

**NANYANG TECHNOLOGICAL UNIVERSITY
SCHOOL OF BIOLOGICAL SCIENCES**

BS-BOOK LIST UPDATING - AY2019 SEMESTER 1

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BS1001 INTRODUCTORY BIOLOGY

Subject Coordinator: Dr Kenneth Yu

References

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

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

BS1002 BIOPHYSICAL CHEMISTRY

Subject Coordinator: Assoc Prof Mu Yuguang

Prescribed Textbook

Ignacio Tinoco, Jr. and co-authors, *Physical Chemistry Principles and Applications in Biological Sciences*: 5th Edition (Call no: QH345.P578 2014)

Other References

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

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

BS1003 ORGANIC CHEMISTRY

Subject Coordinator: Asst Prof Motoki Yamane / Assoc Prof Liu Chuan Fa

Prescribed Textbook

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

McMurry – Asia EBook Organic Chemistry 9E (2016) ISBN: 9788000005201

Other References

Organic Chemistry (Fifth Edition) 5th Edition
by Maitland Jones Jr. (Author), Steven A. Fleming (Author)
Publisher: W. W. Norton & Company; 5 edition (February 1, 2014)

**NANYANG TECHNOLOGICAL UNIVERSITY
SCHOOL OF BIOLOGICAL SCIENCES**

Language: English

ISBN-10: 0393913031

ISBN-13: 978-0393913033

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

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

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

Introductory Texts

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

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

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

Douglas Applequist, *Introduction to organic chemistry*, 3rd 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)

**NANYANG TECHNOLOGICAL UNIVERSITY
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BS1008 BIostatISTICS

Subject Coordinator: Assoc Prof Lu Lanyuan

Prescribed Textbook

Geoffrey R. Norman, *Biostatistics: the bare essentials*, 4th Edition, People's Medical Publishing House-USA, 2014 (Call no: QH323.5.N842 2014, E-Book)

BS1200 UNDERSTANDING SINGAPORE HEALTHCARE SYSTEM [New Course]

Subject Coordinator: Dr Sze Chun Chau

Prescribed Textbook

Singapore's Health Care System
(Ed. Lee Chien Earn & K. Satk, World Scientific Publishing)
ISBN 978-9814696050

BS0004 INTRODUCTION TO DATA SCIENCE [New Course]

Subject Coordinator: Dr Wilson Goh

Prescribed Textbook

NIL

Reference

NIL

BS2001 PHYSIOLOGY

Subject Coordinator: Assoc Prof Valerie Lin

Prescribed Textbook

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

Reference

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

**NANYANG TECHNOLOGICAL UNIVERSITY
SCHOOL OF BIOLOGICAL SCIENCES**

BS2002 MICROBIOLOGY

Subject Coordinator : Assoc Prof Scott Rice / Assoc Prof Kevin Pethe

Prescribed Textbook

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

BS2003 BIOCHEMISTRY II

Subject Coordinator: Prof Gerhard Gruber

Prescribed Textbook

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

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

Jeremy Mark Berg, Biochemistry, 7th International Edition, W.H. Freeman, 2012. (QP514.2.S928 2012)

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

BS2015 VIROLOGY

Subject Coordinator: Assoc Prof Richard Sugrue

Prescribed Textbooks

Introduction to Modern Virology 7th Edition

by Nigel J. Dimmock (Author), Andrew J. Easton (Author), Keith N. Leppard (Author)

Language: English

ISBN-10: 1119978106

ISBN-13: 978-1119978107

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

Understanding Viruses 3rd Edition

by Teri Shors (Author)

ISBN-13: 978-1284025927

Publisher: Jones & Bartlett Learning; 3 edition (August 12, 2016)

**NANYANG TECHNOLOGICAL UNIVERSITY
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Language: English

ISBN-10: 1284025926

ISBN-13: 978-1284025927

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

BS2100 MOLECULAR AND CELL BIOLOGY TECHNOQUES LEVEL 2 [New Course]

Subject Coordinator: Asst Prof Alexander Ludwig / Asst Prof Li Yinghui

Reference

CRISPR-Cas: A Laboratory Manual (ISBN 978-1-621821-31-1)

Molecular Cloning: A Laboratory Manual (ISBN 0879695773)

Principles and Techniques of Biochemistry and Molecular Biology (ISBN 9780511813412)

BS3001 NEUROBIOLOGY

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

Prescribed Textbook

Dale Purves, *Neuroscience*, 6th Edition, Sinauer Associates, 2018. (Call no: QP355.2.N494 2018)

Other Reference

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

Mark Bear, *Neuroscience*, 4th Edition, Wolters Kluwer, 2015

BS3003 DEVELOPMENTAL BIOLOGY

Subject Coordinator : Dr Peter Cheung

Prescribed Textbook

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

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

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

Other References

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

BS3004 CANCER BIOLOGY

Subject Coordinator : Asst Prof Melissa Fullwood

Prescribed Textbook

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

BS3014 BIOLOGICAL FOUNDATIONS OF BEHAVIOR

Subject Coordinator : Assoc Prof Ajai Vyas

Prescribed Textbooks

None.

