

**NANYANG TECHNOLOGICAL UNIVERSITY  
SCHOOL OF BIOLOGICAL SCIENCES**

**BS-BOOK LIST UPDATING - AY2016/2017 SEMESTER 1**

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- BS8004 TRADITIONAL CHINESE MEDICINE: A PRIMER COURSE

**BS1001 INTRODUCTORY BIOLOGY**

Subject Coordinator: Dr Sze Chun Chau

**References**

Sylvia S. Mader, *Biology*, 12<sup>th</sup> Edition, McGraw-Hill, 2015. (Call no: QH308.2.M181b 2016)

Johnson, George, *Essentials of The Living World*, 4<sup>th</sup> Edition, McGraw-Hill 2013. (QH308.2.J67 2013)

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**BS1002 BIOPHYSICAL CHEMISTRY**

Subject Coordinator: Assoc Prof Mu Yuguang

**Prescribed Textbook**

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

**Other References**

Peter William Atkins, *Elements of physical chemistry*, 6<sup>th</sup> Edition, Oxford University Press, 2013. (QD453.2.A874t 2013)

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

**BS1003 ORGANIC CHEMISTRY**

Subject Coordinator: Assoc Prof Liu Chuan Fa

**Prescribed Textbook**

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

**Other References**

Maitland Jones, *Organic chemistry*, 4<sup>th</sup> Edition, International Student Edition, W.W. Norton, 2010. (QD253.2.J78 2010)

T. W. Graham. Solomons, *Organic chemistry*, 11<sup>th</sup> Edition, Wiley, 2014. (QD253.2.S689 2014)

John McMurry, *Fundamentals of organic chemistry*, 7<sup>th</sup> International Edition, Brooks/Cole, 2011. (QD251.2.M168 2011)

Paula Yurkanis Bruice, *Organic chemistry*, 7<sup>th</sup> International Edition, Prentice Hall, 2014. (QD251.3.B896 2014)

**Introductory Texts**

Robert Charles Atkins, *Organic chemistry: a brief course*, 3<sup>rd</sup> International Edition, McGraw-Hill, 2007. (Call no: QD253.2.A874 2007)

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

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

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

**Oxford Chemistry Primers**

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

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

Howard Maskill, *Mechanisms of organic reactions*, Oxford University Press, 1996. (QD476.M397)

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

**Additional Books**

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

**BS1005 BIOCHEMISTRY I**

Subject Coordinator: Prof Yoon Ho Sup, Joe

**Prescribed Textbook**

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

**Other Reference**

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

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**BS2001    PHYSIOLOGY**

Subject Coordinator: Assoc Prof Valerie Lin

**Prescribed Textbook**

Sherwood, Lauralee, *Human physiology : from cells to systems*, 9<sup>th</sup> Edition, Cengage Learning, 2016 (ISBN: 9781285866932).

**Reference**

Eric P. Widmaier, *Vander's human physiology: the mechanisms of body function*, 13<sup>th</sup> Edition, McGraw-Hill, 2014. (QP34.5.V228 2014)

**BS2002    MICROBIOLOGY**

Subject Coordinator : Drs Scott Rice / McDougald Diane

**Prescribed Textbook**

Joanne M. Willey, *Prescott's microbiology*, 9<sup>th</sup> Edition, McGraw-Hill, 2014. (Call no: QR41.2.W714 2014)

**BS2003    BIOCHEMISTRY II**

Subject Coordinator: Prof Gerhard Gruber

**Prescribed Textbook**

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

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

Jeremy Mark Berg, *Biochemistry*, 7<sup>th</sup> International Edition, W.H. Freeman, 2012. (QP514.2.S928 2012)

Laurence A . Moran, *Principles of biochemistry*, 5<sup>th</sup> International Edition, Pearson, 2012. (QP514.2.P957 2012)

