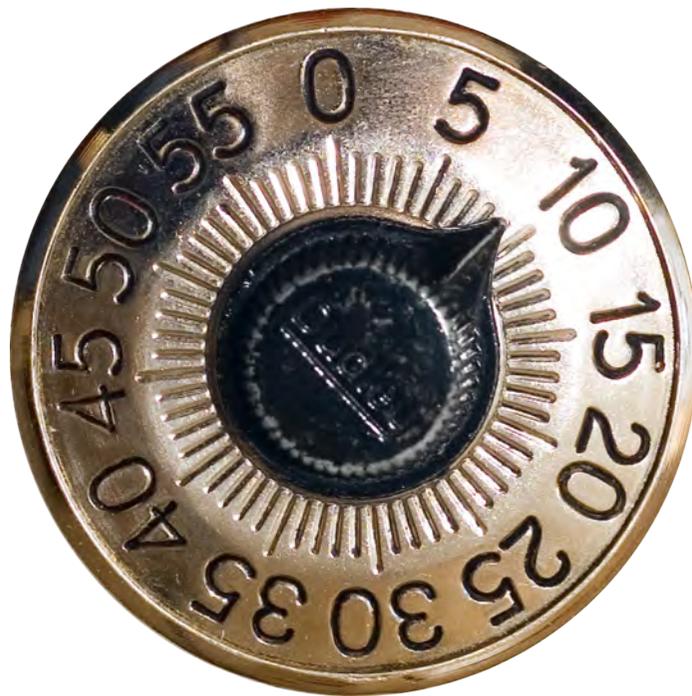


Training Courses Archive



University of Missouri
Campus Facilities



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Business Skills

(BS-6) Filing Procedures and Rules

Learn file management for both electronic and paper records. Attendees will learn the secrets of professional file management -- strategies and shortcuts for streamlining filing and information retrieval processes.

Prerequisite: None

Length of Course: 3 hours

Provided by: Columbia Area Career Center

(BS-11) Advanced Technical Writing

This advanced course is presented as a companion course to Beginning Technical Writing. Along with reviewing skills presented in the first course, this class will provide attendees with more advanced tools and techniques for creating technical documents. Using automated technical-report-generation software, skills for using graphics to heighten the impact of technical report presentation are covered. Quality checks of documents, formatting tips, and style-and-usage considerations are also presented in this advanced class. Learn structuring and writing technical reports for the non-technical person, verifying data and solving other problems common to technical writing.

Prerequisite: BS-10 or equivalent experience

Length of Course: 8 hours

Provided by: Outside training provider

(BS-12) Operation and Maintenance of Office Equipment

Learn to operate various office machines -- copiers, faxes, adding machines etc.; loading paper and ribbons; clearing paper jams; changing toner and print cartridges; and when to call the service representative.

Prerequisite: None

Length of Course: 1 Hour

Provided by: Campus Facilities or Manufacturer

(BS-13) Developing and Negotiating Contracts

This course teaches the skills necessary for successfully negotiating contracts: determining negotiator motivations and needs; information-gathering techniques; pre-negotiation planning; strategies for countering proposals; and good-faith tactics during the negotiation. The personality traits necessary for successful negotiations will be discussed, along with examples of successful contract negotiations.

Prerequisite: None

Length of Course: 8 hours

Provided by: Outside training provider

Budget/Finance Skills

(BF-7) Life-Cycle Costing (Advanced Engineering-Economics)

Learn more about engineering economics. Attendees will learn to make replacement decisions, apply sensitivity- and risk-analysis techniques, and make capital-budgeting decisions. Learn about project relationships; MARR-determination; probability concepts; and much more. This class meets for four weeks, one day per week.

Prerequisite: Life Cycle Costing (Engineering Economics Beginning) or equivalent experience

Length of Course: 32 hours

Provided by: Engineering Extension Service

Communication Skills

(CS-4) How to Develop and Deliver a Customer Survey

Learn how to research and conduct surveys for gathering data that allow more effective and efficient customer service. Instruction includes: sampling, the survey design and delivery (mail, drop-off, in-person interview) of the questionnaire, and data analysis.

Prerequisite: None

Length of Course: 6 hours

Provided by: Outside training provider

Computer Skills

(CP-1) Basic Computer Training and Keyboarding

Learn the basics of personal computer operation and terminology: the keyboard; components of a personal computer system; beginning Disk Operating System (DOS) commands; mouse use; disk space; and the opportunity to sample some popular word processing and spreadsheet applications. Become more informed and experienced with the personal computer.

