

**NANYANG TECHNOLOGICAL UNIVERSITY
SCHOOL OF BIOLOGICAL SCIENCES**

BS-BOOK LIST UPDATING - AY2013 SEMESTER 1

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- BS408/BS4004 CURRENT TOPICS IN IMMUNOLOGY
- BS409 CURRENT TOPICS IN STRUCTURAL BIOLOGY
- BS414 FROM SYSTEMS BIOLOGY TO SYNTHETIC BIOLOGY
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- BS4009 BIOLOGY OF AGING
- BS0001 BIOLOGY AND SOCIETY
- BS8001 GENES 'R' US
- BS8004 TRADITIONAL CHINESE MEDICINE: A PRIMER COURSE

BS1001 INTRODUCTORY BIOLOGY

Subject Coordinator: Prof Alex Law

Prescribed Textbook

Mason, Kenneth A. *Biology*, 9th Edition, McGraw-Hill, 2011 (Call no: QH308.2.R253 2011)

BS1002 BIOPHYSICAL CHEMISTRY

Subject Coordinator: Assoc Prof Mu Yuguang

Prescribed Textbook

Price, Nicholas C. *Principles and problems in physical chemistry for biochemists*, 3rd Edition, Oxford University Press, 2001 (Call no: QD415.P957)

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Other References

Atkins, P. W. (Peter William) *Elements of physical chemistry*, 5th Edition, Oxford University Press, 2009 (QD453.2.A874T 2009)

Mathews, Christopher K. *Biochemistry*, 4th Edition, Pearson, 2013 (QD415.M429 2013)

BS1003 ORGANIC CHEMISTRY

Subject Coordinator: Assoc Prof Liu Chuan Fa

Prescribed Textbook

Carey, Francis A. and Giuliano Robert M. *Organic chemistry*, 9th Edition, McGraw-Hill, 2014 (Call no: QD251.2.C273 2011)

Other References

Jones, Maitland. *Organic chemistry*, 4th Int'l Edition, W.W. Norton, 2010 (QD253.2.J78 2010)

Solomons, T. W. Graham. *Organic chemistry*, 10th Edition, Wiley, 2011 (QD253.2.S689 2011)

McMurry, John. *Fundamentals of organic chemistry*, 7th Int'l Edition, Brooks/Cole, 2011 (QD251.2.M168 2011)

Bruice, Paula Yurkanis. *Organic chemistry*, 6th Edition, Prentice Hall, 2011 (QD251.3.B896 2011)

Introductory Texts

Atkins, Robert C. (Robert Charles) *Organic chemistry: a brief course*, 3rd Int'l Edition, McGraw-Hill, 2007. (Call no: QD253.2.A874 2007)

Solomons, T. W. Graham. *Fundamentals of organic chemistry*, 5th Edition, Wiley, 1997 (QD251.2.S689F)

Hein, Morris. *Introduction to general, organic, and biochemistry*, 10th Edition, John Wiley, 2012 (QD31.3.I61 2012)

Applequist, Douglas. *Introduction to organic chemistry*, 3rd Edition, Wiley, 1982 (QD253.A648)

Oxford Chemistry Primers

Hornby, Michael. *Foundations of organic chemistry*, Oxford University Press, 1995 (QD253.H814)

Hornby, Michael. *Foundations of organic chemistry: worked examples*, Oxford University Press, 2000. (QD253.H814F)

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Maskill, Howard. Mechanisms of organic reactions, Oxford University Press, 1999
(QD476.M397 1999)

Robinson, Michael J. T. Organic stereochemistry, Oxford University Press, 2000
(QD481.R663)

Additional Books

Hellwinkel, D. (Dieter) Systematic nomenclature of organic chemistry: a directory to comprehension and application of its basic principles, Springer, 2001. (QD291.H477)

BS2001 PHYSIOLOGY

Subject Coordinator: Assoc Prof Valerie Lin

Prescribed Textbook

Sherwood, Lauralee. Introduction to human physiology, 8th Edition, Brooks/Cole, 2013
(Call no: QP34.5.S554 2013)

Reference

Widmaier, Eric P. Vander's human physiology: the mechanisms of body function, 12th
Edition, McGraw-Hill, 2011 (QP34.5.V228 2011)

BS2002 MICROBIOLOGY

Subject Coordinator : Drs Scott Rice / McDougald Diane

Prescribed Textbook

Willey, Joanne M., Prescott's microbiology, 8th Edition, McGraw-Hill, 2011 (Call no:
QR41.2.W714 2011)

BS2003 BIOCHEMISTRY II

Subject Coordinator: Prof Gerhard Gruber

Prescribed Textbook

Voet, Donald. Biochemistry, 4th Edition, John Wiley & Sons, 2011 (Call no: QP514.2.V876
2011)

