



# URBAN TRAINING INSTITUTE

## COURSE LIST





Urban Engineers, Inc. (Urban) is committed to providing continuous learning, training, and professional development opportunities for its staff and external participants through the Urban Training Institute (the Training Institute). Established in 2007, the Training Institute is an integral component of Urban's culture of continuous improvement.

Urban is an Accredited Provider by the International Association for Continuing Education and Training (IACET). In obtaining this approval, Urban has demonstrated that it complies with the ANSI/IACET Standard, which is widely recognized as the Standard of Good Practice internationally. As a result of their Accredited Provider status, Urban Engineers is authorized to offer IACET CEUs for the programs that qualify under the ANSI/IACET Standard. Courses are available nationally via web-instruction software.

In 2010, IACET selected Urban to receive the distinguished "Exemplar Award for Internal Training." This award is presented annually, nationwide, to honor an organization that has exemplary, results-oriented internal programs that demonstrate cost-effective, significant, and relevant impact to the populations served.

The Training Institute offers a variety of courses for Continuing Education Units (CEUs) and Professional Development Hours (PDHs). Courses, typically taught by Urban experts, include such topics as *Bike Trail Engineering Design*, *Historic Considerations for Engineering Infrastructure Projects*, and *The Role of the Resident Engineer in Construction Management*. These courses are available live, online.

Urban Engineers has met the standards and requirements of the RCEP (Registered Continuing Education Program). Credit earned on completion of this program will be reported to RCEP. A certificate of completion will be issued to each participant. As such, it does not include content that may be deemed or construed as approval or endorsement by RCEP. Urban Engineers is a Regional Provider with RCEP.



# THE FACILITY



The Urban Engineers Training Institute facility is a 1,250-square-foot training center available to our employees, Training Institute students, and the community for educational and professional development classes and meetings. The state-of-the-art technology and user-friendly meeting services, such as web access and conference calling features, create an outstanding learning environment for groups of up to 50 people with comfortable classroom-style seating. The Training Institute is equipped with advanced multimedia data projectors mounted in the ceiling, and power and data ports. We offer video/teleconferencing and video/audio taping. The Training Institute facility is also equipped with wireless internet. Lights, movable seats, and desks allow for different area arrangements, depending on the learning event.

We provide professional training, development, educational events, and special events. The Training Institute facility can be reserved in advance.

Catering is easy and facilitated by the serving counter/ lunch area immediately outside the training room. Inside the training area is a speaker podium, microphone, and 10' projection screen with excellent visual quality. In addition, the space affords one of the most spectacular views of the city: Independence Hall and the Liberty Bell.





Urban  
Training  
Institute®



# THE TECHNOLOGY



**GoToWebinar**  
by **CITRIX**

For students who are unable to attend classes physically, they can participate in class from anywhere in the world via the web and live, online instruction. The Urban Training Institute utilizes GoToWebinar so students can see and hear the instructors and their presentations. Live, immediate interaction is possible using the chat feature of GoToWebinar, allowing online students to ask questions in real-time and be fully present in the class.



# THE INSTRUCTORS



**DAVID BENNER** – Mr. Benner has more than 40 years of experience in aviation design, including runways, taxiways, parking aprons, aircraft parking and guidance signing, and markings. He began his career

in aviation at Philadelphia International Airport and has worked in Urban's Aviation Division for 25 years. He has designed projects for a number of civilian and military airports, including Philadelphia International, Atlantic City International, Albany International, Buffalo International, Trenton-Mercer, Dulles International, Thurgood-Marshall BWI, JFK International, Bradley International (CT), Teterboro (NJ), Sussex County (DE), McGuire AFB, Stewart AFB, and other major airports.



**BERNARD CAROLAN** – Mr. Carolan has more than 20 years of experience in Accounting. He holds a master's degree in accounting and finance and a bachelor's degree in business studies.