Prerequisite: None

Length of Course: 2 hours

Provided by: Campus Facilities/IATS

Specialty Computer Software

(SC-4) Computer Aided Plan (CAP) For Furniture

Learn the features and capabilities of CAP, a software program for preparing construction drawings and furniture plans that provides access to time-saving catalogs, finishes and colors, and allows furniture specifications to be extracted from drawings. Instruction also includes using CAP for cost quotations; detailed analyses; furniture orders; inventory management; and control.

Prerequisite: Design Background

Length of Course: 8 hours

Provided by: Vendor

Leadership Training

(LT-7) Establishing and Conveying Expectations

Combined with SS-18

Safety Training

(ST-1) Office Design and Ergonomics

This class gives an overview of office design and the effects of layout, lighting, furniture and other variables on the comfort and productivity of office workers. Minimizing strain caused by repetitive motion, such as key-boarding and use of the computer mouse; the selection of proper seating; lighting systems; the correct furniture for the workplace; surface finishes; and other design considerations are included in this discussion.

Prerequisite: None

Length of Course: 3 hours Provided by: Vendor

(ST-3) Applicable State and Federal Regulations

Learn environmental laws and regulations applicable to Campus Facilities operations. This course will be offered on a requested-as-needed basis. Air and water quality, pesticides and waste issues are some of the types of topics to be discussed.

Prerequisite: None

Length of Course: 1 Hour

Provided by: University of Missouri, Campus Facilities or Outside training provider

(ST-15) Lead-Based Paint Abatement Certification

Approved by the Missouri Department of Health, this course is designed for individuals seeking certification in lead-based paint abatement. Topics covered are the proper handling and removal of lead-based paint; the importance and use of personal protective equipment; medical requirements; and health hazards.

Prerequisite: None

Length of Course: 32 hours

Provided by:

(ST-16) Lead Based Paint Abatement Recertification

Course is not offered at this time.

(ST-21) Managing Safety Oriented Operations

This course provides information on how to develop and run effective, safety-oriented operations. Topics discussed are developing goals and objectives; assisting employees with changes in operations; developing a plan for monitoring progress; and building and monitoring safe work practices. This course provides guidelines to managers on encouraging employee interest and pride in safety operations.

Prerequisite: None

Length of Course: 2 hours

Provided by: Campus Facilities or Environmental Health and Safety

(ST-22) CPR Training

Taught by American Red Cross instructors, this class teaches the procedures and techniques of Adult CPR (Cardiopulmonary Resuscitation). Instruction includes determining that CPR is needed; the danger of unnecessarily administering CPR; summoning help; and dangers to the CPR caregiver, including guarding against infection. A certificate is awarded upon the successful completion of the course. Class size is limited to 12 attendees.

Prerequisite: Blood Borne Pathogens (ST-60)

Length of Course: 4 hours

Provided by: American Red Cross/Environmental Health and Safety

(ST-23) CPR/First Aid Training

Learn first aid skills. Taught by instructors from the American Red Cross, the class provides basic instruction in treating the injured; calming the victim and preventing further injury; and obtaining personal information helpful to medical personnel. The safety of the caregiver is also considered. In addition, this course covers all material from CPR (ST-22). A one-year CPR and three-year First Aid certificate are issued upon the completion of this course. Class size is limited to 12 attendees.

Prerequisite: Blood Borne Pathogens (ST-60)

Length of Course: 6½ hours

Provided by: Safety Trainer

(STA-24) Hazardous Materials Awareness (Ancillary)

This course provides instruction in working safely with hazardous or potentially hazardous material. Instruction includes definitions of such materials; their proper labeling and safe handling; the content and importance of MSDS (Material Safety Data Sheets); precautions to take when near hazardous materials; and procedures for segregating hazardous materials. This course is suitable for ancillary personnel (custodians, trade specialists, part-time technicians, etc.)

Prerequisite: None

Length of Course: 2 hours

Provided by: Environmental Health and Safety

(ST-24) Introduction to Hazardous Materials Management

This course provides instruction in the management of hazardous or potentially hazardous materials. The course defines hazardous materials and provides instruction in their proper labeling and safe handling; precautions to take when near hazardous materials; and procedures for segregating hazardous materials. This course is suitable for directors, managers and supervisors, and includes information on the legal responsibilities related to hazardous materials management.

Prerequisite: None

Length of Course: 4 hours

Provided by: Environmental Health and Safety

(ST-28) Safe Use of Chemicals

This course provides instruction in the storage, transport and application of common chemicals encountered in the Campus Facilities work environment. Instruction includes the use of Material Safety Data Sheets (MSDS) as a resource for safety information on the use of chemicals; fire safety concerns; requirements for labeling both chemical containers and their storage areas; and the effects of storing dissimilar chemicals.

Prerequisite: None

Length of Course: 2 hours

Provided by: Environmental Health & Safety

(ST-29) Confined Space

This course uses OSHA and other regulations as a guide for teaching safe practices regarding confined space. Instruction includes recognizing confined space; monitoring for toxic gases among other topics. Both supervisory and employee responsibilities are covered in this hands-on training course. The use of personal protective equipment in confined space is covered in this course.

