make sure you can explain what makes a source reliable.
  - Check that you understand and can define the key concepts you come across in your reading, creating a cumulative list of definitions during your Oxbridge preparation.