**MEREDITH CLARK** – Ms. Clark has more than 10 years of experience overseeing and delivering a comprehensive range of human resources services, including recruiting, HRIS system, policies,

procedures, compensation program, benefits administration, fair/legal disciplinary system, and federal, state and local employment laws and regulations. She holds a Masters Degree in Human Resources Development.



**CHRISTOPHER CONNOR** – Mr. Connor is the Safety Manager at Urban and has more than 20 years of experience in the engineering, construction, and Fire and Life Safety industry. He previously

worked for Total Safety Consulting (TSC) and for the

Fire Department of New York as both a firefighter and a Fire Marshal. He holds more than 15 certifications and is a member of the ASSE (NYC) Chapter and the International Association of Arson Investigators.



**JOHN DIVALENTINO** – Mr. DiValentino has more than 20 years of experience in Construction and Construction Management. He has been responsible for some major projects throughout his career, including US Airways' \$22 million, 57,220-SF, LEED Silver Ground- Service Equipment (GSE) facility at Philadelphia International Airport.



**JAY ETZEL** – Mr. Etzel is a licensed traffic engineer in Pennsylvania, New Jersey, Delaware, and Maryland with 17 years of experience in traffic design, analysis, and operations.



**KENNETH FULMER** – Mr. Fulmer, Deputy CEO of Urban Engineers, has more than 23 years of experience in construction management, field inspection and scheduling on major transit, highway

and building projects. Mr. Fulmer's responsibilities have included: supervising a staff of engineers, inspectors, and technicians; overseeing construction management and inspection services; and leading marketing efforts in New Jersey, Maryland, New York and Connecticut.



**ABBEY GANCZ** – Ms. Gancz has more than six years of experience in highway design, including horizontal and vertical alignments, right-of-way, pavement marking and signing plans, erosion and sedimentation control, and curb ramp design.

**TOM KERINS** – Mr. Kerins directs Urban’s Construction Services Group in performing detailed constructability reviews on all design documents prepared by Urban. He also provides constructability, cost estimating, value engineering, claim avoidance, and CPM scheduling services for numerous public and private clients throughout the country. Before joining Urban, Mr. Kerins worked in the Heavy/Highway industry as a cost estimator, scheduler, superintendent, and project manager for various general contractors including Perini Corp.



**MARK KINNEE** – Mr. Kinnee, who has more than 20 years of experience, is a Vice President at Urban Engineers, Inc., serving as Director of the Highway/Bridge Division. Mr. Kinnee has been responsible for the design and management of a wide range of highway engineering projects.



**MATTHEW MARQUARDT** – Mr. Marquardt is a Senior Vice President and oversees the vertical construction services at Urban Engineers, Inc. He has 28 years of experience in design, inspection, and construction management.



**MICHAEL McATEE** – Mr. McAtee has more than 17 years of experience in all phases of civil engineering and bridge design. Mr. McAtee also has prepared numerous three-dimensional models to assist with the visualization of various types of projects, including bridges, highways, marine structures, sign structures, culverts and airports.



**JOE MUSIL** – Mr. Musil has four decades of environmental engineering experience (in the public sector as a former regulator and in the private sector as a lead consultant). His experience includes preparing

NEPA Categorical Exclusions, Environmental Assessments, and Environmental Impact Statements for various federal agencies, such as the USEPA,

FAA, FHWA, FTA, and USACE. His projects include ports and waterways, new development, roadways and bridges, transit facilities, and waterfront parks.



**JOHN (JACK) O'NEILL** – Mr. O'Neill has 39 years of experience in all aspects of construction services. He is proficient in supervising construction inspection and has been involved in construction his entire career.



**NICHOLAS ORSO** – Mr. Orso has more than 17 years of construction consulting experience in projects ranging from power, transportation, transit, marine, educational, hospital and health-care, military, hotel and commercial construction. He has successfully assisted with expert testimony on matters related to quality management, entitlement, damages, and delays for dispute resolution of construction claims.