Prerequisite: None

Course Length 2 hours

Provided by: Campus Facilities or outside training provider

(ST-37) General Electrical Safety

Approved OSHA standards and other regulations are used in this course to teach experienced personnel how to recognize and improve electrical safety on the job. Learn what constitutes safe and unsafe wiring practices, how to recognize potential or actual hazards that can discharge dangerous or lethal amounts of energy and how secondary factors such as flammable vapors, liquids or dusts can increase the danger of uncontrolled energy release. Learn precautions to take when exposure to injurious amounts of electrical energy is possible.

Prerequisite: None

Length of Course: 3 hours

Provided by: Campus Facilities or outside training provider

(ST-60) Blood Borne Pathogens

This course will include signs and symptoms of blood borne pathogens (germs), infections, means of transmission, potentially infectious materials, exposure follow-up procedures. Preventing Disease Transmission has been incorporated into this course and will not be a separate course. Class size is limited to 25 attendees.

Prerequisite: None

Length of Course: 2 hours

Provided by: Safety Trainer

(ST-67) Basic Electrical Safety**(ST-72) MSDS****(ST-75) Abrasive Wheel Machinery**

- (ST-76) Accident Investigations (Incidents)**
- (ST-77) Accident Investigations**
- (ST-78) Introduction to Chemical Hazard Communication**
- (ST-79) Combustibles**
- (ST-80) Computer Ergonomics**
- (ST-81) Confined Space Entry I**
- (ST-82) Confined Space Entry II**
- (ST-83) Construction Safety Management**
- (ST-84) Contractor Safety**
- (ST-86) Dust Explosions**
- (ST-87) Electrical Fire Prevention**
- (ST-90) Hearing Loss**
- (ST-91) Hazmat Regulations (DOT)**
- (ST-92) Introduction to Forklift Safety**
- (ST-94) Lead and Lead-Based Paint Hazards**
- (ST-96) Hazard Communications (OSHA)**
- (ST-97) Powered Industrial Truck Training**
- (ST-98) Preventing Dust Explosions**
- (ST-99) Respirator Fit Testing and Training**
- (ST-100) Respirator Protection and PPE**

- (ST-102) Risks in Buildings**
- (ST-103) Safety Considerations for Beginning School Year**
- (ST-104) Safety and Health in the Office Environment**
- (ST-105) Sharps Awareness**
- (ST-106) Silica – It’s Not Just Dust!**
- (ST-107) Spinal Cord Injuries**
- (ST-108) Walking and Working Surfaces**
- (ST-109) Welding, Cutting and Braizing**
- (ST-110) What’s Going On In Construction**
- (ST-111) Pneumatic Power Tools – Jackhammer**

This course covers safe use of Jackhammers – hazards and precautions of pneumatic tools (powered by compressed air at pressures of up to 90 psi. Pneumatic impact tools include riveting guns, nail guns, chipping hammers, specific with jackhammers. This is a hands-on training which covers hazards, work preparation, use, personal protective equipment, daily maintenance, and operation of the tool. Class size is limited to 12 attendees.

Prerequisite: None

Length of Course: 1 Hour

Provided by: Safety Trainer

Supervising Skills

(SS-2) Americans with Disabilities Act (ADA) Employment Discrimination

Learn the requirements and provisions of the Americans with Disabilities Act (ADA). Instruction includes ADA requirements for interviewing, hiring, employing and terminating employees. Concepts cover discrimination in the employment process and workplace, and workplace accessibility.

Prerequisite: None

Length of Course: 2 hours

Provided by: Human Resource Services

(SS-3) Legal Responsibilities of Supervisors

A supervisor's legal responsibilities in hiring and firing employees; checking and providing references; performing criminal background investigations, and granting leave under provisions of the Family Medical Leave Act are presented in this course. Instruction covers discrimination and sexual harassment; documenting disciplinary action; and observing MU and Fair Labor Standards Act policies and procedures.

Prerequisite: None

Length of Course: 7 hours

Provided by: Human Resource Services

(SS-4 How to Conduct an Effective Interview Beginner)

Learn effective interviewing and hiring techniques. This course covers both MU and federal guidelines for interviewing and hiring candidates for employment. Instruction includes the interviewer's role in planning, managing and interpreting the interview; and identifying outstanding candidates.

Prerequisite: None

Length of Course: 2 hours

Provided by: Human Resource Services

(SS-4 How to Conduct an Effective Interview Advanced)

This course contains advanced instruction in MU and federal guidelines for interviewing and hiring candidates for employment. Instruction includes the interviewer's role in planning, managing and interpreting the interview; and identifying outstanding candidates.