Other Reference

John Alcock, *Animal Behavior: An Evolutionary Approach* 10th Edition. Sinauer Associates. ISBN-13: 978-0878939664.

BS3018 PLANT BIOLOGY

Subject Coordinator : Asst Prof Oliver Mueller-Cajar

Prescribed Textbook

Raven Biology of Plants 8th Edition
by Ray F. Evert (Author), Susan E. Eichhorn (Author)
Publisher: W. H. Freeman; 8 edition (March 2, 2012)
Language: English
ISBN-10: 1429219610

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

Reference

Lincoln Taiz, *Plant Physiology and Development*, 6th Edition, Sinauer Associates, 2015

BS3021 BIOIMAGING TECHNIQUES IN EM

Subject Coordinator : Asst Prof Shashi Bhushan

Prescribed Textbooks

Williams and Carter, *Transmission Electron Microscopy a Textbook for Material Science*, 2nd 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*, 2nd Edition, Oxford, 2006. (QH324.9.T45F828) E book

**BS3023 REGULATORY CONTROL OF HEALTHCARE PRODUCTS AND
MEDICAL DEVICES**

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

References

Jonathan S. Kahan, Hogan Lovells US LLP, *Medical Device Development: Regulation and Law*, 3rd 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

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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

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

BS3024 EVOLUTION IN HEALTH & DISEASE

Subject Coordinator : Assoc Prof Konstantin Pervushin/ Asst Prof Kim Hie Lim

Prescribed Textbooks

None.

Reference:

Mark Jobling et al. *Human Evolutionary Genetics*. Second edition. (Garland Science, 2014). ISBN: 9780815341482

Johnathan B. Losos. *The Princeton Guide to Evolution*. (Princeton: Princeton University Press, 2014). ISBN: 9780691149776.

Andrew F.G. Bourke. *Principles of social evolution*. (Oxford: Oxford University Press, 2011). ISBN: 9780199231157

John Maynard-Smith and Eörs Szathmáry. *The Major Transitions in Evolution*. (Oxford: Oxford University Press, 1995) ISBN: 9780198502944

Stephen C. Stearns and Jacob C. Koella. *Evolution in Health and Disease*. Second edition (Oxford: Oxford University Press, 2008) ISBN: 9870199207459

David N. Cooper (Editor), Hildegard Kehrer-Sawatzki (Editor). *Handbook of Human Molecular Evolution*, 2 Volume Set.(Wiley 2008). ISBN: 978-0-470-51746-8

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BS3027 SPECTROSCOPIC METHODS IN BIOMEDICAL STRUCTURAL
BIOLOGY [New Course]

Subject Coordinator : Assoc Prof Jaume Torres

Prescribed Textbooks/Reference:

Nil

BS3032 ENVIRONMENTAL MICROBIOLOGY

Subject Coordinator : Assoc Prof Scott Rice / Dr McDougald Diane

Textbook:

Nil

BS3033 DATA SCIENCE FOR BIOLOGISTS

Subject Coordinator : Dr Wilson Goh

Prescribed Textbooks

None.

Reference:

[General introduction to data science] Godsey, Brian. Think Like a Data Scientist: Tackle the data science process step-by-step. Manning, 2017.

<http://proquestcombo.safaribooksonline.com.ezlibproxy1.ntu.edu.sg/9781633430273> [Chapter 1-5]

[R programming/Data visualization] Kabacoff, Robert. R in Action, Second Edition: Data analysis and graphics with R. Manning, 2015

<http://proquestcombo.safaribooksonline.com.ezlibproxy1.ntu.edu.sg/book/programming/r/9781617291388> [Chapter 1-7, 19]

[Statistics] <https://www.nature.com/collections/gqhhgm> [A collection of very interesting, relevant and insightful papers on statistics and biological data; Highly recommended; you may find project ideas here]

[Statistics]

van Emden, Helmut. Statistics for Terrified Biologists. Hoboken: John Wiley & Sons, Ltd., 2009.

<http://ebookcentral.proquest.com.ezlibproxy1.ntu.edu.sg/lib/ntusg/detail.action?docID=416517> [Chapter 5-9, 17]

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[Biological Databases/Research design] Buffalo, Vince. Bioinformatics Data Skills. O'Reilly Media, Inc., 2015.