Mathews, Christopher K. Biochemistry, 4th Edition, Pearson, 2013. (QD415.M429 2013)

Berg, Jeremy M. (Jeremy Mark) Biochemistry, 7th Int'l Edition, W.H. Freeman, 2012
(QP514.2.S928 2012)

Moran, Laurence A. Principles of biochemistry, 5th Int'l Edition, Pearson, 2012
(QP514.2.P957 2012)

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BS2004 MOLECULAR & CELL BIOLOGY II

Subject Coordinator: Assoc Prof Li Hoi Yeung

Prescribed Textbook

Alberts, Bruce. *Molecular biology of the cell*, 5th Edition, Garland Science, 2008
(Call no: QH581.2.M718 2008)

Lodish, Harvey F. *Molecular cell biology*, 7th Edition, W.H. Freeman, 2013
(QH581.2.M718m 2013)

Other References

Watson, James D. *Molecular biology of the gene*, 6th Edition, Cold Spring Harbor Laboratory Press, 2008 (QH506.M718B 2008)

Karp, Gerald. *Cell and molecular biology: concepts and experiments*, 6th Edition, Wiley, 2010 (QH581.2.K18 2010)
[Karp, Gerald, *Cell Biology*, 6th Edition, Wiley, 2010 (International Student Version)]

BS3001 NEUROBIOLOGY

Subject Coordinator : Assoc Prof Rachel Susan Kraut

Prescribed Textbook

Purves, Dale. et. al. *Neuroscience*, 5th Edition, Sinauer Associates, 2012.
(Call no: QP355.2.N494 2012)

Other References

Kandel, Eric R. *Principles of neural science*, 4th Edition, McGraw-Hill, 2000 (QP355.2.P957 2000)

Squire, Larry R. *Fundamental neuroscience*, 3rd Edition, Academic Press, 2008
(QP355.2.F981 2008)

Nicholls, John G. *From neuron to brain*, 5th Edition, Sinauer Associates, 2012
(QP355.2.F931 2012)

Kandel, Eric R. *In search of memory: the emergence of a new science of mind*, W.W. Norton & Co., 2006 (RC339.52.K16)

BS3003 DEVELOPMENTAL BIOLOGY (previously BS306)

Subject Coordinator : Dr Peter Cheung

Prescribed Textbook

Gilbert, Scott F. *Developmental biology*, 9th Edition, Sinauer Associates, 2010 (Call no: QL955.G466 2010)

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Wolpert, L. *Principles of development*, 4th Edition, Oxford University Press, 2011 (QH491.P957 2011)

Slack, J. M. W. *Essential developmental biology*, 2nd Edition, Blackwell Pub., 2006 (QH491.S631 2006)

Other References

Martinez Arias, Alfonso, *Molecular principles of animal development*, Oxford University Press, 2002 (QH506.M385)

BS3004 CANCER BIOLOGY (previously BS308)

Subject Coordinator : Asst Prof Eugene Makeyev

Prescribed Textbook

Weinberg, Robert A. (Robert Allan) *The biology of cancer*, 2nd Edition, Garland Science, 2013 (ISBN-10: 0815342195 / ISBN-13: 978-0815342199)

Other References

Macdonald, F. (Fiona) *Molecular biology of cancer*, 2nd Edition, BIOS Scientific Publishers, 2004 (RC268.4.M135, E-book)

Franks, L. M. (Leonard Maurice) *Introduction to the cellular and molecular biology of cancer*, 3rd Edition, Oxford University Press, 1997 (RC268.5.K73)

Alberts, Bruce. *Molecular biology of the cell*, 5th Edition, Garland Science, 2008 (QH581.2.M718 2008)

BS3005 ADVANCED MOLECULAR GENETICS

Subject Coordinator : Asst Prof Zhang Li-Feng

Prescribed Text book

Alberts, Bruce. *Molecular biology of the cell*, 5th Edition, Garland Science, 2008 (Call no: QH581.2.M718 2008)

BS3018 PLANT BIOLOGY (previously BS305)

Subject Coordinator : Assoc Prof Susana Geifman Shochat

Prescribed Textbook

Raven, Peter H. *Biology of plants*, 7th Edition, W.H. Freeman and Co., 2005 (Call no: QK47.R253 2005)

Buchanan, Bob B. *Biochemistry & molecular biology of plants*, American Society of Plant Physiologists, 2000 (QK861.B615)

**NANYANG TECHNOLOGICAL UNIVERSITY
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BS4001/BS405 CURRENT TOPICS IN MUSCLE BIOLOGY & NEUROMUSCULAR DISEASES

Subject Coordinator : Assoc Prof Ravi Kambadur

References

Stirling Carpenter, George Karpati, *Pathology of Skeletal Muscle*, 2nd Edition, Illustrated, Oxford University Press, Incorporated, 2001 (ISBN: 0195063643, 9780195063646)

Alfonso J. Cruz-Jentoft, John E. Morley, *Sarcopenia*, John Wiley & Sons, 2012, (ISBN: 1118338057, 9781118338056)

Engel, Andrew. *Myology: basic and clinical*, 3rd Edition, Medical Pub. Division, 2004 (Call no: RC925.M997 V1, RC925.M997 V2)

Martini, Frederic. *Fundamentals of anatomy & physiology*, 9th Edition, Pearson Education Inc., 2011.

