

Self-Study Courses

This is a listing of self-study courses related to the dry bulk solids industries. We welcome your suggestions for self-study courses not listed here; we'll include applicable information in our next Reference & Buyer's Resource. Contact Alicia Tyznik, Associate Editor, *Powder and Bulk Engineering*, 1155 Northland Drive, St. Paul, MN 55120; 651-287-5620, fax 651-287-5650 (atyznik@cscpub.com).

BULK SOLIDS HANDLING & PROCESSING

Introduction to Compressed Air Systems. Offered by the Compressed Air and Gas Institute (CAGI). Coursework consists of seven lessons and covers compressed air basics; types of compressors, capacity controls, and distribution systems; how to control wastes; and air system maintenance. Contact John Addington, 216-241-7333 (cagi@cagi.org, www.cagi.org/smart site/public.asp).

More Value For Your Pulse Jet Dust Collection Dollar. Offered by DZA DezinAir. Free e-mail correspondence course consists of eight lessons and covers filter cake formulation, pressure drop considerations, pulse-jet cleaning system design, pulse-jet collector troubleshooting, ductwork design, humidity and gas mixtures from psychrometric tables, incinerators, and compressed-air consumption and reducing cleaning frequencies. Contact DZA, 704-544-9835 (airdesign@earthlink.net).

Sealing Systems for Operators. Offered by John Crane Academy. Course covers mechanical seal basics of single seals, dual unpressurized seals, dual pressurized seals, and prestart system checks. Course is suitable for anyone who works with end-face mechanical seals. Contact Mary Kay Tempinson, 847-967-2400 (training@johncrane.com, www.johncraneacademy.com).

CERAMICS

Ceramic Laboratory Procedures. Offered by ASM International and the American Ceramic Society (ACerS). Course consists of 15 lessons and three examinations and covers the scientific method and lab safety;

preparing and processing test samples; ceramic properties and testing procedures; and measurement interpretation. Contact ASM customer service, 800-336-5152 (customerservice@asminternational.org, www.asminternational.org).

Ceramic Processing. Offered by ASM International and the American Ceramic Society (ACerS). Course consists of 10 sections and covers a wide range of ceramic processing technologies and all of its interrelationships, starting with raw materials selection and processing and ending with finishing processes. Contact ASM customer service, 800-336-5152 (customerservice@asminternational.org, www.asminternational.org).

Fundamentals of Ceramic Technology. Offered by ASM International and the American Ceramic Society (ACerS). Course consists of 31 lessons and three examinations and covers the basic principles of ceramic materials and their production. Topics include chemistry and crystal chemistry; ceramic manufacturing processes; ceramic product groups; process control and evaluation; and industrial challenges. Contact ASM customer service, 800-336-5152 (customerservice@asminternational.org, www.asminternational.org).

Physical Properties of Ceramic Materials. Offered by ASM International and the American Ceramic Society (ACerS). Course consists of 16 lessons and three examinations and covers the types of behavior that ceramic materials exhibit at atomic, microscopic, and macroscopic scales. Topics include crystal chemistry, phase equilibria, and physical properties such as mechanical, thermal, optical, electrical, magnetic, and chemical. Contact ASM customer service, 800-336-5152 (customerservice@asminternational.org, www.asminternational.org).

Statistical Process Control for Ceramic and Glass. Offered by ASM International and the American Ceramic Society (ACerS). Course consists of eight lessons focusing on statistical tools for process control and 12 lessons focusing on ceramic processing control. Course will provide students with statistical data and teach how to apply such data to control ceramic and glass processes. Contact ASM customer service, 800-336-5152 (customerservice@asminternational.org, www.asminternational.org).

COATINGS

Coatings for Engineers. Offered by the UMR Coatings Institute. Web-based course is typically completed in less than 4 months. Course covers surface cleaning, blast-cleaning, pretreatments, solvents, basic coating classes, application methods, specifications and testing, and coatings properties. Contact Michael Van De Mark, 573-341-4882 (mvandema@umr.edu, web.umr.edu/~coatings).

FOOD & FOOD PROCESSING

Cookie and Cracker Manufacturing Course (Second Edition). Offered by the Biscuit & Cracker Manufacturers' Association (B&CMA) for its members. Course's flexible pace allows up to 2 years for completion. Course covers the fundamentals of cookie and cracker manufacturing, including ingredient handling and characteristics; the production process, including mixing, baking, cooling, and packaging; safety and sanitation; and equipment maintenance. Contact B&CMA, 443-545-1645 (kkinter@thebcma.org, www.thebcma.org).

Multimedia Training Program.

