

NANYANG TECHNOLOGICAL UNIVERSITY  
SCHOOL OF CHEMICAL AND BIOMEDICAL ENGINEERING

RECOMMENDED TEXTBOOKS AND REFERENCES FOR SCBE  
THIRD YEAR CHEMICAL AND BIOMOLECULAR ENGINEERING  
ACADEMIC YEAR 2012-2013 SEMESTER 1

**CH1032**

**BIOCHEMICAL ENGINEERING**

**Textbook**

Michael L. Shuler and Fikret Kargi, *Bioprocess engineering: basic concepts*, 2<sup>nd</sup> Edition, Prentice Hall, 2002 (Call no: TP248.3.S562)

Harvey W. Blanch and Douglas S. Clark, *Biochemical engineering*, 1<sup>st</sup> Edition, M. Dekker, 1997 (TP248.3.B639, TP248.3.B639 1997)

**Reference**

A.S. Bommarius and B.R. Riebel, *Biocatalysis*, 1<sup>st</sup> Edition, Wiley-VCH, 2004 (TP248.65.E59B696, E-Book)

Michael T. Madigan, *Brock biology of microorganisms*, 13<sup>th</sup> Edition, Pearson/Benjamin Cummings, 2012 (QR41.2.M182 2012)

Pauline M. Doran, *Bioprocess engineering principles*, 2<sup>nd</sup> Edition, Academic Press, 2013 (TP248.3.D693 2013)

**CH3001**

**CHEMICAL AND BIOMEDICAL PROCESS CONTROL AND DYNAMICS**

**Textbook**

Thomas E. Marlin, *Process control: designing processes and control systems for dynamic performance*, 2<sup>nd</sup> Edition, McGraw-Hill, 2000 (Call no: TP155.75.M348)

**Reference**

José A. Romagnoli and Ahmet Palazoğlu, *Introduction to process control*, 1<sup>st</sup> Edition, Marcel Dekker/CRC, 2006 (TP155.75.R756)

Dale E. Seborg, Thomas F. Edgar and Duncan A. Mellichamp, *Process dynamics and control*, 3<sup>rd</sup> Edition, Wiley, 2011 (TP155.75.S443 2011)

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Babatunde A. Ogunnaike and W. Harmon Ray, Process dynamics, modeling, and control, 1<sup>st</sup> Edition, Oxford University Press, 1994 (TP155.75.G35)

B. Wayne. Bequette, Process control: modeling, design, and simulation, 1<sup>st</sup> Edition, Prentice Hall PTR, 2003 (TS156.8.B481)

George Stephanopoulos, Chemical process control: an introduction to theory and practice, 1<sup>st</sup> Edition, Prentice-Hall, 1984 (TP155.75.S827)

**CH3041                      CHEMICAL ENGINEERING UNIT OPERATIONS II**

**Textbook**

Liang-Shih Fan and Chao Zhu, Principles of gas-solid flows, 1<sup>st</sup> Edition, Cambridge University Press, 1998 (Call no: TA357.5.M84F199)

J.D. Seader and Ernest J. Henley, Separation process principles: chemical and biochemical operations, 3<sup>rd</sup> Edition, John Wiley, 2011 (TP156.S45S438 2011)

J. W. Mullin, Crystallization, 4<sup>th</sup> Edition, Butterworth-Heinemann, 2001 (TP156.C7M959, E-book)

A. G. Jones, Crystallization process systems, 1<sup>st</sup> Edition, Butterworth-Heinemann, 2002 (TP156.C7J76, E-book)

**Reference**

Tom D. Reynolds, Unit operations and processes in environmental engineering, 2<sup>nd</sup> Edition, PWS Pub Co., 1996 (TD430.R465 1996)

Christie J. Geankoplis, Mass transport phenomena, 1<sup>st</sup> Edition, Rinehart and Winston, 1972 (QC175.2.G292)

Raymond E. Kirk, Kirk-Othmer encyclopedia of chemical technology, 5<sup>th</sup> Edition, Wiley, 2004 (E-book)

Christie J. Geankoplis, Transport processes and separation process principles, 4<sup>th</sup> Edition, Prentice Hall Professional Technical Reference, 2003 (TP156.T7G292 2003)

Warren L. McCabe, Unit operations of chemical engineering, 7<sup>th</sup> Edition, McGraw-Hill, 2005 (TP155.7.M121 2005)

**NANYANG TECHNOLOGICAL UNIVERSITY  
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M. J. Rhodes, *Introduction to particle technology*, 2<sup>nd</sup> Edition, Wiley, 2008  
(TP156.P3R477 2008, E-Book)