Prerequisite: Director, Manager or Supervisor job status

Length of Course: 2 hours

Provided by: University of Missouri or outside training provider

(SS-5) How to Hire or Terminate Employees Effectively

Learn the MU and Equal Employment Opportunities Act policies and regulations involved in hiring and terminating employees. Instruction includes setting job interview goals and objectives; conducting the interview; checking references; and documenting employee performance in the termination process.

Prerequisite: Director, Manager or Supervisor job status

Length of Course: 3 hours

Provided by: University of Missouri or Outside training provider

(SS-6) How to Deal with Problem Employees

This course presents the skills and techniques for dealing with problem employees. Instruction includes methods of intervention; coaching; conflict; behavior standards; resolution through termination or transfer; and the legal safeguards of the employer.

Prerequisite: Director, Manager or Supervisor job status

Length of Course: 3 hours

Provided by: University of Missouri or Outside training provider

(SS-7) Coaching and Developing Employees

The course provides instruction in: creating an environment fostering employee growth and responsibility; enhancing employee performance and responsibility; and techniques for discerning employee performance that should be either encouraged or discouraged.

Prerequisite: Director, Manager or Supervisor job status

Length of Course: 3 hours

Provided by: Human Resource Services

(SS-8) How to Delegate Effectively

This course presents the four styles of delegation and the appropriate use of each in successful management. Instruction also includes the three-phase model of the delegation process for increased productivity and team development.

Prerequisite: Director, Manager or Supervisor job status.

Length of Course: 3 hours

Provided by: Human Resource Services

(SS-9) Techniques for Measuring Performance and Productivity Levels

This course provides managers and supervisors with the skills and techniques for measuring and documenting the performance and productivity levels of individual employees and work groups. Instruction includes: determining department strengths and weaknesses; choosing the correct measuring tools for specific processes to be analyzed; creating benchmarks for measuring performance; and objectively interpreting data.

Prerequisite: Director, Manager and Supervisor job status.

Length of Course: 3 hours

Provided by: University of Missouri or Outside training provider

(SS-10) How to Give and Receive Feedback

This course provides training in developing skills for giving to and receiving feedback from peers, the team and superiors, Instruction includes types of feedback; gathering accurate employee feedback; evaluating feedback; and acting on feedback.

Prerequisite: Director, Manager and Supervisor job status.

Length of Course: 3 hours

Provided by: Human Resource Services or Outside training provider

(SS-11 Developing and Building Teams Beginner)

This course provides information on developing an existing team or building a new one. Instruction includes the leader's role in maintenance and team building; integral concepts of communicating a team vision; providing the focus and empowerment for producing results; coordinating the team; and resolving internal and external difficulties.

Prerequisite: Supervisor job status

Length of Course: 3 hours

Provided by: Human Resource Services

(SS-11 Developing and Building Teams Advanced)

This course in team development is designed for experienced supervisors who want advanced information and training. Instruction includes: methods of conducting team meetings; techniques for committing to a team vision; setting expectations for productivity; providing meaningful rewards for team effort; changing uncooperative behavior; and assessing strengths and weaknesses.

Prerequisite: Director, Manager and Supervisor job status.

Length of Course: 6 hours

Provided by: University of Missouri or Outside training provider

(SS-12) How to Conduct Building-Performance Inspections

This course provides information and techniques needed to accurately conduct audits of buildings. Instruction includes: determining audit requirements and resources needed; developing audit procedures and protocols; selecting benchmark criteria; and verifying building performance.

Prerequisite: Director, Manager and Supervisor job status.

Length of Course: 8 hours

Provided by: Outside training provider

(SS-13) How to Conduct an Effective Performance Evaluation

This workshop provides basic information for planning and implementing accurate and fair employee-performance appraisals. Covered topics will include developing an overall performance appraisal philosophy that can be applied to all employees, setting a cycle time for performance appraisals and identifying and setting goals for employees. Also included are measurement criteria, the responsibilities of both the employee and the supervisor in meeting the goals of a performance appraisal and providing feedback through the use of performance appraisal forms and records.

Prerequisite: Director, Manager and Supervisor job status.

Length of Course: 6 hours

Provided by: Human Resource Services

(SS-14) How to Conduct Successful Labor/Management Negotiations

Learn about the MU's Union Agreements. Topics include union negotiations/meet-and-confer; job classifications; light duty policy; probationary period; time-off schedules; leave of absences; seniority issues; grievance procedures and policies; role of Union Stewards; and other related union policies and procedures.

Prerequisite: Director, Manager and Supervisor job status.