Offered by the Biscuit & Cracker Manufacturers' Association (B&CMA). Course lessons are on four CD-ROMs for Windows-based computer systems and cover basic ingredient functionality and the principles of mixing, forming, and baking. Each lesson is geared to an English or Spanish reading and vocabulary level appropriate for hourly workers and is presented in a format that uses a cause-and-effect approach for decisions affecting the end product. Contact Kathy Kinter, 443-545-1645 (kkinter@thebcma.org, www.thebcma.org).

GLASS

Glass Technology. Offered by ASM International and the American Ceramic Society (ACerS). Course consists of 16 lessons and three examinations. With an emphasis on production technology and glass technology, topics include commercial glass compositions, glass-to-metal seals, grinding and polishing, process control, and health and safety issues. Contact ASM customer service, 800-336-5152 (customerservice@asminternational.org, www.asminternational.org).

MAINTENANCE

Gaskets and Bolted Flange Connections. Offered by the New Standard Institute. CD-ROM-based training course covers the importance of achieving a good flanged connection to limit emissions in valves, compressors, pumps, and other flanged equipment. Topics include gasket terminology and selection criteria; gasketed joint mechanics; functions of bolts, studs, and nuts; establishing a flange connection program; and flange leakage and maintenance. Contact the New Standard Institute, 203-783-1582 (nsi@newstandardinstitute.com, www.newstandardinstitute.com).

Lubrication. Offered by the New Standard Institute. CD-ROM-based training course covers proper lubrication methods and how to analyze oil test results. Other topics include lubricant properties, liquid lubricants, oil properties and terms, hydraulic fluid, grease, oil analysis, and lubrication delivery and

maintenance. Contact the New Standard Institute, 203-783-1582 (nsi@newstandardinstitute.com, www.newstandardinstitute.com).

Machine Vibration Basics. Offered by the New Standard Institute. CD-ROM-based training course explains the physical bases for vibration monitoring, covers vibration analysis through identification of discrete frequencies, and provides problem-solving examples of machinery problems. Contact the New Standard Institute, 203-783-1582 (nsi@newstandardinstitute.com, www.newstandardinstitute.com).

Shutdowns, Turnarounds, and Outages. Offered by the New Standard Institute. CD-ROM-based training course teaches modern project management methods to enable professionals to identify, plan, staff, and coordinate maintenance to minimize downtime and related costs. Topics include identifying needed work, defining the scope of work, and planning a shutdown. Contact the New Standard Institute, 203-783-1582 (nsi@newstandardinstitute.com, www.newstandardinstitute.com).

MATERIALS

Aluminum and its Alloys. Offered by ASM International's Materials Engineering Institute (MEI). Course consists of 15 lessons, including an introduction to aluminum, extractive metallurgy, solidification and phase diagrams, aluminum alloy systems, aluminum casting principles and practice, hot- and cold-working aluminum alloys, and more. Contact MEI, 800-336-5152 (customerservice@asminternational.org, www.asminternational.org).

Corrosion. Offered by ASM International's Materials Engineering Institute (MEI). Course consists of 15 lessons focused on understanding corrosion, including how to recognize and define corrosion problems, how to develop and implement corrosion-control programs, and corrosion test methods and result interpretation. Contact MEI, 800-336-5152 (customerservice@asminternational.org, www.asminternational.org).

Elements of Metallurgy. Offered by ASM International's Materials Engi-

neering Institute (MEI). Course consists of 14 lessons consisting of an intensive introduction to the principles of metallurgy and its practical application in various fields of metals and alloy production, testing, and manufacturing processes, including an understanding of ore extraction, metalforming, phase diagrams, corrosion, and heat treating. Contact MEI, 800-336-5152 (customerservice@asminternational.org, www.asminternational.org).

Fundamentals and Applications of Powder Metallurgy. Offered by ASM International's Materials Engineering Institute (MEI). Course consists of 15 lessons and includes a powder metallurgy handbook. Topics include products and processing overview, powder production and characterization, compacting, sintering, porous materials, hot consolidation of metal powders, and powder metallurgy applications. Contact MEI, 800-336-5152 (customerservice@asminternational.org, www.asminternational.org).

Materials Science for Industry. Offered by ASM International and the American Ceramic Society (ACerS). Course consists of 16 lessons and includes an engineer's textbook of materials science. Course provides an overview of modern materials, including metals, ceramics, plastics, and composites. Contact ASM customer service, 800-336-5152 (customerservice@asminternational.org, www.asminternational.org).

Mechanical Testing of Metals. Offered by ASM International's Materials Engineering Institute (MEI). Course consists of 10 lessons focused on interpreting the fundamentals and applications of mechanical testing in metalworking, demonstrating typical mechanical tests, and evaluating mechanical testing data. Course includes lectures and lab demonstrations. Contact MEI, 800-336-5152 (customerservice@asminternational.org, www.asminternational.org).