**ALAN PIZZI** – Mr. Pizzi has more than 30 years of experience with cost estimating, engineering, management, and claims resolution for public and private sector construction projects. His project experience includes transportation (highway, railroad, subway, bridge, and airport), water and sewage treatment, pollution mitigation (containment structures in petroleum refineries), dam/hydroelectric, industrial, and major infrastructure projects.

**TIMOTHY POLASKI** – Mr. Polaski has more than 19 years of experience on a variety of projects including stormwater management design and review, hydrology and hydraulic studies, stream modeling, wetland replacement design, erosion control projects, environmental permitting, marina planning, marina layout and development, marine infrastructure design, roadway layout and design, site development, utility infrastructure rehabilitation, and construction inspection.



**ANDREW QUINN** – Mr. Quinn has more than 15 years of experience in marine pier design and structural engineering, with significant experience in diving and underwater inspections.



**ERIKA RUSH** – Ms. Rush, Vice President at Urban Engineers, has 28 years of transportation planning experience, and is the Practice Leader of the Planning Department. Ms. Rush is the recipient of an

American Institute of Architects award for her work on sustainable community building. She is a member of the American Planning Association, and Congress for New Urbanism, in addition to being a member of the American Society of Landscape Architects.



**ROBERT SIDMAN** – Mr. Sidman serves as CADD Manager in the Bridge Department in Urban's Philadelphia Office. He has more than 20 years of CADD and Highway/Bridge design

experience, as well as over 12 years of CADD training experience.



**RICK SIMON** – Mr. Simon has more than 46 years of experience in all areas of Quality Assurance/Quality Control. He presently serves as Urban's Vice President of Quality Services and

is the Lead Quality Manager for all of Urban Engineers' Federal Transit Administration Program Management Oversight Consultant (PMOC) assignments. He has extensive experience in developing and implementing quality programs and has had widespread practice helping contractors and their subcontractors resolve problems.



**RONALD SWERDON JR.** – Mr. Swerdon, a Certified Quality Process Analyst (CQPA), has more than 10 years of experience at Urban Engineers, most of which were spent in the Technical field. He also

works with the Project Management Oversight (PMO) group in New York City, performing monitoring functions for the FTA of several grantees in the area, and serves in quality functions on various Construction Management and Program Management teams around the country.



**WILLIAM THOMSEN** – Mr. Thomsen, who has more than 35 years of experience, is a Senior Vice President of Urban Engineers, Inc., serving as President of Urban Engineers of New York D.P.C. and

oversees the Program Management Oversight and Construction practices.



**ANGELO WATERS** – Mr. Waters manages and performs projects involving Phase I/ Phase II environmental site assessments, in-situ and risk-based remediation, asbestos investigations, NEPA

compliance, environmental management systems, sustainability initiatives, and site development/ stormwater management. Environmental services are provided to transit and rail authorities, transportation agencies, private developers, and commercial industries.



**JENNIFER WATERS** – Ms. Waters manages projects involving Phase I/ Phase II environmental site assessments, in-situ and risk-based remediation, asbestos investigations, NEPA

compliance, environmental management systems, sustainability initiatives, and site development/ stormwater management.





# ENGINEERING COURSE LIST



## **3-D MODELING**

*0.2 CEUs, 2 PDHs*

Three-dimensional modeling is a very powerful way of communicating the work that engineers and planners normally illustrate in two dimensions; it is beneficial for community groups and others who have limited experience in engineering and planning.



## **A GUIDE TO THE APPLICATION OF SECTION 4(F) FOR TRANSPORTATION PROJECTS**

*0.2 CEUs, 2 PDHs*

The U.S. Department of Transportation (DOT) Act of 1966 included a special provision called Section 4(f), which stipulated that the Federal Highway Administration (FHWA) and other DOT agencies cannot approve the use of land from publicly owned parks, recreational areas, wildlife and waterfowl refuges, or public and private

historical sites unless the following conditions are met: there is no feasible and prudent alternative to the use of the land and the action includes all possible planning to minimize harm to the property resulting from use. Take this class to learn what is involved in the Section 4(f) process and how to address Section 4(f) in your project.



