

CBE 400 and 459

RESERVE BOOKS

Process and Product Design

Seider, W. D., J. D. Seader, D. R. Lewin, and S. Widagdo, *Product and Process Design Principles: Synthesis, Analysis, and Evaluation*, Third Edition, Wiley, 2009.

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*, Second Edition, Prentice-Hall, 2003.

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*, Elsevier, 2008.

Ulrich, G. D., and P. T. Vasudevan, *Chemical Engineering Process Design and Economics: A Practical Guide*, Second Edition, Process Publishing, Durham, NH, 2004.

Sandler, H. J., and E. Luckiewicz, *Practical Process Engineering*, XIMIX, Philadelphia, 1993.

Cussler, E. L., and G. D. Moggridge, *Chemical Product Design*, Cambridge University Press, 2001.

Wei, J., *Product Engineering: Molecular Structure and Properties*, Oxford University Press, 2007.

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.

Ulrich, K. T., and S. D. Eppinger, *Product Design and Development*, Second Edition, McGraw-Hill, 2000.

Gundling, E., *The 3M Way to Innovation: Balancing People and Profit*, Kodansha International, New York, 2000.

Coe, J. T., *Unlikely Victory: How General Electric Succeeded in the Chemical Industry*, AIChE, 2000.

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

Rudd, D. F., and C. C. Watson, *Strategy of Process Engineering*, Wiley, 1968.

Rudd, D. F., G. J. Powers, and J. J. Sirola, *Process Synthesis*, Prentice-Hall, 1973.

Smith, R., *Chemical Process Design and Integration*, Wiley, 2005.

Linnhoff, B., et al., *User Guide on Process Integration for the Efficient Use of Energy*, Inst. of ChE. Eng., England, 1982.

Woods, D. R., *Process Design and Engineering Practice*, Prentice-Hall, 1995.

Cagan, J., and C. M. Vogel, *Creating Breakthrough Products: Innovation from Product Planning to Program Approval*, Prentice-Hall PTR, 2002.

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., and E. J. Henley, *Separation Process Principles*, Second Edition, Wiley, 2006.

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

Fogler, H. S., *Elements of Chemical Reactor Engineering*, Fourth Edition, Prentice-Hall, 2006.

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

Geankoplis, C. J., *Transport Processes and Separation Process Principles*, Fourth Ed., Prentice-Hall, 2003.

Hewitt, G. F., Ed., *Handbook of Heat Exchanger Design*, Begell House, New York, 1992.

Kern, D. Q., *Process Heat Transfer*, McGraw-Hill, 1950.

King, C. J., *Separation Processes*, 2nd Edition, McGraw-Hill, 1980.

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

Walas, S. M., *Chemical Process Equipment*, Butterworth, London, 1988.

Thermophysical Properties, Second-law Analysis

Poling, B. E., J. M. Prausnitz, and J. P. O'Connell, *Properties of Gases and Liquids*, 5th Edition, McGraw-Hill, 2001.

Smith, J. M., H. C. Van Ness, and M. M. Abbott, *Introduction to Chemical Engineering Thermodynamics*, Sixth Edition, McGraw-Hill, 2001.

Woods, D. R., *Data for Process Design and Engineering Practice*, Prentice-Hall, 1995.

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

Seader, J. D., *Thermodynamic Efficiency of Chemical Processes*, MIT Press, Cambridge, MA, 1982.

Fluid Mechanics

Wilkes, J. O., *Fluid Mechanics for Chemical Engineers*, Second Edition, Prentice-Hall, 2006.

Biotechnology

Blanch, H., *Biochemical Engineering*

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

Shukla, A. A., et al., *Process Scale Bioseparations for the Biopharmaceutical Industry*

Najafpour, G., *BioChemical Engineering and Biotechnology*

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.

Carnahan, B., and J. O. Wilkes, *Digital Computing and Numerical Methods*, Wiley, 1969.

Westerberg, A. W., H. P. Hutchison, R. L. Motard, and P. Winter, *Process Flowsheeting*, Cambridge Univ. Press, 1979.

Beveridge, G., and R. S. Schechter, *Optimization: Theory and Practice*, McGraw-Hill, 1976.

Finlayson, B. A., *Introduction to Chemical Engineering Computing*, Wiley, 2006.

Floudas, C. A., *Nonlinear and Mixed-Integer Optimization: Fundamentals and Applications*, Oxford University Press, 1995.

Process Control

Luyben, W. L., B. D. Tyreus, and M. L. Luyben, *Plantwide Process Control*, McGraw-Hill, 1999.

Luyben, M. L., and W. L. Luyben, *Essentials of Process Control*, McGraw-Hill, 1997.

Luyben, W. L., *Plantwide Dynamic Simulators in Chemical Processing and Control*, Marcel Dekker, 2002.

Luyben, W.L., *Process Modeling, Simulation, and Control for Chemical Engineers*, 2nd Edition, McGraw-Hill, New York, 1990.

Stephanopoulos, G., *Chemical Process Control*, Prentice-Hall, 1984.

Seborg, D.E., T.F. Edgar, and D.A. Mellichamp, *Process Dynamics and Control*, Second Edition, Wiley, 2004.

Ogunnaike, B. A., and W. H. Ray, *Process Dynamics, Modeling, and Control*, Oxford Univ. Press, 1994.

Marlin, T. E., *Process Control: Designing Processes and Control Systems for Dynamic Performance*, Second Edition, McGraw-Hill, 2000.

Bequette, B. W., *Process Control: Modeling, Design, and Simulation*, Prentice-Hall, 2003.

LeBlanc, S., and D.R. Coughanowr, *Process Systems Analysis and Control*, 2nd Ed., McGraw-Hill, New York, 2009.

Perlmutter, D. D., *Introduction to Chemical Process Control*, Wiley, 1965.

DiStefano III, J.J., A.R. Stubberud, and I.J. Williams, *Feedback and Control Systems*, 2nd Ed., Schaum's Outline Series, McGraw-Hill, 1990.

Shinskey, F.G., *Process Control Systems*, 2nd Ed., McGraw-Hill, 1979.

McAvoy, T. J., *Interaction Analysis*, Instrument Society of America, Research Triangle Park, NC (1983).

Ogata, K., *Modern Control Engineering*, Prentice-Hall, 1970.

Safety

Crowl, D. A., and J. F. Louvar, *Chemical Process Safety: Fundamentals with Applications*, Prentice-Hall, 1990.

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

Kletz, T., *Process Plants: A Handbook for Inherently Safer Design*, Taylor & Francis, 1998.

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.