

**NANYANG TECHNOLOGICAL UNIVERSITY
SCHOOL OF BIOLOGICAL SCIENCES**

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CH9200 FOOD MICROBIOLOGY

BS1005 BIOCHEMISTRY I

Subject Coordinator: Assoc Prof Yoon Ho Sup, Joe

Prescribed Textbook

Mathews, Christopher K., *Biochemistry*, 4th Edition, Pearson, 2013. (Call no: QD415.M429 2013)

Other Reference

Lehninger, Albert L., *Lehninger principles of biochemistry*, 5th Edition, W.H. Freeman, 2008.
(QD415.L523 2008)

BS1006 PRINCIPLES OF GENETICS

Subject Coordinator: Assoc Prof Peter Droge

Prescribed Textbooks

Snustad, D. Peter, *Genetics*, 6th Edition, International student version, Wiley, 2012.
(Call no: QH430.S674 2012a)

Krebs, Jocelyn E., *Lewin's essential genes*, 3rd Edition, Jones and Bartlett Learning, 2013.
(QH430.K92 2013)

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Klug, William S., *Essentials of genetics*, 8th Edition, Pearson, 2013. (QH430.K66 2013)

BS1007 MOLECULAR & CELL BIOLOGY I

Subject Coordinator: Assoc Prof Thirumaran Thanabalu

Prescribed Textbooks

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 and Co., 2013. (QH581.2.M718m 2013)

Other Reference

Karp, Gerald, *Cell and molecular biology: concepts and experiments*, 7th Edition, Wiley, 2013.
(QH581.2.K18 2010)

BS1008 BIOINFORMATICS & STATISTICS

Subject Coordinator: Asst Prof Lu Lanyuan

Prescribed Textbooks

Zvelebil, Marketa J., *Understanding bioinformatics*, Garland Science, 2008.
(Call no: QH324.2.Z96)

Lesk, Arthur M., *Introduction to bioinformatics*, 4th Edition, Oxford University Press, 2008.
(QH507.L629 2008)

Sebesta, Robert W., *A little book on Perl*, Prentice Hall, 2000. (QA76.73.P22S443)

Norman, Geoffrey R., *Biostatistics: the bare essentials*, 3rd Edition, B.C. Decker, 2008.
(QH323.5.N842, E-Book)

BS2007 IMMUNOLOGY

Subject Coordinator: Assoc Prof Christiane Ruedl

Prescribed Textbook

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

Other Reference

Abbas, Abul K., *Cellular and molecular immunology*, 7th Edition, Saunders/Elsevier, 2012.
(QR185.5.A122 2012)

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BS2008 EXPERIMENTAL MOLECULAR & CELL BIOLOGY

Subject Coordinator: Dr Kenneth Yu

Prescribed Textbook

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

Other Reference

Reed, Robert (Robert H.), *Practical skills in biomolecular sciences*, 3rd Edition, Prentice Hall, 2007. (Call no: QH506.P895 2007)

BS2009 ADVANCED BIOCHEMISTRY

Subject Coordinator: Assoc Prof Liang Zhao-Xun

References

Donald Voet, *Biochemistry*, 4th Edition, Wiley; 2010. (Call No: QP514.2.V876 2011)

John Kuriyan, *The molecules of life – physical and chemical principles*, Garland Science; 2012.
(Call no. QH506.K96m)

Fersht, Alan, *Structure and Mechanism in Protein Science: A Guide to Enzyme Catalysis and Protein Folding*, 3rd Revised Edition, W.H. Freeman & Company; 1998. (Call no: QD431.25.S85F399)

Stephen J. Lippard, *Principles of Bioinorganic Chemistry*, University Science Books.
(Call no: QP531.L765)

BS2010 BIOIMAGING

Subject Coordinator: Asst Prof Lu Lei

Reference

Murphy, Douglas B., *Fundamentals of light microscopy and electronic imaging*, 2nd Edition, Wiley-Blackwell, 2013. (Call no: QH211.M978 2013)

BS211S EQUATIONS OF LIFE [Self-paced course]

Subject Coordinator: Asst Prof Lu Lanyuan

Reference

A standard mathematics textbook of A-level.