## **ADDRESSING UTILITY/RAILROAD ACCOMMODATION CHALLENGES IN THE PUBLIC RIGHT-OF-WAY**

*0.2 CEUs, 2 PDHs*

While the design of facilities can often be straightforward, work in the public right-of-way frequently requires that utilities that have been given permission to occupy that right-of-way must be supported, accommodated and/or adjusted. Certain measures must also be taken to provide continual integrity of the utility lines during construction and to meet the special conditions of the utility and rail facilities. Take this course to learn about utility and railroad accommodations in the public right-of-way – how this happens, what conditions the utilities must meet to occupy the right-of-way, and other considerations and complications of utility lines, rail transit and railroads within the right-of-way.



## **AIRPORTS 101: AN INTRODUCTION TO AIRPORT DESIGN**

*0.2 CEUs, 2 PDHs*

This course presents an introduction to many of the important elements of airport design, including runway and taxiway characteristics, airport geometry, lighting, signing, and markings, and the FAA standards that govern design and construction. At the end of this class, participants will be able to: identify the major elements of airport design; discuss the aircraft characteristics that determine airport design; describe the pavement markings required for an airport; identify the factors involved in airport signing; discuss the runway and taxiway standards for airports; and describe the design elements for airport aprons.



## **BIKE TRAIL ENGINEERING DESIGN**

*0.2 CEUs, 2 PDHs*

Today, the Philadelphia area boasts one of the nation's premiere networks of bicycle paths. In fact, the US Census Bureau's 2008 American Community Survey reported that, among the nation's 10 largest cities, Philadelphia had the highest percentage of commuters who use a bike – nearly three times the national average. Urban

Engineers has played an important role in fostering this trend through its design and construction management of such bicycle-oriented projects as the Philadelphia to Valley Forge Bikeway, Radnor Multi-Use Trail, and Schuylkill River Trail, with work underway restoring the Schuylkill River Trail Canal Towpath. Take this course to learn more about the growing interest in bike paths; some basic concepts of planning; and important technical design considerations when designing bicycle paths.



## **BRIDGE REHABILITATION AND INSPECTION**

*0.2 CEUs, 2 PDHs*

Take this course to learn the importance of bridge inspection and the coordination, scheduling, cost, context sensitive design and traffic control/sequence of work issues related to bridge rehabilitation projects.



## **BROWNFIELDS: TURNING A LIABILITY INTO AN ASSET**

*0.2 CEUs, 2 PDHs*

There are a myriad of practical and environmental issues surrounding the redevelopment of underutilized real estate property that has been subject to environmental contamination. Common





'Brownfields' examples are abandoned gas stations, dry cleaners, railroad properties, factories and closed military bases. Take this course to learn about the environmental, technical, and regulatory aspects of Brownfields development and how to turn a liability into an asset.



## CIVIL/SITE DESIGN

0.2 CEUs, 2 PDHs

This course provides an overview of the civil/site design process. Topics include site survey, field visits, construction drawings, grading, earthwork analysis and balancing, drainage, stormwater management, erosion and sediment control, and permitting. This course includes a case study, instruction, and practical exercises to reinforce the concepts learned.



## CONSTRUCTABILITY REVIEWS: SAVE TIME, MONEY, AND RESOURCES

0.2 CEUs, 2 PDHs

Constructability reviews can significantly reduce the costs, delays, and claims associated with construction projects. This course is an introduction to the basics of Constructability Reviews, and presents some key issues to consider when developing an effective Constructability Review process.



