

NOTE:

Reading any of these indicated chapters/sections should be second priority, while content within lecture notes and associated concepts/problems should be of primary focus to the course students. Hope you enjoy reading.

For Part I of the course:

1. "Introduction to Bioorganic Chemistry & Chemical Biology" by David van Vranken & Gregory Weiss; Garland Science.
2. "Cell signaling: principles & mechanisms" by Wendell Lim, Bruce Mayer, Tony Pawson; Garland Science.

Note: Book 1 is written more from organic chemists' perspectives so a little bit narrow overall and lack the big picture at times. Book 2 is written by a leading bioengineer (inventor of CAR-T cell therapies), with a more holistic view on organismal decision making. Very good biochemical concepts and tools are also discussed but not unexpectedly, there is no organic chemistry-based discussions in this book.

From Book 1

Chapters / topics	Comments (in relation to CH-313)
Chapter 1: section 1.1 to 1.4	Covers fundamentals underpinning the central dogma: good to read
Chapter 3: section 3.1, 3.2, 3.3, 3.5	Good-to-know basis and relevant to week 5
Chapter 4: section 4.1, 4.2, 4.3, 4.4, 4.6	Good-to-know basis and relevant to week 7,8
Chapter 5: section 5.1; Chapter 6: section 6.1, 6.2, 6.3, 6.4	Fundamentals linked to week 1 to 4, on protein-level interrogations
Chapter 9: all sections	Good to know / fun to read – linked to all basic aspects of cell signaling touched in CH-313 Part I

From Book 2

Chapters / topics	Comments (in relation to CH-313)
Chapter 1	Very good background to cell signaling and decision making
Chapter 2	Enhance several concepts covered during week 1,2,3,4
Chapter 3: the 1 st three subtopics; Chapter 4: the 1 st three subtopics	Aid week 1 and week 2 concepts
Chapter 12: the 3 rd subtopic	Enhance concepts discussed in week 5
Chapter 13: methods and tools	Here you can go through some of the technology-driven topics like mass spectrometry, flow cytometry, imaging/microscopy, enzyme kinetic analytical tools etc. that we cover in class throughout Part I

For Part II of the course: (note: some chapters in this book below also relate to Part I of the course) "Biochemistry" by Berg & Stryer. W.H. Freeman & Company (not mandatory).

Note: chapters below are for the 9th edition of this book

Chapters / topics	Comments (in relation to CH-313)
Chapter 3: section 3.3	Fundamentals on MS and proteomics
Chapter 4: section 4.6, 4.7 Chapter 31: section 31.1 to .4	Linked to basic concepts in week 7-8 (genetic code / translation)
Chapter 8: section 8.4, 8.5	Useful basics for week 1 (and week 2): enzyme inhibition / kinetics
Chapter 12: section 12.6	Basic aspects of eukaryotic cell architecture (throughout the course)
Chapter 15: all sections Chapter 16*: section 16.1, 16.2 Chapter 17* and 18*: all sections (*but only those aspects that are covered in lecture slides)	Cover several conceptual aspects discussed during Part II of the course – week 9 to 16 (but not the modern techniques however, as they're not quite yet written into text-books, although being actively deployed in the latest literature and drug discovery / mode-of-action studies...)