<http://proquestcombo.safaribooksonline.com.ezlibproxy1.ntu.edu.sg/book/bioinformatics/9781449367480> [Chapter 1, 6, 8, 9, 10, 13]

[Biological Databases/Bioinformatics] Pevsner, Jonathan. Bioinformatics and functional genomics. Hoboken, New Jersey : Wiley-Blackwell, 2009.

<http://ezlibproxy1.ntu.edu.sg/login?url=http://dx.doi.org/10.1002/9780470451496> [Chapter 1, 2]

[Machine learning] Witten, Ian. Data mining: practical machine learning tools and techniques 4th Ed. Cambridge, MA : Morgan Kaufmann, 2017.

<http://proquestcombo.safaribooksonline.com.ezlibproxy1.ntu.edu.sg/9780128042915> [Chapter 1, 3, 4, 5]

[Data visualization] Hilfiger, John Jay. Graphing Data with R. O'Reilly Media, Inc, 2015.

<http://proquestcombo.safaribooksonline.com.ezlibproxy1.ntu.edu.sg/9781491922613> [Chapter 2-12, 16, 17, 19]

[Data visualization] Wickham, Hadley. Ggplot2: elegant graphics for data analysis. Switzerland: Springer, 2016. <http://ezlibproxy1.ntu.edu.sg/login?url=http://link.springer.com/10.1007/978-3-319-24277-4> [Chapter 1-3]

BS4002 CURRENT TOPICS IN CELL BIOLOGY

Subject Coordinator : Asst Prof Miao Yansong

References

References information and papers will be given using TEL online system.

Bruce Alberts, Dennis Bray, Karen Hopkin, Alexander Johnson, Julian Lewis, Martin Raff, Keith Roberts, Peter Walter, *Essential Cell Biology*, Fourth Edition, Garland Science - Taylor & Francis Group; October 14, 2013, ISBN: 9780815344544;

Research Articles will be provided.

BS4004 CURRENT TOPICS IN IMMUNOLOGY

Subject Coordinator : Assoc Prof Su I-Hsin

Other References

**NANYANG TECHNOLOGICAL UNIVERSITY
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Kenneth P. Murphy, *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)

Cellular and Molecular Immunology Elsevier on VitalSource (Cellular and Molecular Immunology, Abbas) Kindle Edition

by Abul K. Abbas (Author), Andrew H. H. Lichtman (Author), Shiv Pillai (Author)

Series: Cellular and Molecular Immunology, Abbas

Paperback: 544 pages

Publisher: Saunders; 8 edition (August 28, 2014)

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

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*, 1st Editor, Springer Press, 2016.

BS4015 PLANT BIOTECHNOLOGY

Subject Coordinator: Dr Hong Yan / Adjunct Assoc Prof Srinivasan Ramachandra

References

Plant Biotechnology and Agriculture: Prospects for the 21st Century, 1st Edition by Arie Altman and Paul Michael Hasegawa, Academic Press, 2011, ISBN: 9780123814661

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SCHOOL OF BIOLOGICAL SCIENCES**

Plant Biotechnology and Genetics: Principles, Techniques, and Applications, 2nd Edition by C. Neal Stewart Jr. (Editor), John Wiley & Sons, 2016, ISBN: 978-1-118-82012-4, 432 Pages

BS4017 HIGH-THROUGHPUT BIOINFORMATICS [New Course]

Subject Coordinator : Asst Prof Jarkko Tapani Salojarvi

Prescribed Textbooks/Reference:

Nil

ELECTIVES

BS0001 BIOLOGY AND SOCIETY

Subject Coordinator : Dr Kenneth Yu

Prescribed Text

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

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*, 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)

BS8101 Exploring the Science of Good Eating Experience

Subject Coordinator: Dr Sze Chun Chau

Prescribed Textbook

**NANYANG TECHNOLOGICAL UNIVERSITY
SCHOOL OF BIOLOGICAL SCIENCES**

McWilliams, *Foods: Experimental Perspectives*, 8th Edition, Pearson, 2016. ISBN-13: 978-0134204581

Barbara Scheule and Marion Bennion, *Introductory Foods*, 14th Edition, Pearson, 2014. ISBN-13: 978-0132739276

SP0056 WORKINGS OF THE HUMAN BODY

Subject Coordinator: Dr Peter Cheung

Prescribed Textbook

Jane B Reece, Martha Taylor, *Campbell Biology Concepts and Connections*, 9th Edition, Pearson, 2017, ISBN: 978-0134296012

Other References

Michael D Johnson, *Human Biology Concepts and Current Issues*, 8th Edition, Pearson, 2016, ISBN: 978-0134042435.