**BS2020    MATHEMATICS AND PHYSICS TOPICS FOR STRUCTURAL BIOLOGISTS [New Course]**

Subject Coordinator : Assoc Prof Julien Lescar / Assoc Prof Mu Yuguang

**Prescribed Textbook**

Grant R. Fowles, *Introduction to Modern Optics*, 2<sup>nd</sup> Edition, Dover, 1989. ISBN-13: 978-0486659572

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Peter Wentworth, Jeffrey Elkner, Allen B. Downey, and Chris Meyers, *How to Think Like a Computer Scientist: Learning with Python 3*, October 2012 (online book)

<http://openbookproject.net/thinkcs/python/english3e/>

## References

John D. Jackson, *Classical Electrodynamics*, 3<sup>rd</sup> Edition, John Wiley & Sons, 1998. ISBN: 978-0-471-30932-1

M. Born & E. Wolf, *Principles of Optics*, 7<sup>th</sup> Edition Cambridge University Press, 1999 ISBN: 0 521 64 2221

Igor N. Serdyuk, Nathan R. Zaccai, Giuseppe Zaccai, *Methods in Molecular Biophysics* 1<sup>st</sup> Edition, Cambridge University Press, 2007, ISBN: 0-521-81524-X

### BS3001 NEUROBIOLOGY

Subject Coordinator : Assistant Professors Ayumu Tashiro/ Albert I. Chen

#### Prescribed Textbook

Dale Purves, *Neuroscience*, 5<sup>th</sup> Edition, Sinauer Associates, 2012. (Call no: QP355.2.N494 2012)

#### Other Reference

Eric R. Kandel, *Principles of neural science*, 5<sup>th</sup> Edition, McGraw-Hill, 2012. (QP355.2.P957 2013)

Mark Bear, *Neuroscience*, 4<sup>th</sup> Edition, Wolters Kluwer, 2015

### BS3003 DEVELOPMENTAL BIOLOGY

Subject Coordinator : Dr Peter Cheung

#### Prescribed Textbook

Scott F. Gilbert, *Developmental biology*, 10<sup>th</sup> Edition, Sinauer Associates, 2014. (Call no: QL955.G466 2014)

Lewis Wolpert, *Principles of development*, 4<sup>th</sup> Edition, Oxford University Press, 2011. (QH491.P957 2011)

J. M. W. Slack, *Essential developmental biology*, 3<sup>rd</sup> Edition, Blackwell Pub., 2013 (QH491.S631 2013)

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**Other References**

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

**BS3004 CANCER BIOLOGY**

Subject Coordinator : Prof Mark Featherstone

**Prescribed Textbook**

Robert Allan Weinberg, *The biology of cancer*, 2<sup>nd</sup> Edition, Garland Science, 2013. (Call no.: RC268.4.W423 2014)

**BS3005 ADVANCED MOLECULAR GENETICS**

Subject Coordinator : Asst Prof Zhang Li-Feng

**Prescribed Textbook**

Bruce Alberts, *Molecular biology of the cell*, 6<sup>th</sup> Edition, Garland Science, 2015. (Call no.: QH581.2.M718 2015)

**BS3018 PLANT BIOLOGY**

Subject Coordinator : Asst Prof Oliver Mueller-Cajar

**Prescribed Textbook**

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

Bob B. Buchanan, *Biochemistry and Molecular Biology of Plants*, 2<sup>nd</sup> Edition, American Society of Plant Physiologists, 2015.

**Reference**

Lincoln Taiz, *Plant Physiology and Development*, 6<sup>th</sup> Edition, Sinauer Associates, 2015

**BS3020 PLANT BIOTECHNOLOGY [New Course]**

Subject Coordinator : Adjunct Assoc Prof Srinivasan Ramachandra

Arie Altman; Paul Michael Hasegawa, *Plant Biotechnology and Agriculture: Prospects for the 21st Century*, 1<sup>st</sup> Edition, Academic Press, 2011, ISBN: 9780123814661

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C. Neal Stewart Jr., *Plant Biotechnology and Genetics: Principles, Techniques and Applications*, Wiley-Interscience, 2008, ISBN: 978047004381