## CONSTRUCTION COST ESTIMATING

0.2 CEUs, 2 PDHs

Cost Estimating is the predictive process used to quantify, cost, and price the resources required by the scope of a project. This course will focus on the components of cost estimating for major infrastructure projects. Students will learn about the many elements that must be considered in order to establish a project budget, as well as some basic estimating techniques used to establish costs and deal with uncertainties. At the end of the class, students will understand the methods used in development of a project budget. The class includes instruction and practical exercises to reinforce the concepts learned.



## CONSTRUCTION SPECIFICATIONS

0.2 CEUs, 2 PDHs

Construction specifications are important documents during the construction phase of a project. Take this course to learn the principles of specification development and organization; the role of specifications as legal and technical documents and its relation to other important construction documents (plans, contract, etc.); the various formats of specifications, and the use and need for specifications by the design

and construction teams (designers, contractors, construction manager, owner).



## **COST ESTIMATING: AN INTRODUCTION TO CONCEPTS AND APPLICATIONS**

*0.2 CEUs, 2 PDHs*

This course presents an introduction to Cost Estimating from quantity take-offs to unit pricing. Students will explore real-world estimating exercises: Labor Costs, Equipment Costs, Materials Costs, Crew Composition, Crew Productivities, Site Logistics and Staging, Mobilization Costs, Contractor Overhead and Indirect Costs, and Contractor Home Office Costs and Profit. Estimate exercises in class will include development of costs and bid prices for earthwork, concrete, and structural steel.



## **COST ESTIMATING II**

*0.2 CEUs, 2 PDHs*

This course builds on the basic concepts of Construction Cost Estimating that were reviewed in the Cost Estimating I training course. Students will explore the following in greater detail, and perform real-world estimating exercises: Labor Costs, Equipment Costs, Materials Costs, Crew

Composition, Crew Productivities, Site Logistics and Staging, Mobilization Costs, Contractor Overhead and Indirect Costs, and Contractor Home Office Costs and Profit. Estimate exercises in class will include development of costs and bid prices for earthwork, concrete, and structural steel.



## **CURB RAMP IMPLEMENTATION AND DESIGN**

*0.2 CEUs, 2 PDHs*

This course presents an overview and preliminary design considerations for curb ramps, including design criteria, design standards, ADA requirements, and minimum and maximum slopes and widths. At the end of this class, participants will be able to: discuss the basic principles, design constraints, and applications of curb ramps; define the design criteria for curb ramps; discuss technically infeasible situations with curb ramps; identify the relationship between curb ramps and other roadway facilities and features; and explain common design examples.



## **DEVELOPING AND IMPLEMENTING A PROJECT CONSTRUCTION SAFETY PROGRAM**

*0.2 CEUs, 2 PDHs*

Construction safety issues are a number one





priority on a construction site, for which the entire construction team must be on board (owner, architect/engineer, general contractor, construction manager, subcontractors and suppliers). Whether you are creating a new construction safety program, or are considering revising a current plan, this course will offer you some valuable guidance and practical advice in reducing construction site injuries and fatalities. At the end of this class, participants will be able to: discuss the key components of OSHA and the effectiveness of OSHA citations in reducing construction site injuries; explain how to develop a Project Safety Plan and a Site-Specific Safety Plan; describe some possible safety incentives to avoid and reduce construction site injuries; and discuss the impact of poor site safety in terms of the cost associated with work zone injuries.



## **ENGINEERING ASPECTS TO JOINT PADEP WATER OBSTRUCTION AND ENCROACHMENT PERMIT AND US ARMY CORPS OF ENGINEERS SECTION 404/10 PERMIT**

*0.2 CEUs, 2 PDHs*

What environmental regulations are involved when a construction activity affects wetlands or waterways? Take this course to learn about Chapter 105 PA Water Obstruction and Encroachment and Section 404 US Army COE Permits, understand when each is required on your projects, and how to determine the permit application requirements.