Metallurgy for the Nonmetallurgist. Offered by ASM International. Course consists of 15 videotapes that provide a concise and thorough overview of metallurgy as it's applied in industry today. Topics include extraction of metals from mineral ores, production of raw materials such as ingots and billets, fabrication into usable products, methods of joining, cor-

rosion and its prevention, and inspection techniques. Contact ASM customer service, 800-336-5152 (customerservice@asminternational.org, www.asminternational.org).

Nickel and Nickel Alloys. Offered by ASM International's Materials Engineering Institute (MEI). Course consists of 15 lessons providing an overview of nickel alloys and their use and an explanation of why nickel and its alloys are better than ferrous materials for specific applications. Contact MEI, 800-336-5152 (customerservice@asminternational.org, www.asminternational.org).

Refractory Technology. Offered by ASM International and the American Ceramic Society (ACerS). Course consists of 25 lessons providing comprehensive information about and training in refractory technology and its various applications. Contact ASM customer service, 800-336-5152 (customerservice@asminternational.org, www.asminternational.org).

Rheology Research Seminar. Offered by the University of Wisconsin-Madison's department of engineering professional development. Coursework includes one written paper. Course covers research literature on rheology, including viscoelasticity, constitutive equations, non-Newtonian flow systems, fluid measurement devices, and more. Contact Helene Demont, 888-661-9551 (demont@engr.wisc.edu, www.engr.wisc.edu/services/oeo).

Stainless Steels. Offered by ASM International's Materials Engineering Institute (MEI). Course consists of 15 lessons covering the physical metallurgy of stainless steels; properties of austenitic, martensitic, and ferritic stainless steels; heat- and corrosion-resistant alloy casings; properties of precipitation-hardening steels; heat treating; forging, machining, cleaning, and finishing; cold forming; deep drawing; metallurgy of welding stainless steels; joining stainless steels; corrosion of metals; corrosion-resistance of stainless steels; and stainless steels at high temperatures. Contact ASM customer service, 800-336-5152 (customerservice@asminternational.org, www.asminternational.org).

Titanium and Its Alloys. Offered by ASM International. Course covers the mechanical properties and testing of

alloys and how to work, join, and machine titanium. Topics include principles of alloying titanium, deformation and recrystallization of titanium and titanium alloys, machining and chemical shaping, titanium applications, and many others. Contact ASM customer service, 800-336-5152 (customerservice@asminternational.org, www.asminternational.org).

PLASTICS

Advanced Polymer Processing. Offered by the University of Wisconsin-Madison's department of engineering professional development. Coursework includes assignments, two exams, and a final examination. Course covers advanced analysis and modeling of plastics extrusion, injection molding, and other processes, with an emphasis on processes governed by viscoelasticity and nonlinear phenomena. Contact Helene Demont, 888-661-9551 (demont@engr.wisc.edu, www.engr.wisc.edu/services/oeo).

Engineering Design with Polymers. Offered by the University of Wisconsin-Madison's department of engineering professional development. Coursework consists of seven correspondence assignments and two examinations. Topics include the effects of processing on polymer properties; rheology of polymer melts; mixing of polymer blends and solutions; anisotropy development during processing; solidification; engineering design properties; mechanical behavior; polymeric material failure; electrical properties of polymers; and optical, acoustic, and permeability properties of polymers. Contact Helene Demont, 888-661-9551 (demont@engr.wisc.edu, www.engr.wisc.edu/services/oeo).

Introduction to Polymer Processing. Offered by the University of Wisconsin-Madison's department of engineering professional development. Coursework consists of weekly assignments, two exams, and a final examination. Course covers the physical, thermal, mechanical, and rheological properties of polymeric materials relevant to their processing behavior; basic transport phenomena equations; processing operations for manufacturing polymeric items, emphasizing extrusion, injection and blow molding, thermoforming, and compression molding; and plastics recy-

cling issues. Contact Helene Demont, 888-661-9551 (demont@engr.wisc.edu, www.engr.wisc.edu/services/oeo).

PROCESS CONTROL

Fundamentals of Nondestructive Testing. Offered by ASM International's Materials Engineering Institute (MEI). Course consists of 15 lessons that cover liquid penetrants; magnetic particle inspection fundamentals and applications; ultrasonic testing equipment and applications; radiography fundamentals and applications; specialized NDT methods; interpretation and classification of indications; and nondestructive testing standards and specifications. Contact ASM customer service, 800-336-5152 (customerservice@asminternational.org, www.asminternational.org).

