

## RESERVE BOOKS

Faculty: Warren D. Seider, Sean P. Holleran, Bruce M. Vrana, Leonard A. Fabiano  
Courses: CBE 400 (Fall 2018) – Introduction to Product and Process Design  
CBE 459 (Spring 2019) – Product and Process Design Projects

### *Process and Product Design*

Seider, W. D., D. R. Lewin, J. D. Seader, S. Widagdo, R. Gani, and K. M. Ng, *Product and Process Design Principles: Synthesis, Analysis, and Evaluation*, Fourth Edition, Wiley, 2017.

Adams II, T. A., *Learn ASPEN PLUS in 24 Hours*, McGraw-Hill and CACHE, 2018

Douglas, J. M., *Conceptual Design of Chemical Processes*, McGraw-Hill, 1988.

Turton, R., R. C. Bailie, W. B. Whiting, and J. A. Shaeiwitz, *Analysis, Synthesis, and Design of Chemical Processes*, Fifth Edition, Prentice-Hall, 2018.

Peters, M. S., K. D. Timmerhaus, and R. E. West, *Plant Design and Economics for Chemical Engineers*, 5th Edition, McGraw-Hill, 2003.

Towler, G., and R. Sinnott, *Chemical Engineering Design: Principles, Practice and Economics of Plant and Process Design*, 2nd Edition, Elsevier, 2013.

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Diweker, U., *Batch Processing: Modeling and Design*, CRC Press, 2014.

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Ng, K. M., R. Gani, and K. Dam-Johansen (Eds.), *Chemical Product Design: Towards a Perspective Through Case Studies*, Computer-Aided Chemical Engineering, **23**, Elsevier, 2007.

Pissano, G. P., *The Development Factory: Lessons from Pharmaceuticals and Biotechnology*, Harvard Business School Press, 1997.

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Biegler, L. T., I. E. Grossmann, and A. W. Westerberg, *Systematic Methods of Chemical Process Design*, Prentice-Hall, 1997.

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Gladwell, M., *The Tipping Point: How Little Things Can Make a Big Difference*, Little, Brown, and Co., New York, 2002.

### *Process Units*

Seader, J. D., E. J. Henley, and D. K. Roper, *Separation Process Principles*, Fourth Edition, Wiley, 2016.

Doherty, M. F., and M. F. Malone, *Conceptual Design of Distillation Systems*, McGraw-Hill, 2001.

Diwekar, U., *Batch Distillation: Simulation, Optimal Design, and Control*, 2nd Ed., CRC Press, 2012.

Fogler, H. S., *Essentials of Chemical Reactor Engineering*, Prentice-Hall, 2011.

McCabe, W. L., J. C. Smith, and P. Harriott, *Unit Operations of Chemical Engineering*, 4th Edition, McGraw-Hill, 1985.

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Schmidt, L. D., *The Engineering of Chemical Reactions*, Oxford Univ. Press, 1998.

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#### *Thermophysical Properties, Second-law Analysis*

Poling, B. E., J. M. Prausnitz, and J. P. O'Connell, *Properties of Gases and Liquids*, Fifth Edition, McGraw-Hill, 2001.

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Sussman, M. V., *Availability (Exergy) Analysis: A Self Instruction Manual*, Milliken House, 1980.

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#### *Fluid Mechanics*

Wilkes, J. O., *Fluid Mechanics for Chemical Engineers: With Microfluidics, CFD, and COMSOL Multiphysics 5*, Third Edition, Prentice-Hall, 2017.

*Biotechnology*

Blanch, H., *Biochemical Engineering*, Dekker, 1997.

Ozturk, S., and W.-S. Hu, *Cell Culture Technology for Pharmaceutical and Cell Based Therapies*, Taylor & Francis, 2005.

Shukla, A. A., et al., *Process Scale Bioseparations for the Biopharmaceutical Industry*, CRC/Taylor & Francis, 1997.

Najafpour, G., *BioChemical Engineering and Biotechnology*, Elsevier, 2007.

*Economics*

Brealey, R., and S. Myers, *Principles of Corporate Finance*, McGraw-Hill, 1984.

*Numerical Methods and Optimization*

Myers, A. L., and W. D. Seider, *Intro. to Chem. Eng. and Comp. Calcs.*, Prentice-Hall, 1976.

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*Process Control*

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### *Safety*

Crowl, D. A., and J. F. Louvar, *Chemical Process Safety: Fundamentals with Applications*, 3rd Edition, Prentice-Hall, 2012.

Kletz, T., *Plant Design for Safety—A User-Friendly Approach*, Hemisphere, Washington, DC, 1991.

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*Environment*

Allen, D. T., and K. S. Rosselot, *Pollution Prevention for Chemical Processes*, Wiley, 1997.

Allen, D.T., and D.R. Shonnard, *Green Engineering: Environmentally Conscious Design of Chemical Processes*, Prentice-Hall, 2002.