## **ENGINEERING CONSIDERATIONS AND APPLICATION OF HISTORIC PAVING MATERIALS**

*0.2 CEUs, 2 PDHs*

Roadway improvement projects have their own unique set of challenges, especially in an urbanized area that is rich in history. When an engineer has to consider improvements in a historic area, there are even more challenges (and regulations to adhere to) – particularly with historic paving materials. Take this course to learn about the different types of historic paving materials, the rules and regulations governing their protection, and how to design the necessary improvements while respecting the need to preserve their history.



## **ENGINEERING DESIGN OF PEDESTRIAN FACILITIES FOR ADA ACCESSIBILITY**

*0.2 CEUs, 2 PDHs*

Pedestrian facilities are growing in use and popularity, and it is the law to design new facilities with accessibility to people with disabilities. This course will cover various pedestrian design elements, such as crosswalks, pedestrian bridges, sidewalk design, roadway intersections, curb

cut ramps, pedestrian signals, temporary and permanent traffic control, and regulatory and legal issues. It covers the engineering design as well as construction and maintenance.

## **ENGINEERING ETHICS: THE PROFESSIONAL ENGINEER'S CHALLENGE**

*0.2 CEUs, 2 PDHs*

Engineers, responsible for the welfare of the public, have to uphold high ethical standards. Professional Engineers have to obey a Code of Ethics. But do you know what would constitute a violation of the Code of Ethics? Are there gray areas, or are the issues black and white? Take this course to learn the basics of the Code of Ethics for Engineers and some gray areas you need to know as a practicing engineer.



## **ENVIRONMENTAL TECHNICAL SERIES**

*0.2 CEUs, 2 PDHs*

This course is a series of topics, including: Phase I Environmental Site Assessments, Pre-Demolition Building Surveys, and Soil Management. At the end of this class, participants will be able to: discuss the four components of a Phase I ESA; discuss the importance of performing a Phase I ESA and pre-demolition building surveys; discuss what pre-demolition building surveys are and why they are needed; explain the elements of effective soil management; describe when soil management reports and/or specifications are recommended; and discuss the benefits associated with preparing a soil management plan.

## **ETHICAL CONSIDERATIONS OF CONSULTANT AND PUBLIC SECTOR ON-SITE ASSIGNMENTS**

*0.2 CEUs, 2 PDHs*

The ethics of client-consultant relationships is complex. For all types of these relationships, one must ensure that he/she knows the ethics codes of the clients and consultants, and adhere to those rules and regulations, or there could be legal and ethical repercussions. This is especially sensitive when there is a consultant workforce working as an extension of client staff, in client offices. Take this course to learn about general consultant-client relationship issues in addition to those associated with consultants working as an extension of the client's staff and/or in the client's offices. Learn what you need to do to protect yourself as a client (and respectfully, as a consultant) when having consultants working closely with client staff. This course will include instruction and case studies for discussion.

## **ETHICS FOR ENGINEERS: AN INTRODUCTION**

*0.2 CEUs, 2 PDHs*

This course presents an introduction to engineering ethics, and includes case studies and discussion of real world ethical issues that engineers face. At the end of this course, participants will be able to: discuss the role that ethics plays in the responsibilities of engineers; identify the major ethical issues that may arise when practicing engineering; describe strategies for adhering to the ethics rules of your professional engineering licenses; and determine the ramifications of noncompliance through interactive case studies.







## **HISTORIC CONSIDERATIONS FOR ENGINEERING INFRASTRUCTURE PROJECTS**

*0.2 CEUs, 2 PDHs*

Roadway and transportation infrastructure improvement projects each have their own unique set of challenges. When an engineer has to consider improvements in a historic area, there are even more challenges (and regulations to follow). Take this course to learn about the different types of historic materials and the rules and regulations governing their protection.....and how to design the necessary improvements while respecting the need to preserve their history.