Purves, Dale. *Neuroscience*, 5th Edition, Sinauer Associates, 2012 (QP355.2.N494 2012)

Haines, Duane E. *Fundamental neuroscience for basic and clinical applications*, 3rd Edition, Elsevier Churchill Livingstone, 2006 (QP355.2.F981FN)

Nicholls, John G. *From neuron to brain*, 5th Edition, Sinauer Associates, 2012 (QP355.2.F931 2012)

Hille, Bertil. *Ion channels of excitable membranes*, 3rd Edition, Sinauer, 2001 (QH603.I54H651)

Blumenfeld, Hal. *Neuroanatomy through clinical cases*, 2nd Edition, Sinauer Associates, 2010 (QM451.B658 2010)

Rodieck, Robert W. *The first steps in seeing*, Sinauer Associates, 1998. (QP475.R692)

BS4002 / BS406 CURRENT TOPICS IN CELL BIOLOGY

Subject Coordinator : Assoc Prof Koh Cheng Gee

References

Alberts, Bruce. *Molecular biology of the cell*, 5th Edition, Garland Science, 2008 (Call no: QH581.2.M718 2008)

Lodish, Harvey F. *Molecular cell biology*, 7th Edition, W.H. Freeman, 2013 (QH581.2.M718m 2013)

Karp, Gerald. *Cell and molecular biology: concepts and experiments*, 6th Edition, Wiley, 2010. (QH581.2.K18 2010)

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BS4004 / BS408 CURRENT TOPICS IN IMMUNOLOGY

Subject Coordinator : Asst Prof Su I-Hsin

Other References

Murphy, Kenneth P. Janeway's immunobiology, 8th Edition, Garland Science, 2012 (Call no: QR181.M978 2012)

Tak W. Mak and Mary E. Saunders, The immune response: basic and clinical principles, Elsevier/Academic, 2006 (QR181.M235, E-book)

Abul K. Abbas, Andrew H. Lichtman, Shiv Pillai Cellular and molecular immunology, 7th Edition, Saunders/Elsevier, 2012 (QR185.5.A122 2012)

Kindt, Thomas J., Kuby immunology, 6th Edition, W.H. Freeman, 2007 (QR181.K51)

BS409 CURRENT TOPICS IN STRUCTURAL BIOLOGY

Subject Coordinator : Asst Prof Curt Davey

References

Carl Branden, John Tooze. Introduction to protein structure, 2nd Edition, Garland Pub., 1999 (Call no: QP551.B817)

Feynman, Richard Phillips. The Feynman lectures on physics, Pearson/Addison-Wesley, 2006 (QC23.F435T V1, QC23.F435T V2, QC23.F435T V3)

Creighton, Thomas E. Proteins: structures and molecular properties, 2nd Edition, W.H. Freeman, 1993 (QP551.C914)

Max Born and Emil Wolf. Principles of optics: electromagnetic theory of propagation, interference and diffraction of light, 7th Edition, Cambridge University Press, 1999 (QC355.2.B736 1999)

Sirovich, L. Introduction to applied mathematics, Springer-Verlag, 1988 (QA39.2.S621)

James, J. F. A student's guide to Fourier transforms: with applications in physics and engineering, 3rd Edition, Cambridge University Press, 2011 (QC20.7.F67J27 2011)

Fowles, Grant R. Introduction to modern optics, 2nd Edition, Dover Publications, 1989 (QC395.2.F789)

BS414 FROM SYSTEMS BIOLOGY TO SYNTHETIC BIOLOGY

Subject Coordinator : Assoc Prof Newman Sze

References

Alon Uri, An Introduction To Systems Biology - Design Principles of Biological Circuits, Chapman & Hall/CRC.