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BS2012 GENETICS & GENOMICS

Subject Coordinator: Assoc Prof Zbynek Bozdech

Prescribed Textbook/References

L. H. Hartwell, *Genetics, from genes to genomes*, 4th Edition, McGraw Hill, 2011. (Call no: QH430.G328G 2011)

Ricki Lewis, *Human Genetics, Concepts and Applications*, 10th Edition, McGraw Hill, 2012.
(Call no: QH431.L675 2012)

BS0002 ENVIRONMENTAL MICROBIOLOGY

Subject Coordinator: Asst Prof Scott Rice & Asst Prof McDougald Diane

Textbook:

Nil

BS3008 COMPUTATIONAL BIOLOGY AND MODELING

Subject Coordinator: Assoc Prof Mu Yuguang

Prescribed Textbooks

Schlick, Tamar, *Molecular modeling and simulation: an interdisciplinary guide*, 2nd Edition,
Springer, 2010. (Call no: QD480.S344 2010, E-Book)

Hinchliffe, Alan., *Molecular modelling for beginners*, 2nd Edition, Wiley, 2008. (QD480.H659M 2008)

Höltje, Hans-Dieter, *Molecular modeling: basic principles and applications*, 3rd revised and expanded
Edition, Wiley-VCH, 2008. (Call no: QH506.M718MMB 2008)

References

Leach, Andrew R., *Molecular modelling : principles and applications*, 2nd Edition, Prentice Hall, 2001.
(QD480.L434)

Rami Reddy, M., *Free energy calculations in rational drug design*, Kluwer Academic/Plenum
Publishers, 2001. (RS420.F853, E-Book)

Gasteiger, J. (Johann), *Cheminformatics : a textbook*, John Wiley, 2003. (QD39.3.E46G255, E-Book)

Cohen, N. Claude., *Guidebook on molecular modeling in drug design*, Academic Press, 1996.
(RS420.G946, E-Book)

Textbook: Nil

BS3010 CURRENT TOPICS IN STEM CELL AND DEVELOPMENTAL BIOLOGY

Subject Coordinator: Prof Klaus Karjalainen

Textbook: Nil

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BS3011 PROTEIN FOLDING AND BIOMOLECULAR NMR

Subject Coordinator: Assoc Prof Surajit Bhattacharyya

Prescribed Textbooks

Pain, Roger H., *Mechanisms of protein folding*, 2nd Edition, Oxford University Press, 2000. (Call no: QP551.M486)

Evans, Jeremy N. S., *Biomolecular NMR spectroscopy*, Oxford University Press, 1995. (QP519.9.N83E92)

Other References

Creighton, Thomas E., *Protein folding*, W.H. Freeman and Co., 1992. (QP551.P967F)

Fersht, Alan, *Structure and mechanism in protein science: a guide to enzyme catalysis and protein folding*, W.H. Freeman, 1999. (QD431.25.S85F399)

Wüthrich, Kurt., *NMR of proteins and nucleic acids*, Wiley, 1986. (QP519.9.N83W973)

Derome, Andrew E., *Modern NMR techniques for chemistry research*, 1st Edition, Pergamon Press, 1987. (QD96.N8D437)

BS3012 FUNCTIONAL GENOMICS AND PROTEOMICS

Subject Coordinator: Assoc Prof Sze Siu Kwan, Newman

References

Richard M. Twyman, *Principles of proteomics*, Garland Science, 2014.

Jonathan Pevsner, *Bioinformatics and Functional Genomics*, Wiley-Blackwell, 2009 (e-book in NTUL)

Chhabil Dass, *Fundamentals of Contemporary Mass Spectrometry*, Wiley Interscience, 2007 (e-book in NTUL)

Timothy D. Veenstra, John R. Yates, *Proteomics for Biological Discovery*, Wiley-Liss, 2006 (e-book available)

Nobuhiro Takahashi, Toshiaki Isobe, *Proteomic Biology Using LC-MS*, Wiley Interscience, 2008 (e-book in NTUL)

Franz Hillenkamp and Jasna Peter-Katalinic, *MALDI MS*, Wiley-VCH, 2007. (e-book in NTUL)

Richard J. Simpson, *Proteins and Proteomics*, Cold Spring Harbor Laboratory Press, 2003.