## **JOINT CHAPTER 105 WATER OBSTRUCTION AND ENCROACHMENT PERMIT AND SECTION 404 US ARMY CORPS OF ENGINEERS PERMIT**

*0.2 CEUs, 2 PDHs*

What environmental regulations are involved when a construction activity affects wetlands or waterways? Take this course to learn about Chapter 105 PA Water Obstruction and Encroachment and Section 404 US Army COE Permits, understand when each is required on your projects, and how to determine the permit application requirements.



## **KEYS TO PRODUCING HIGH QUALITY AND CREDIBLE ESTIMATES FOR MAJOR INFRASTRUCTURE PROJECTS**

*0.2 CEUs, 2 PDHs*

Major infrastructure projects present many challenges, including forecasting project costs well in advance of construction. Cost over-runs are frequent and an endemic problem with major projects. How can we improve our cost estimating process to ensure more reliable and realistic cost estimates? For any project, major infrastructure projects or others, having reliable and credible determinations of cost can not only affect successful project execution, but the trust that taxpayers and public officials have in our abilities as professionals to accurately determine the cost estimates and securing funding.



## **MARINE PIER INSPECTIONS: AN INTRODUCTION**

*0.2 CEUs, 2 PHDs*

This course presents an overview of Marine Pier Inspections, including a brief history of inspections, the benefits and processes for pier inspections, the criteria for inspections, and the processes for

correcting any deficient piers. At the end of this class, participants will be able to: explain the history of pier inspections; identify the constraints that are critical in effective and accurate pier inspections; describe the elements of a detailed pier inspection and what to analyze; identify the important factors and issues that affect correcting deficient piers; and discuss how coordination affects pier inspections.



## **MULTI-MODAL TRANSPORTATION AND TRANSIT-ORIENTED DEVELOPMENT: WHAT ENGINEERS AND PLANNERS NEED TO KNOW**

*0.2 CEUs, 2 PDHs*

This course presents an overview of the field of municipal engineering and the important role that municipal engineers and municipalities have in: operating, maintaining, and securing funding for public infrastructure; planning and managing large public sector infrastructure projects; and regulating development through the permitting process.



## **NAVIGATING THE ENVIRONMENTAL PROCESS FOR FEDERALLY-FUNDED TRANSPORTATION PROJECTS**

*0.2 CEUs, 2 PDHs*

All projects are impacted by the environmental process. This course will describe the environmental process for federally-funded transportation projects, through instruction and case studies.



## **NEPA 101**

*0.2 CEUs, 2 PDHs*

Take this training for an introduction to the National Environmental Policy Act of 1969 that takes into account the potential impacts of projects on the human and natural environment. We will discuss regulations and guidance for NEPA implementation and project decision-making, the NEPA requirements as implemented by the Council on Environmental Quality, purpose and need, alternatives development and analysis, impact analysis, public involvement, interagency coordination, mitigation, and documentation.



## **OSHA CONFINED SPACE AWARENESS TRAINING**

*0.2 CEUs, 2 PDHs*

Some field and construction work may involve “confined” spaces – spaces for temporary occupancy for which their configurations hinder the activities of employees who must enter, work in, and exit them. Confined spaces can include

underground vaults, tanks, deep ditches for testing, manholes, pits, silos, and pipelines. What safety measures should you have in place when in a confined space? What are the requirements? Take this course to learn what confined spaces are and how to increase safety and awareness of confined space work.



## **OSHA CONSTRUCTION SAFETY REVIEW**

*0.2 CEUs, 2 PDHs*

The construction phase of a project is different than any of the other previous phases (including planning and design). Working on construction sites can sometimes be dangerous and specific safety precautions must be exercised. This course will give students a general overview of OSHA (the Occupational Safety and Health Administration) and how this organization specifically pertains to construction safety in our industry.