Maynard Smith, John, *The Major Transitions in Evolution*, Oxford University Press, 1995 ISBN: 9780198502944

**BS3021 BIOIMAGING TECHNIQUES IN EM**

Subject Coordinator : Asst Prof Shashi Bhushan

**Prescribed Textbooks**

Williams and Carter, *Transmission Electron Microscopy a Textbook for Material Science*, 2<sup>nd</sup> Edition, Springer, 2009. (Call No.: TA417.23.W716 2009)

Joachim Frank, *Three-Dimensional Electron Microscopy of Macromolecular Assemblies: Visualization of Biological Molecules in their Native State*, 2<sup>nd</sup> Edition, Oxford, 2006. (QH324.9.T45F828) E book

**BS3023 REGULATORY CONTROL OF HEALTHCARE PRODUCTS AND MEDICAL DEVICES [New Course]**

Subject Coordinator : Prof Yoon Ho Sup, Joe / Dr Nealda Yusof

**References**

Jonathan S. Kahan, Hogan Lovells US LLP, *Medical Device Development: Regulation and Law*, 3<sup>rd</sup> Edition, Parexel Intl Corp, 2014, ISBN-13: 978-0988314436

Rosemary Hawkins, *Medical Device Approval and Regulation in 16 Countries: Brief Overviews*, Nova Science Publishers, ISBN: 978-1-63484-242-6

Carl T. DeMarco, *Medical Device Design and Regulation*, ASQ Quality Press, 2011, ISBN: 0873898168, 9780873898164

Mindy J. Allport-Settle, *Current Good Manufacturing Practices: Pharmaceutical, Biologics, and Medical Device Regulations and Guidance Documents*, PharmaLogika, Inc., ISBN: 1449505236, EAN-13 9781449505233

Jean-Pierre Boutrand, *Biocompatibility and Performance of Medical Devices*, Woodhead Pub Limited, 2012, ISBN: 0857090704, 9780857090706

*Medical devices – Application of risk management to medical devices*, ISO (the International Organization for Standardization) ISO14971:2007 (en), **Document published on: 2007-03-01**

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*Medical devices – Quality management systems – Requirements for regulatory purposes*, ISO (the International Organization for Standardization) ISO13485:2016 (en), **Document published on:** 2016-03-01

C. C. W. Schoenmakers, *Ce Marking for Medical Devices: A Handbook to the Medical Devices Directives: Medical Devices Directive 93/42/Eec : The Active Implantable Medical Devices Directive 90/396/Eec*, **ISBN-13:** 978 1559379465

**BS4004 CURRENT TOPICS IN IMMUNOLOGY**

Subject Coordinator : Asst Prof Su I-Hsin

**Other References**

Kenneth P. Murphy, *Janeway's immunobiology*, 8<sup>th</sup> 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)

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

Thomas J. Kindt, *Kuby immunology*, 6<sup>th</sup> Edition, W.H. Freeman, 2007. (QR181.K51)

**BS4006 VIROLOGY**

Subject Coordinator: Assoc Prof Richard Sugrue

**Prescribed Textbooks**

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

Edward K. Wagner, *Basic virology*, 3<sup>rd</sup> Edition, Blackwell Pub., 2008. (Call no: QR360.W132 2008) E book

Teri Shors, *Understanding viruses*, 2<sup>nd</sup> Edition, Jones and Bartlett Learning, 2013. (RC114.5.S559 2013)

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

**BS4009 BIOLOGY OF AGING**

Subject Coordinator : Asst Prof Esther Wong



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**Prescribed Textbooks**

Edward J. Masoro and Steven N. Austad, *Hand book of the biology of aging*, 7<sup>th</sup> Edition, 2010.  
(Call No. : QP86.H236 2011) E book

Leonard P. Guarente, Linda Partridge, Douglas C. Wallace, *Molecular biology of aging*, 2008.  
(QP86.M718) E book