Wang, Edwin. Cancer systems biology, CRC Press, 2010 (Call no: RC267.C215A, E-book)

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Edison T. Liu, Douglas A. Lauffenburger, *Systems biomedicine*, Elsevier/Academic Press, 2010 (R859.7.C65S995, E-book)

Klipp, E. (Edda) et. al. *Systems biology: a textbook*, Wiley-VCH, 2009. (QH308.2.S995)

Pengcheng Fu, Sven Panke. *Systems biology and synthetic biology*, John Wiley & Sons, 2009. (TP248.2.S995, E-book)

BS3016 MOLECULAR EVOLUTION

Subject Coordinator : Assoc Prof Konstantin Pervushin

Textbook

Stephen C. Stearns, Rolf F. Hoekstra. *Evolution: an introduction*, 2nd Edition, Oxford University Press, 2005. (Call no: QH366.2.S799)

John Maynard Smith and Eörs Szathmary, *The major transitions in evolution*, Oxford University Press, 1998.

John Maynard Smith and Eörs Szathmary, *The Origins of Life: From the Birth of Life to the Origin of Language*, Oxford University Press, 2000.

Brett Calcott and Kim Sterelny, *The major transitions in evolution revisited*, The MIT Press, 2011.

References

Barton, Nicholas H. et. Al, *Evolution*, Cold Spring Harbor Laboratory Press, 2007 (QH366.2.E93EV)

Volff, Jean-Nicolas, *Gene and protein evolution*, Karger, 2007 (QH447.G326)

Yockey, Hubert P. *Information theory, evolution, and the origin of life*, Cambridge University Press, 2005 (QH506.Y54)

Paul G. Higgs and Teresa K. Attwood, *Bioinformatics and molecular evolution*, Blackwell Pub., 2005 (QH371.3.M37H637)

Nowak, M. A. (Martin A.) *Evolutionary dynamics: exploring the equations of life*, Belknap Press of Harvard University Press, 2006 (QH371.3.M37N946)

Massimo Pigliucci, Gerd B. Müller, *Evolution, the extended synthesis*, MIT Press, 2010 (QH366.2.E93ES)

BS4006 VIROLOGY (previously BS208)

Subject Coordinator: Assoc Prof Richard Sugrue

Prescribed Textbooks

Dimmock, N. J., *Introduction to modern virology*, 6th Edition, Blackwell Pub., 2007. (QR360.D582 2007)

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Wagner, Edward K., *Basic virology*, 3rd Edition, Blackwell Pub., 2008. (Call no: QR360.W132 2008, E-Book)

Teri Shors, *Understanding viruses*, 2nd Edition, Jones and Bartlett Learning, 2011. [ISBN-10: 1449648924, ISBN-13: 978-1449648923]

Acheson, N. H., *Fundamentals of molecular virology*, 2nd Edition, John Wiley & Sons, 2011. (QR389.A177 2011)

Nicholas H. Acheson, *Fundamentals of molecular virology*, 2nd Edition, John Wiley & Sons, 2011. [ISBN-10: 0470900598, ISBN-13: 978-0470900598]

BS4008 CURRENT TOPICS IN CLINICAL APPLICATIONS OF OMICS

Subject Coordinator : Asst Prof Tang Kai

No textbook/references recommended. Only selected research papers and review articles.

BS4009 BIOLOGY OF AGING

Subject Coordinator : Asst Prof Esther Wong

Prescribed Textbooks

Masoro EJ and Austad SN, *Hand book of the biology of aging*, 7th Edition, 2010.

Guarente, L., Partridge, L. and Wallace, D., *Molecular biology of aging*, 2008.

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ELECTIVES

BS0001 BIOLOGY AND SOCIETY

Subject Coordinator : Asst Prof Esther Wong

Prescribed Text

Minkoff, Eli C., *Biology today: an issues approach*, 3rd Edition, Garland Pub., 2004 (Call no: QH315.M665 2004)

BS8001 GENES 'R' US

Subject Coordinator : Dr Peter Cheung

Prescribed Text

Hartwell, Leland et. Al, *Genetics: from genes to genomes*, 4th Edition, McGraw-Hill, 2011 (Call no: QH430.G328G 2011)

References

Yashon, Ronnee K., *Human genetics and society*, 2nd Edition, Brooks/Cole, 2012 (QH438.7.Y29)

BS8004 - TCM: A PRIMER COURSE 中医入门

Course Coordinator: Dr Yuan Jinhong

Reference :

Sun, Guangren. *Zhong yi ji chu li lun*, 2nd Edition, Zhongguo Zhong yi yao chu ban she, 2007 (Call no: R601.Z63J 2007)

Gao, Xuemin. *Zhong yao xue*, 2nd Edition, Zhongguo Zhong yi yao chu ban she, 2007 (RS180.C5Z63X 2007)

Shi, Xuemin. *Zhen jiu xue*, 2nd Edition, Zhongguo Zhong yi yao chu ban she, 2007 (RM184.Z63E 2007A)

Guo, Haiying. *Zhong yi yang sheng xue*, Zhongguo Zhong yi yao chu ban she, 2009 (RA776.Z63X)