Length of Course: 2 hours - 2 Sessions

Provided by: University of Missouri Legal Counsel

(SS-15) How to Motivate Employees

This course provides techniques for motivating new-hires and long-term employees. Topics include needs and wants underlying motivation; on-the-job fulfillment of those needs; and communicating personal fulfillment to staff. Various models of motivation, including one based on personality traits, are discussed.

Prerequisite: Director, Manager and Supervisor job status

Length of Course: 2 hours

Provided by: Human Resource Services

(SS-16) How to Effectively Assist Your Manager

(Becoming an outstanding assistant) Be an outstanding assistant. Attendees in this course learn strategies for time management, team excellence and phone skills. Learn effective listening and communication; decision making; conflict management; and problem solving.

Prerequisite: Support Staff job status

Length of Course: 7 hours

Provided by: Human Resource Services or outside training provider

(SS-16) How to Effectively Assist Your Manager

This course assists in the development of skills that increase your credibility as your boss's representative. Learn how to identify a manager's leadership style; use authority appropriately; recognize and understand a manager's goals; become proactive in pursuing objectives and goals; and be an effective member of the team.

Prerequisite: Director, Manager and Supervisor job status

Length of Course: 3 hours

Provided by: University of Missouri or outside training provider

(SS-17) Understanding MU's Disciplinary Process

Attendees will learn MU's Progressive Discipline Policy and Procedures (HR601). Policies and procedures involving oral and written warnings for suspension, discharge, and summary discharge, are discussed, along with grievance policies and documentation procedures.

Prerequisite: Director, Manager and Supervisor job status.

Length of Course: 3 hours

Provided by: Human Resource Services

(SS-18) Setting Employee Goals and Expectations

This course provides attendees with information and techniques for setting and communicating expectations. Instruction includes: developing logical and concise employee and team expectations; conveying expectations in a manner that is clear to the employee and team; the effect of mixed messages on employee and team performance; responding to over- or under-achievement of expectations; measuring progress; and the importance of what is not said.

Prerequisite: Director, Manager and Supervisor job status

Length of Course: 3 hours

Provided by: University of Missouri or Outside training provider

Technical Skills

(TS-10) How to Locate and Retrieve Archival Information

Learn how to read, interpret, use and find archived materials via various media and equipment. The participant will learn how to set up a cataloging system and evaluate the existing system. This course includes a tour of the Campus Facilities Archives that will assist the participant in using media and equipment in the Archives.

Prerequisite: None. (Exposure to drawings and spreadsheets would be useful.)

Length of Course: 2 hours

Provided by: Campus Facilities

(TS-15) Training in Fire and Water Restoration Techniques

This two-day seminar teaches restoration techniques for fire and water-damaged surfaces such as carpets, hardwood flooring and linoleum. In addition, the course provides information and hands-on experience in hidden-moisture inspections; dehumidifiers and wall-drying systems; effects of contaminated water, mold, microorganisms, antimicrobials, and smoke-and-odor damages

Prerequisite: None

Length of Course: 16 hours

Provided by: Outside training provider

(TS-16) Basic Custodial Certification

This program, primary designed for custodians new to Building Services, covers the theory and practice of custodial procedures, including: safety; the chemistry of cleaning; cleaning procedures; and basic floor-care skills. Attendees are tested on course material and, upon the successful completion of the course, awarded a certificate.

Prerequisite: None

Length of Course: 10 hours (10 one hour sessions)

Provided by: Building Services

(TS-17) Training in the Energy Field (Deregulation, New Technology)

In this Lunch-and-Learn course, current energy topics and trends such as: deregulation; new equipment; computer-based controls; and technological developments, will be discussed. Information regarding federal and state technology initiatives will also be presented.

Prerequisite: None

Length of Course: 1 Hour

Provided by: Energy Management or outside training provider

(TS-18) Circuit Breaker Maintenance (High Voltage Breakers)

This course is designed to teach mechanical maintenance of medium and high voltage circuit breakers. Attendees will learn to perform complete circuit breaker service, including inspection; disassembly; cleaning; adjusting; and reassembly. Learn to perform various circuit breaker maintenance tests and interpret the results. This course also covers safety information.

Prerequisite: Experience working with high voltage circuit breakers

Length of Course: 36 hours

Provided by: Outside training provider

(TS-22) Training on the Use of Belzona Coatings

This class provides training in the basic repair of cooling towers and machines with Belzona coatings. Learn the different types of polymer coatings manufactured by Belzona, their function and durability. The preparation of cooling towers or chiller surfaces, application techniques, and other use considerations will be discussed.

Prerequisite: None

Length of Course: 2 hours

Provided by: Energy Management or outside training provider

(TS-23) Johnson Controls Metasys Training

These courses, provided by Johnson Controls, will give attendees the skills and knowledge regarding the application and implementation of Johnson Controls.

