



Reading and activities list for Chemistry, 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.

CHEMISTRY

- *The Age of the Molecule*, published by the Royal Society of Chemistry
- *Chemistry in Focus* by A. Andrew and P. Rispoli. (good A-level text)
- *Chemistry - Facts, Patterns and Principles* by Kneen, Rogers and Simpson.
- *Why Chemical Reactions Happen* by Keeler and Wothers
- *Calculations for A Level Chemistry* by E.N. Ramsden
- *Powers of Ten* by Eames and Morrison. (great enlarged scientific pictures)
- *Physical Chemistry* by G.I. Brown
- *Inorganic Chemistry* by G.I Brown
- *Organic Chemistry* by R. T. Morrison & R.N. Boyd.
- *Open University S102: Science Foundation Course Units 11-18*
- *Chemistry; molecules, matter and change* by P.W. Atkins (includes CD-rom).

BIOLOGY

- *Science: A History 1534-2001* by John Gribbin
- *Biology* by N.A. Campbell
- *The language of the genes* by Steve Jones
- *The selfish gene* by R. Dawkins
- *Genome* by Matt Ridley
- *The blind watchmaker* by R. Dawkins
- *The Darwin wars* by Andrew Brown



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- *A monk and two peas: the story of Gregor Mendel* by R.M. Henig
- *Microbes and man* by J. Postgate
- *The diversity of life* by E.O. Wilson
- *The making of memory: from molecules to mind* by Steven Rose
- *The human brain: a guided tour* by Susan Greenfield

MEDICINE

- *How We Get Fat* by Gary Taubes
- *Rise and Fall of Modern Medicine* by James Le Fanu
- *Body Story* by David Williams
- *Stop the 21st Century Killing You: Toxic Chemicals Have Invaded Our Life. Fight Back! Eliminate Toxins, Tackle Illness, Get Healthy and Live Longer* by Paula Baillie-Hamilton
- *Catching Cold: 1918's Forgotten Tragedy and the Scientific Hunt for the Virus That Caused it* by Pete Davies
- *The Human Brain: A Guided Tour* by Susan A Greenfield
- *Aspirin: The Remarkable Story of a Wonder Drug* by Diarmuid Jeffreys
- *The Trouble with Medicine* (BBC) by Melvin Konner
- *How We Die: Reflections of Life's Final Chapter* by Sherwin B. Nuland
- *How We Live* by Sherwin B. Nuland
- *Don't Die Young: An Anatomist's Guide to Your Organs and Your Health* by Dr Alice Roberts
- *Everything You Need to Know About Bird Flu and What You Can Do to Prepare For it* by Jo Revill
- *Practical Medical Ethics* by Dr. David Seedhouse Lisetta Lovett
- *The Logic of Life: Challenge of Integrative Physiology* by C.A.R Boyd and D. Noble
- *Medical Ethics: A Very Short Introduction* by Tony Hope
- *Human anatomy & physiology* by EN Marieb
- *Psychology and sociology applied to medicine* by Porter, Alder and Abraham
- *The Heart Speaks* by Dr.Mimi Guarneri
- *Catching Cold* by Pete Davies
- *Logic* by Wilfred Hodges
- *Passing the UKCAT and BMAT 2010 Edition*

- 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* by Dava Sobel or *The Constant Gardener* by 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:
 - NRIC - <http://nrich.maths.org/public/index.php>
 - Plus magazine - <http://pass.maths.org.uk/>
- Learn to express your own views by 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.