**Medical Sciences**

All Medical Sciences students receive a copy of the Medical Students' Handbook. You will receive a copy in the post, but the information can also be viewed [online](http://www.bio.cam.ac.uk/sbs/facbiol/mvst/courses.html). You should also read about the [Preparing for Patients Programme](http://www.bio.cam.ac.uk/sbs/facbiol/mvst/pfp/) and will receive an [Introductory Leaflet on Preparing for Patients Module A](http://www.murrayedwards.cam.ac.uk/files/49e8a16529eb3.pdf) in the pack of information that the Tutorial Office sends you in early September.

New students are asked to read the [Basic Science Concepts](http://www.bio.cam.ac.uk/sbs/facbiol/mvst/keyconcepts.html) web page, and those who do not have A-level Biology are asked to do some preliminary reading on [Basic Cell Biology](http://www.bio.cam.ac.uk/sbs/facbiol/mvst/mvst1a/cellbiol.html).

Students who have not taken A-level Physics, or who would like to review their basic Physics, will find the following book helpful:

Duncan, G: *Physics in the Life Sciences*, Blackwell Science, 3/e 1999 (ISBN-10: 0632017783, ISBN-13: 978-0632017782).

Of the wide range of available general reading on the boundary between medicine and basic sciences, there are:

1. Usher-Smith, J.A., Murrell, G.A.C., Ellis, H.E. and Huang, C.L.-H. (2010): *Research in Medicine: Planning a project - writing a thesis*, 3/e, Cambridge University Press [implications of considering a career in medical research]
2. Noble, D. (2008): *The Music of Life: Biology beyond the Genome*, Oxford University Press, 7.99 GBP [introductory book on physiology in the postgenomic era]
3. Hesketh, R. (2012): *Betrayed by Nature: The war on cancer,* New York: Palgrave-Macmillan, USD 28.00 [introductory book on cancer]
4. Weatherall, D.J. (1995): *Science and the Quiet Art: Medical Research and Patient Care,* London: W.W. Norton [reflections on the relationship between medical science and clinical practice].
5. Aldersey-Williams, H. (2014).Anatomies: The Human Body, Its Parts and The Stories They Tell Paperback.London: Viking .

The major first-year subjects are essentially Anatomy, Physiology and Biochemistry. There is also a short course in Medical Sociology and in basic Epidemiology. Some preliminary reading certainly would ease the transition from school to university work. The books below provide simple introductions and, at the same time, are useful as textbooks in the first-year course. Some indications are also provided as to the areas covered in the first term.

**Physiology - 'Homeostasis'**

Students will be sent voluntary preparatory work on receipt of an offer, which is specific to the first term. The first term covers basic cellular, nerve, muscle and circulatory physiology. The second and third terms cover pulmonary, renal, gastrointestinal and endocrine physiology. The College Library is well-stocked with the core texts. We recommend that students wishing to purchase textbooks view them in the Library before purchase, as there are considerable personal differences in style.

**Major (large) textbooks, covering detail of all topics:**

1. Boron, W.F. and Boulpaep, E.L: *Medical Physiology*,3/e, Saunders, 2016
2. Koeppen, B.M. and Stanton, B.A: *Berne and Levy Physiology*,7/e, Mosby, 2017
3. Costanzo, L. S. Physiology, 5/e. Saunders, 6e 2017.

**Monographs (small), covering specific areas:**

General physiology concepts:

1. Chambers, D., Huang, C.L.-H. and Matthews, G.D: *Basic Physiology for Anaesthetists*, 1/e, Cambridge University Press, 2015
2. Sabir, I.N. and Usher-Smith, J.A: *A Thinking Approach to Physiology*, 1/e, Wspc, 2012.

Specific modules:

1. Keynes, R.D., Aidley, D.J. and Huang, C.L.-H: *Nerve and Muscle*, 4/e, Cambridge University Press, 2011
2. Hering, N. and Paterson, D. J. Levick’s *Introduction to Cardiovascular Physiology*, 6/e, Hodder Arnold, 2018
3. Levitsky, M.G: *Pulmonary Physiology*, 9/e, McGraw-Hill Medical, 2017
4. Eaton, C.E. and Pooler, J.P: *Vander’s Renal Physiology*, 8/e, Lange Medical Books, 2013.

**Biochemistry - 'Molecules in Medical Science'**

The course begins with metabolism in health and disease. The textbooks recommended by the Faculty are:

1. Voet, D., Voet, J.G. and Pratt, C.W: *Principles of Biochemistry*, 3/e, Wiley, 2008
2. Berg J.M., Tymoczko, J.L., Gatto, G.J., Stryer, L.: Biochemistry, 8/e, Palgrave Macmillan, 2015.
3. Turner, P.C., McLennan, A.G., Bates, A.D. and White, M.R.H: *Instant Notes in Molecular Biology*, 3/e, Taylor and Francis, 2012.

**Anatomy - 'Functional Architecture of the Body'**

It is worth purchasing both a regional anatomy textbook and an atlas:

1. Drake, R., Vogl, W. and Mitchell, A: *Gray's Anatomy for Students*, 3/e 2014. Elsevier, ISBN: 9780443069529
2. Boon, J., Hutchings, R.T. and Abrahams, P: *McMinn's Clinical Atlas of Human Anatomy*, 6/e Mosby, 2007, ISBN: 9780323036054.

Good alternatives to these are:

* Parkin, I., Logan, B., and McCarthy, M: *Core Anatomy Illustrated*, 2007. Hodder Arnold, ISBN: 9780340809181
* Snell, R.S: *Clinical Anatomy 10th Edition*, Lippincott, Williams and Wilkins, 2018, ISBN: 0781764041.

An electronic copy of Clinical Anatomy: Applied Anatomy for Students and Junior Doctors, by Harold Ellis, will be provided.

Students should ensure that they are familiar with the following before they arrive: anatomical planes, terms to describe location and terms to describe movement. The first chapters of the textbooks above are suitable for this.

Students wishing to prepare for the first term should review the **upper limb**.

***Professor C.L.-H. Huang
Director of Studies in Medical Sciences***

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