Course 350, Metasys Facility Operators, is designed to enable building personnel to effectively use the features of Metasys to control facilities. This course provides skills and knowledge to communicate with the Metasys installation. Learn to interpret system messages and use system features with the Operator Workstation or Network Terminal.

Course 352, Metasys GPL Engineering, is designed for experienced facility personnel with Metasys engineering responsibilities. You will acquire the knowledge and skill necessary to design, edit and modify Graphic Programming Language (GPL) processes using the Operator Workstation. Course emphasis is placed on Network Control Unit software architecture, particularly on the DCM.

Course 353, Metasys HVAC ASC Engineering, is designed to enable building personnel to install and configure Metasys HVAC Application Specific Controllers (ASCs). This course will instruct you in using HVAC PRO software to configure HVAC control strategies for the AHU, VAV and UNT.

Course 357, Metasys Hardware Troubleshooting, is designed to provide building personnel with the knowledge to and skills necessary to troubleshoot Metasys system hardware. This course includes discussions and hands-on lab exercises for all Metasys HVAC Network products and ASCs.

Course 361, Metasys Data Base Management and Generation, is designed for operators requiring in-depth knowledge of the Metasys software and engineers responsible for generating, expanding and managing a Metasys network database. Completion of this course will enable you to read, write and modify all Metasys DDL files, add new devices to a Metasys network and help you understand and maintain your Metasys database.

Course 364, Metasys DX-9100 Engineering, is designed to provide engineering personnel with the knowledge and skills necessary to build programs for the DX-9100 product using the GX-9100 Windows software tool. It is intended for building engineers who plan to implement or modify applications designed for the DX-9100 controller or design a unique strategy to solve a control problem.

Course 365, Metasys DX-9100 Operations, is designed for the individual who is responsible for the day-to-day operations of a DX-9100. Completion of this course will enable you to use the DX-9100 front panel to read input and output values, make permanent changes to the DX-9100 control strategy and other functions available in the DX-9100.

Course 377, Advanced Metasys Network Troubleshooting, is designed to provide experienced Metasys personnel with the advanced skills necessary to maintain medium and large Metasys networks on a day to day basis. This course provides the opportunity to use the most advanced network troubleshooting tools available on actual network problems. Upon completion of this course attendees will be able to tune ASC loops and solve a variety of network problems.

Prerequisite: None

Length of Course: # 353 40 hours; #350 40 hours; #357 40 hours; #365 36 hours; 352 40 hours; #361 40 hours; #364 40 hours; #377 32 hours

Provided by: Outside training provider (Johnson Controls Institute)

(TS-25) Training on the Basics of Turbine & Electrical Generation Operation

This course includes basics of turbine and electrical generation operations. Topics covered are: instrumentation and monitoring turbine and generator operations; lubrication systems; turbine wiring diagrams and implementation; thermocouples; auxiliary support systems; steam sealing systems; condensers; generators; and excitation and voltage control.

Prerequisite: None

Length of Course: 2 hours

Provided by: Energy Management

(TS-26) Uniform Training (Cross Training) of Power Plant Operators

(Combined with TS-33) In this two-year training course for all power plant operators and operator trainees, individuals will: learn to perform cooling tower and water tests; check the water chemistry of water towers, boilers and turbines; fire boilers; and operate turbines and power plant controls. Attendees will monitor the campus steam supply; the power loads on campus; monitor the water pressure of campus wells; and other power-plant-related tasks. This course consists of CD ROM and hands-on training.

Prerequisite: Power plant Operator or Operator Trainee

Length of Course: 2 Years

Provided by: Williams Learning Network CD ROM and Power Plant Staff/Practical Training Guideline

(TS-28) How to Maintain and Troubleshoot Transformers, Cable and Voltage Regulators

This course provides the theory, basic operations and practices for maintaining and troubleshooting transformers, cable, and voltage regulators. Instruction also includes shop and field equipment, testing procedures, and methods of interpreting the test results. Cable testing, fault location and insulation testing are also covered. NETA and IEEE standards will be presented in this class, as well as the operation and testing of voltage regulators.

Prerequisite: Experience working with transformers and voltage regulators

Length of Course: 28 hours

Provided by: Outside training provider

(TS-31) Training for New Pumping Equipment and HVAC Units

Learn from the vendor or manufacturer how to operate and maintain new pumping equipment and HVAC units. Vendor-instruction includes: preventive and predictive maintenance, caring for bearings, troubleshooting; and corrosion on centrifugal and positive displacement pumps; turbines; and air handling units.

Prerequisite: None

Length of Course: 3 hours

Provided by: Vendor

(TS-34) Intouch® Graphics and Controls Development

This course provides training that will allow attendees to develop mastery of a wide variety of man-machine interface systems for sophisticated industrial and process applications. Attendees will learn to use advanced features and capabilities of InTouch as well as DDE and NetDDE to implement plant-wide systems. Learn to create simple and complex objects with the WindowMaker's toolbox; recognize functions of different animation links; create a Tagname database; and implement WindowViewer. In addition, learn to establish DDE communications with other Windows applications on both local machines and over networks.