Robert H. Perry, *Perry's chemical engineers' handbook*, 8<sup>th</sup> Edition, McGraw-Hill, 2008  
(TP155.C517 2008)

**CH4901 ENGINEERS AND SOCIETY**

**Textbook**

Stephen F. Johnston, J. Paul Gostelow and W. Joseph King, *Engineering and society: challenges of professional practice*, 1<sup>st</sup> Edition, Prentice Hall, 2000 (Call no: TA157.J73)

Mike W. Martin and Roland Schinzinger, *Ethics in engineering*, 4<sup>th</sup> Edition, McGraw-Hill, 2005 (TA157.M382 2005)

Sunny Y. Auyang, *Engineering: an endless frontier*, 1<sup>st</sup> Edition, Harvard University Press, 2004  
(TA157.A943, E-Book)

Mike W. Martin and Roland Schinzinger, *Introduction to engineering ethics*, 2<sup>nd</sup> Edition, McGraw-Hill Higher Education, 2010 (TA157.S336 2010)

C. M. Turnbull, *A history of modern Singapore*, 1819-2005, 3<sup>rd</sup> Edition, NUS Press, 2009  
(DS610.4.T942)

Sonny Yap, Richard Lim and Leong Weng Kam, *Men in white: the untold story of Singapore's ruling political party*, 2<sup>nd</sup> Edition, Straits Times Press, 2010 (JQ1063.A98Y25 2010)

T.Koh, R. Manalo, W. Woon, *The making of the ASEAN Charter*, World Scientific Pub Co, 2009 (KNE173.M235, E-Book)

**Reference**

Richard Shelton Kirby, *Engineering in history*, Dover Edition, Dover Publications, 1990  
(TA15.E57E)

Caroline Baillie, *Engineers within a local and global society*, 1<sup>st</sup> Edition, Morgan & Claypool Publishers, 2006 (TA157.B157, E-Book)

Gurinder S. Shahi, *BioBusiness in Asia: how Asia can capitalize on the life science revolution*, 1<sup>st</sup> Edition, Pearson/Prentice Hall, 2004 (HD9999.B443S525)

**NANYANG TECHNOLOGICAL UNIVERSITY  
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Tim Huxley, *Defending the Lion City: the Armed Forces of Singapore*, 1<sup>st</sup> Edition, Allen & Unwin, 2000 (UA853.S5H986, E-Book)

*The fight against terror: Singapore's national security strategy*, 1<sup>st</sup> Edition, National Security Coordination Centre, 2004 (HV6433.S55F471)

Kuan Yew Lee, *The Singapore story: memoirs of Lee Kuan Yew*, Abridged Edition, Federal Pub., 2000 (DS598.S7L478S 2000)

Kuan Yew Lee, *From third world to first: the Singapore story: 1965-2000*, memoirs of Lee Kuan Yew, 1<sup>st</sup> Edition, Singapore Press Holdings: Times Editions, 2000 (DS598.S7L478F)

Brigitte Kok Hwa Sie, *Singapore, a modern asian city-state: relationship between cultural and economic development*, 1<sup>st</sup> Edition, 1997(DS609.9.S571)

Singapore, *Ministry of Culture*, 1971 (DS598.S7S617 2007)

Garry Rodan, Kevin Hewison and Richard Robison, *The political economy of South-East Asia: an introduction*, 1<sup>st</sup> Edition, Oxford University Press, 1997 (HC441.P769P)

Sharon Siddique and Sree Kumar, *The 2nd ASEAN reader*, 1<sup>st</sup> Edition, Institute of Southeast Asian Studies, 2003 (JX1979.A816AR)

Christopher Reynolds, *Global logic: the challenge of globalisation for Southeast Asian business*, 1<sup>st</sup> Edition, Prentice Hall, 2002 (HG4244.6.R462)

Amitav Acharya, *Asia rising: who is leading?*, 1<sup>st</sup> Edition, World Scientific, 2008 (JQ24.A176, E-Book)

The Chemical and Biomolecular Engineering programme at the Nanyang Technological University is the first undergraduate degree programme in Singapore which incorporates life sciences (biology, biochemistry and genetics) and physical sciences (chemistry, physics and mathematics) with chemical engineering principles. Our goal is to produce a new generation of chemical and biomolecular engineering graduates with the necessary skills to meet the challenges of the chemical and biomedical sciences industries in Singapore and the region. This article was last modified 12 years ago. —. Post comment.