Reading list

For NST Part IB Biochemistry & Molecular Biology, NST 2022-23

Most of these books should be available in your College library, but to give as many students as possible an opportunity to use them on a regular basis the Department of Biochemistry also keeps copies in the Part I Section of the Colman Library (in the Hopkins Biochemistry building, facing Tennis Court Road on the Downing Site). Selected books may be borrowed overnight from this collection. You are also welcome to make use of the main collection of books and journals, but borrowing these is not permitted. Part II and Part III Biochemistry students have priority for seating in the library. The Assistant Librarian is available to help you to locate books. Part IB BMB students who wish to use the library outside the hours of 8.30am – 5pm, Monday-Thursday, or 8:30am - 4pm, Friday, should ask the Hopkins building receptionist to programme their University proximity card for access.

There are a number of very good biochemistry textbooks available – some of which are quite general and cover similar topics, while others are more specialised. It's probably a good idea to primarily use the 'General Biochemistry Texts', then use the others to dip in and out of as required. The use of relevant textbooks is **essential** for underpinning the material given to you in lectures – do make the most of the resources available to you.

Recommended books

If you wish to buy, we suggest that you browse first in libraries, book shops or third-years' book collections.

a. General Biochemistry Texts

There are good companion websites that give further information about these books, and contain useful onward links.

- **Biochemistry**, Berg, J. M., Tymoczko, J. L., Gatto, G.J., and Stryer, L. (Freeman, 9th edition, 2019).

  For access to Student Resources see:

  https://www.macmillanlearning.com/college/us/search/?text=stryer

- **Molecular Biology of the Gene**, Watson, J. D. *et al*. (Pearson Education, 7th edition, 2017).

- **Lehninger Principles of Biochemistry**, Nelson, D. L. & Cox, M. M. (Freeman, 7th edition, 2017).

  Particularly useful for bioenergetics and metabolism. Good for signalling. For access to Student Resources see:

https://www.macmillanlearning.com/college/us/product/Lehninger-Principles-of-Biochemistry/p/1464126119?searchText=lehninger

- **Molecular Biology of the Cell**, Alberts, B. *et al*. (Garland Science, 6th edition 2015).

  The largest and most comprehensive of the cell and molecular biology textbooks, now with a CD-ROM as well as a revised Problems Book. Will be useful for Part II courses as well as IB.

  www.garlandscience.com/product/isbn/9780815345244

- **Molecular Biology of the Cell – The Problems Book**. Wilson, J. & Hunt, T. (Garland Science, 6th edition 2014).

b. Books on specific topics

Protein structure, function and evolution

- Protein Structure and Function, Petsko, G. & Dagmar, R., 2008

Enzyme catalysis and protein engineering:

- Introduction to Protein Structure, Branden, C. & Tooze, J. 2nd edition, 1999.
- Biochemistry, Abeles, R.H., Frey, P.A. & Jencks, W.P., 1992.
- Proteins, Creighton, T.E. 2nd edition, 1995.
- From Enzyme Models to Model Enzymes, Kirby, A.J. & Hollfelder, F., 2009.
- Structure and Mechanism in Protein Science – A guide to Enzyme Catalysis and Protein Folding, Fersht, A., 1999.
- Enzymatic Reaction Mechanisms, Frey, P.A. and Hegemann, A.D., 2007.

Energy transduction

- Bioenergetics, Nicholls D.G. & Ferguson S.J. 4th edition, 2013.
- Molecular Mechanisms of Photosynthesis, Blankenship R.E. 2nd edition, 2014.

Oncogenes, tumour suppressor genes and cancer:

- The Biology of Cancer, Weinberg, R. Garland Science, 2nd edition, 2014.

  The most comprehensive cancer biology textbook complete with a CD-ROM. Will be useful for Part II courses as well as IB.

Other sources of information

a. Journals – well worth consulting

Research-oriented summaries (2-4 pages) of important topics in biochemistry and molecular biology are contained in the monthly journal *Trends in Biochemical Sciences* (usually known as TIBS). A similar journal is *Bioessays.* The *Scientific American* usually contains at least one biochemical article per issue and is well worth a glance. Copies of these journals are found near the Part I reading area.

b. Web Sites

Ever more useful source of information. We shall just give here two of our favourite general addresses, which have many forward links.

- Online Mendelian Inheritance in Man (www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=OMIM)
- Swiss Institute of Bioinformatics (www.expasy.ch/)

c. Links to literature sources on Moodle

The Reading list and links to Textbooks and Journals can be found on Moodle in the book entitled “Course Information”.

- Textbooks via pubmed
- Links to Electronic Journals via the University
- Trends in Biochemical Sciences (TiBS)
- Current Opinions in Chemical Biology
- Current Opinions in Structural Biology