Prerequisite: None

Length of Class: 24 hours

Provided by: Outside training provider

(TS-36) Programming PLC's (Programmable Logic Controllers) and Other Software-based Controls

This course covers the basics of Programmable Logic Controllers, their design and operation. Technical equipment provided for the course allows the participant to program PLC's with both hand-held controllers and personal computers. This course uses industry standard PLC's that control motors, switches, pneumatic valves and various sensors for machine processes.

Prerequisite: None

Length of Course: 8 hours

Provided by: Energy Management or outside training provider

(TS-37) Calibration and Tuning of Control Loops

This course teaches the concepts, design and implementation of control loops. Learn the principles of automatic industrial control and the operation of proportional, integral and derivative control modes. Advanced concepts of cascade, ration and feed-forward control are presented, as well as methods of controller tuning.

Prerequisite: None

Length of Course: 3 hours

Provided by: Energy Management

(TS-38 Instrumentation Calibration and Maintenance Beginner)

This course teaches the calibration and maintenance of electronic instruments; the characteristics of control systems; installation of electronic instruments; configuring and calibrating transmitters, transducers, recorders and controllers. Also covered are: grounding and safety procedures while performing calibration and maintenance of instruments; and schematics.

Prerequisite: None

Length of Course: 3 hours

Provided by: Campus Facilities or Outside training provider

(TS-39 Machinery Lubrication Methods and Practices Maintenance)

This course, primarily for the maintenance worker, teaches the procedures for maintaining and troubleshooting machinery lubrication. Topics include lubricants and their selection; diagnosing lubrication problems; and the lubrication of machinery, e.g., fans, gear boxes, pumps, etc.

Prerequisite: None

Length of Course: 4 hours

Provided by: Maintenance or outside training provider

(TS-40 Drinking Water System Operation Methods and Practices)

Learn the principles of drinking water systems. This course provides attendees with information on the operation of drinking water systems and the procedures necessary to keep them safe. Covered topics include pumps, disinfection and maintenance of systems. This course will cover the requirements of the Missouri Department of Natural Resources and the American Water Works guidelines.

Prerequisite: None

Length of Course: 8 hours

Provided by: Outside training provider

(TS-42 Maintenance and Operation of CEMS Equipment)

This one-day course reviews the routine calibration, maintenance, troubleshooting, repair, and calibration of continuous-emission monitoring (CEM) installations.

Prerequisite: None

Length of Course: 8 hours

Provided by: Vendor

(TS-43 Preventive Maintenance of Battery Systems)

This course teaches the basics of maintaining batteries and Uninterruptible Power Supplies (UPSs). Instruction includes the concept and uses of battery systems and UPSs; technologies common to these systems; and an understanding of the issues that make such technologies necessary. Learn to perform testing on both lead-acid and Ni-Cad battery systems; maintaining and testing the charging system; the use of test equipment; the interpretation of test results, and the management of battery systems with control systems. Other electrical backup system and ANSI/IEEE standards covering lead-acid and Ni-Cad, are also discussed.

Prerequisite: Knowledge of battery system basic principles

Length of Course: 36 hours

Provided by: Outside training provider

(TS-44) Small Engine Maintenance and Repair

Course material covers the routine maintenance and minor repair of both two- and four-cycle small engines. Instruction includes: air and fuel filter maintenance; oil and other fluid changes; tuning; and other basic procedures for small engines used routinely in Landscape Services work, including engines for leaf blowers; chain saws; hedge trimmers; tillers; and lawn mowers.

Prerequisite: None

Length of Course: 2 hours

Provided by: Landscape Services

(TS-45) Use of High Voltage Hot Line Equipment

This course provides participants with training in cleaning, caring for and maintaining high voltage hot line equipment. Instruction focuses on the use of hot sticks; phasing sticks; shotgun sticks; rubber gloves; and other hot-line equipment.

Prerequisite: None

Length of Course: 4 hours

Provided by: Outside training provider

(TS-46) How to Pull Electrical Cable

This course provides instruction on successfully pulling electrical cable. Topics covered are cable size; conduit needed to construct a run; efficient routes to run cables; securing conduit; and the level of stress applied to the cable.

Prerequisite: None

Length of Course: 4 hours

Provided by: Campus Facilities

(TS-50) General Plumbing Principles

Learn plumbing principles and design. Instruction includes; plumbing concepts; types of pipes; applicability; maintenance and repair; plumbing code specifications; and reading plumbing diagrams. The use of common plumbing tools is also covered.