**BS4010 SYNTHETIC BIOLOGY**

Subject Coordinator : Assoc Prof Gao Yonggui

**Prescribed textbooks:**

Zhao Huimin, *Synthetic Biology: Tools and Applications*, Academic Press, 2013. (Call no.:  
TA164.S993) E book

E.R.Hamilton, M. L. Morales, *Synthetic Biology: Prospects and Implications*, Nova Science Pub Inc.,  
2012. (Call no.: QH585.S993)

Markus Schmidt, *Synthetic Biology: Industrial and Environmental Applications*, Wiley-Blackwell  
Press, 2012. (Call no.: TP248.S993) E book

Anton Glieder, Christian P. Kubicek, Diethard Mattanovich, Birgit Wiltschi, Michael Sauer, *Synthetic  
Biology*, 1<sup>st</sup> Editor, Springer Press, 2016.

**BS4012 CURRENT TOPICS IN CANCER DRUG DISCOVERY [New Course]**

Subject Coordinator : Asst Prof Melissa Jane Fullwood

Textbook: Nil

**BS4013 PHYSIOLOGICAL SYSTEMS: ANIMAL MODELS FOR DRUG DEVELOPMENT [NEW COURSE]**

Subject Coordinator : Adj Asst Prof Katja Fink/Adj A/Prof Hannes Hentze/Assoc Prof Valerie Lin

**Prescribed Text**

*The Eighth Edition of the Guide for the Care and Use of Laboratory Animals* (NRC 2011), Committee  
for the Update of the Guide for the Care and Use of Laboratory Animals; National Research  
Council, THE NATIONAL ACADEMIES PRESS, ISBN: 978-0-309-15400-0

P. Michael Conn, *Animal Models for the Study of Human Diseases*, Texas Tech University Health  
Sciences Center, Lubbock, USA, ACADEMIC PRESS, ISBN: 978-0-12-415894-8

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Chaoyong Ma, *Online Publications- Animal Models of Disease*, Modern Drug Discovery, Volume 7, Issue 6, pp. 30-36, ACS Publications, June 2004

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**BS4014 MOLECULAR BASIS OF DISEASES [New Course]**

Subject Coordinator : Assoc Prof Surajit Bhattacharyya

**Prescribed Text**

John Mendelsohn, Joe W. Gray, Peter M. Howley, Mark A. Israel, Craig B. Thompson. Philadelphia, PA, The molecular basis of cancer, 4<sup>th</sup> Edition, 2015, Elsevier Saunders, ISBN-13: 978-1455740666

Patrick G. Guilfoile, Antibiotic resistant bacteria, Chelsea House Publishers, New York, N.Y., c2007, ISBN: 0791091880 (hc : alk. paper)

**Reference**

Thomas E. Creighton, Protein folding, W.H. Freeman and Co., Biochemical Education <[http://onlinelibrary.wiley.com/journal/10.1002/\(ISSN\)1879-1468](http://onlinelibrary.wiley.com/journal/10.1002/(ISSN)1879-1468)>, Volume 21, Issue 1 <<http://onlinelibrary.wiley.com/doi/10.1002/bmb.569.v21:1/issuetoc>>, Article first published online: 30 JUN 2010, ISBN 0-7167-7027-X

**ELECTIVES**

**BS0001 BIOLOGY AND SOCIETY**

Subject Coordinator : Dr Kenneth Yu

**Prescribed Text**

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

**BS8003 SCIENCE OR FICTION? - BIOLOGY IN POPULAR MEDIA**

Subject Coordinator: Dr Sze Chun Chau

**References**

Sylvia S. Mader, *Biology*, 12<sup>th</sup> Edition, McGraw-Hill, 2015. (Call no: QH308.2.M181b 2016)

Sylvia S Mader, *Inquiry into life*, 14<sup>th</sup> Edition, McGraw-Hill, 2014. (QH308.2.M181n 2014)

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BS8004 TRADITIONAL CHINESE MEDICINE: A PRIMER COURSE 中医入门  
Course Coordinator: Dr Zhao Yan

**References**

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

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

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