Igor A. Kaltashov and Stephen J Eyles, *Mass Spectrometry in Biophysics*, Wiley Interscience, 2005 (e-book available).

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BS3013 DRUG DISCOVERY & DEVELOPMENT, BIOTECHNOLOGY

Subject Coordinator: Assoc Prof Liu Chuan Fa

References

Silverman, Richard B., *The organic chemistry of drug design and drug action*, 2nd Edition, Elsevier Academic Press, 2004. (Call no: RS403.S587)

Wilson, Charles Owens, *Wilson and Gisvold's textbook of organic medicinal and pharmaceutical chemistry*, 12th Edition, Lippincott Williams & Wilkins, 2011. (RS403.W746 2011)

Patrick, Graham L., *An introduction to medicinal chemistry*, 5th Edition, Oxford University Press, 2013. (RS403.P314 2013)

Foye, William O., *Foye's principles of medicinal chemistry*, 7th Edition, Lippincott Williams & Wilkins, 2013. (RS403.W722 2013)

BS3014 BIOLOGICAL FOUNDATIONS OF BEHAVIOR

Subject Coordinator: Asst Prof Ajai Vyas

Prescribed Textbook

Michael Breed D., *Animal behavior*, Academic Press, 2012.

BS3015 The RNA World

Subject Coordinator: Asst Prof Francesc Xavier Roca Castella

Prescribed Textbooks

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

Atkins, John F., *RNA worlds: from life's origins to diversity in gene regulation*, Cold Spring Harbor Laboratory Press, 2011. (QH450.R627rw)

Other Reference

Darnell, James E., *RNA: life's indispensable molecule*, Cold Spring Harbor Laboratory Press, 2011. (Call no: QP623.D223)

BS3017 ADVANCED MICROBIAL PATHOGENESIS

Subject Coordinator: Asst Prof Kimberly Kline & Assoc Prof Julien Lescar

Prescribed Textbook

Wilson B.A., *Bacterial pathogenesis: a molecular approach*, 3rd Edition, ASM Press, 2011. (Call no: QR201.B345186 2011)

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Reference

Walsh C., *Antibiotics: actions, origins, resistance*, ASM Press, 2003. (Call no: RM267.W223)

BS3019 NEUROPSYCHOLOGY OF STRESS AND RESILIENCE

Subject Coordinator: Asst Prof Rupshi Mitra

Prescribed Textbook

Robert M. Sapolsky, *Why Zebras don't get ulcers*, 3rd Edition, Holt Paperbacks, 2004. [ISBN 9780805073690]

ELECTIVES

BS8003 SCIENCE OR FICTION? – BIOLOGY IN POPULAR MEDIA

Subject Coordinator: Dr Sze Chun Chau

Textbook

Mader, Sylvia S., *Biology*, 11th Edition, McGraw-Hill, 2013.

Mader, Sylvia S., *Inquiry into life*, 14th Edition, McGraw-Hill, 2014.

Reference

Campbell, Neil A., *FE1004 life sciences*, Pearson Education South Asia Pte Ltd., 2006.
(Call no: QH308.2.F288)

SP0056 INTRODUCTION TO THE WORKINGS OF THE HUMAN BODY

Subject Coordinator: Dr Peter Cheung

Textbook

Lauralee Sherwood, *Introduction to human physiology*, 8th edition, Thomson Brooks Cole, International Edition (Call No: QP34.5.S554 2013)

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

CH9200 FOOD MICROBIOLOGY

Subject Coordinator: Asst Prof Yang Liang

Textbook

Adams, M. R., *Food Microbiology*, 3rd Edition, Royal Society of Chemistry, 2008 (Call No: QR115.A215 2008, E-Book available).