Prerequisite: None

Length of Course: 4 hours

Provided by: Campus Facilities or Outside training provider

(TS-51) Basics of Automated Controller “Updated Equipment”

(Combined with TS-29) This course provides updates on new automated controller systems. Learn the operation, maintenance and troubleshooting of pneumatic and electronic controls. Instruction also covers the action, type and calibration of new equipment.

Prerequisite: None

Length of Course: 3 hours

Provided by: Vendor

(TS-57) Refrigeration (Advanced)

This advanced refrigeration class features in-depth coverage of systems and controls used in refrigeration. Learn troubleshooting of residential and industrial refrigeration systems using related test and subject equipment.

Prerequisite: Basic Refrigeration or equivalent

Length of Course: 27 hours (42 weeks, 9 classes)

Provided by: Columbia Area Career Center

(TS-58) Installing Refrigeration Piping

This course covers the procedures for installing refrigeration piping. Instruction includes: design requirements; varieties of pipe and sizing; fundamentals of fittings and valves; testing and evacuating systems; space and clearance considerations; testing for leaks; and using pipefitting and test equipment.

Prerequisite: None

Length of Course: 8 hours

Provided by: Outside training provider

(TS-59) Troubleshooting Refrigeration Compressors and Controls

This course provides basic information on the refrigeration cycle and, in that cycle, the role compressors and controls play. Instruction also includes techniques for determining the condition of the compressor; troubleshooting compressors and controls; and the use of test equipment.

Prerequisite: None

Length of Course: 4 hours

Provided by: Outside training provider

(TS-62) Principles and Practices of Welding and Burning

Learn the basics of oxyacetylene torch operation and electric arc welding. This course offers a combination of classroom and hands-on instruction in welding and cutting equipment. Learn techniques for making lasting and precise welds. Instruction includes: welding safety and selecting the correct personal protective equipment for the job.

Prerequisite: None

Length of Course: 48 hours (52 Weeks, 11 Classes)

Provided by: Columbia Area Career Center

(TS-64) Testing and Balancing HVAC Systems

This course provides a practical understanding of air distribution systems. This hands-on training provides a review of the principles of air distribution; the uses and types of test instrumentation; system requirements; report preparation; selection of equipment; dampers; fans; and layout.

Prerequisite: None

Length of Course: 40 hours

Provided by: Outside training provider

(TS-65) Advanced Woodworking

This course is designed for the experienced woodworker. Various wood; woodworking tools; machinery; joinery; finishing; and materials related to woodworking. Attendees will utilize the woodworking lab facilities to construct and finish projects.

Prerequisite: Knowledge of woodworking

Length of Course: 15 hours (once/week 2.5 hours)

Provided by: Columbia Area Career Center

(TS-71 Training on the Use of Electric Test Equipment Energy Management)

This course covers the use of medium-to-high-voltage electrical test equipment. Topics include the fluke meter; voltmeter; high-potential equipment; use of transient recorder and infrared camera; and the operation, maintenance, and troubleshooting of this equipment.

Prerequisite: None

Length of Course: 4 hours

Provided by: Outside training provider

(TS-73) Design of Irrigation Systems

This course covers the basic principles of irrigation systems design. Topics include system components, hydraulics, and operation. The course does not cover maintenance.

Prerequisite: None

Length of Course: 2 hours

Provided by: Landscape Services

(TS-74) Maintenance and Operation of Irrigation Systems

An advanced course covering the maintenance and operation of irrigation systems that includes preventive maintenance; adjustments; troubleshooting; valve repair; and electronics and controllers.

Prerequisite: None

Length of Course: 2 hours

Provided by: Landscape Services

(TS-75) Landscape Preparation

This course provides instruction in preparing a barren or turf site for ornamental plants.

Prerequisite: None

Length of Course: 2 hours

Provided by: Landscape Services

(TS-76) Landscape Bed Management

This course provides instruction in the maintenance of flower and shrub beds. Topics include weed management; watering; mulching; traffic control; and ease of maintenance.

Prerequisite: None

Length of Course: 2 hours

Provided by: Landscape Services

(TS-77) Landscape Equipment Operation and Maintenance

This course provides information and hands-on training in the safe operation and maintenance of landscape equipment such as the Bobcat; tractor; landscape rake; and spray tanks.

Prerequisite: None

Length of Course: 2 hours

Provided by: Landscape Services

(TS-98) Special Topics in Planning, Design and Construction

Special topics in planning, design and construction broaden the design-and-construction professional's horizon. Topics may include subjects that are not directly job related, but whose principles and concepts could be adapted or expanded and applied to the work performed at University of Missouri.

Prerequisite: None

Length of Course: Varies (1 to 8 hours depending upon topic)

Provided by: Training Delivery varies depending upon topic