The ISO 9000:2000 Quality Manual. Offered by the MGI Management Institute for the American Society for Quality. Twelve-part course teaches you how to prepare and write an ISO quality manual. Course covers ISO 9000 requirements; writing policies and procedures; setting quality standards; how to control design, design change, procurement quality, production quality, and nonconforming product; corrective action; operations support and service; and maintaining your ISO manual. Contact the MGI Management Institute, 800-932-0191 (mgiusa@aol.com, www.mgi.org).

Principles of Failure Analysis. Offered by ASM International's Materials Engineering Institute (MEI). Course consists of 15 lessons covering general procedures for failure analysis; types of failure and stress; ductile and brittle fractures; fatigue, wear, corrosion, and elevated-temperature failures; and failures of cast and wrought ferrous metals, welded, brazed, and soldered joints, and tools and dies. Contact ASM customer service, 800-336-5152 (customerservice@asminternational.org, www.asminternational.org).

SAFETY

Confined Space Entry. Available in English and Spanish. Offered by

Summit Training Source. Training video exposes the dangers of confined spaces and shows workers how to safely work within potentially hazardous conditions. Contact Summit, 800-842-0466 (info@safetyontheweb.com, www.safetyontheweb.com).

Fall Protection. Offered by Summit Training Source. Online course covers the correct selection and use of and care for fall protection equipment; understanding when fall-arrest equipment is necessary; and recognizing and preventing fall hazards. Contact Summit, 8 0 0 - 8 4 2 - 0 4 6 6 (info@safetyontheweb.com, www.safetyontheweb.com).

Hazardous Materials Transportation Series. Offered by Summit Training Source. Online seven-part series covers bulk transport, general awareness, handling nonbulk packaging, safe work practices, safety requirements for drivers, security awareness, and shipping requirements for hazardous materials transportation. Contact Summit, 800-842-0466 (info@safetyontheweb.com, www.safetyontheweb.com).

Industrial Ergonomics. Offered by Summit Training Source. Online course covers proper ergonomic safety practices for the prevention of musculoskeletal disorders (MSDs) and injuries. Topics include a definition of MSDs, factors that cause MSDs, preventive measures, proper job function and design, and ergonomic risk factors. Contact Summit, 800-842-0466 (info@safetyontheweb.com, www.safetyontheweb.com).

Lockout/Tagout — Affected Employees Training Program. Available in English and Spanish. Offered by Summit Training Source. Program provides employees with an overview of lockout/tagout procedures and information on how to reduce injuries caused by improper procedures while working with machines. Contact Summit, 800-842-0466 (info@safetyontheweb.com, www.safetyontheweb.com).

Process Safety Management. Offered by Summit Training Source. Video course covers 14 elements of process safety management, including the use, storage, manufacture, and handling or onsite movement of highly hazardous chemicals. Topics include process safety information, process hazard

analysis, managing change, operating procedures, incident investigation, and more. Contact Summit, 800-842-0466 (info@safetyontheweb.com, www.safetyontheweb.com).

Respiratory Protection Training Series. Available in English and Spanish. Offered by Summit Training Source. Three-part video series covers respiratory protection awareness, air-supplying respirators, and air-purifying respirators. Series shows employees how to avoid exposure to respiratory hazards and prevent respiratory illness and injury. Contact Summit, 800-842-0466 (info@safetyontheweb.com, www.safetyontheweb.com).

Static Electricity. Offered by Summit Training Source. Online training course will create awareness and respect for potential hazards by using various visual examples to demonstrate common areas in the work environment where static electricity is generated, specific measures employees can take to eliminate or control hazards, and more. Demonstrated operations and procedures include mixing and blending, roll operations, converting processes, cutting and coating, printing, and injection molding. Contact Summit, 800-842-0466 (info@safetyontheweb.com, www.safetyontheweb.com).

TSCA Safety Training Series. Offered by Summit Training Source. Two-part safety video training program teaches workers best practices to ensure safety and compliance with the regulations of the Toxic Substances Control Act (TSCA). Topics include a definition of TSCA and TSCA compliance, the nature and effects of toxic substances, best safety practices when handling or disposing of toxic substances, the importance of reporting adverse health effects, and the obligations of an importer or producer of toxic chemicals. Contact Summit, 800-842-0466 (info@safetyontheweb.com, www.safetyontheweb.com).

Valve Safety. Offered by Summit Training Source. Online course focuses on recognizing different valve types, identifying common valve hazards, step-by-step valve risk assessment, ergonomic issues related to valve safety, and best safety practices for working with valves. Contact Summit, 800-842-0466 (info@safetyontheweb.com, www.safetyontheweb.com).