## **PERFORMANCE MANAGEMENT**

*0.2 CEUs, 2 PDHs*

This training will address the importance of performance management, conducting it throughout the year, and using it as a strategy for retention. This class will also include best practices and an open forum for discussion.



## **POROUS PAVEMENT AND RAINGARDEN ENGINEERING DESIGN**

*0.2 CEUs, 2 PDHs*

Porous pavements and raingardens are very effective means of managing stormwater runoff, an increasingly important part of project development. Take this course to learn more about these two important methods of stormwater management and how they can be incorporated into your projects.



## **QA/QC IN DESIGN AND CONSTRUCTION**

*0.2 CEUs, 2 PDHs*

Quality is critical in design and construction, especially in our industry, since the facilities that are designed and constructed are used by the public. Quality in design is paramount because everything that follows in the life of a project is based on its design. Professional services (design) are a small percentage of a project's life-cycle cost, so quality in construction (a large percentage of life-cycle cost) is important not only in terms of public welfare, but cost and time (especially for rework and 'errors and omissions'). Attend this class to learn how to save time and money by increasing the quality on your design and construction projects.



## **ROLE OF THE RESIDENT ENGINEER IN CONSTRUCTION MANAGEMENT**

*2 PDH, 0.2 CEU*

The Resident Engineer (RE) for any construction project plays a critical role in a project's success. Responsibilities of a Resident Engineer include a myriad of diverse tasks, from administering the contract, to managing field staff, to monitoring the construction schedule, to closing out the project. Take this course to learn why a Resident Engineer plays one of the most important roles in a construction project, and what kinds of tasks the RE has to complete to make a construction project successful.



## **SCHEDULING**

*0.2 CEUs, 2 PDHs*

This course will be helpful for those who have little experience with scheduling as well as those who have some practical experience. Students will learn the background of scheduling goals, commonly used scheduling approaches, terms and properties commonly used with Critical Path Method (CPM) scheduling, and the steps that are performed during the development of a CPM schedule. At the end of the class, students will be able to develop a CPM

schedule and logic diagrams and employ good schedule preparation techniques. The class includes instruction and practical exercises to reinforce the concepts learned.



## **STORMWATER MANAGEMENT: STAYING DRY WHILE MANAGING STORMWATER**

*0.2 CEUs, 2 PDHs*

Stormwater Management is of critical importance as development (and impervious area) increases and climate changes occur. Flooding and stormwater quality are issues for which design remedies need to be implemented. Take this course to learn about various challenges, techniques, BMPs, and governing laws associated with stormwater management.



# PROFESSIONAL DEVELOPMENT COURSE LIST



## **GROWING YOUR CAREER THROUGH TAKING INITIATIVE**

Have you ever thought, “I want to get more out of my career” or “I want to increase my value to the organization but I’m not sure how?” One of the ways to move ahead and increase your value is by taking initiative. Think outside your responsibilities. See opportunities to improve before you’re told to improve them. Look for opportunities. As Mark Twain said: “The secret to getting ahead is getting started.” Take this class to learn how increasing your participation in activities and taking initiative in your career can lead to increased career satisfaction and contributions.



## **CLIMBING THE CORPORATE LADDER: WHY IT ISN'T REALLY A LADDER AT ALL!**

Climbing the corporate ladder is often seen as just that - a “ladder.” But in many ways, navigating one’s career path involves turns and using tools for navigation that are not so linear and obvious.

What is success and does it have to be tied to climbing the so-called corporate ladder? Take this class to answer this question and explore the options for your career track and direction.



## **A DIFFERENT PATH TAKEN: A LEADERSHIP AND LIFE BALANCE CONVERSATION**

Take this class to learn about the various options for creating balance between your personal and professional lives. This class is a discussion of ideas to pursue balance, but also includes a panel discussion offering differing points of view.



## **WORK SITE SAFETY FOR WOMEN**

Work safety on construction sites or other field locations poses special challenges to women, as women are often the minority in these areas. Take this class to learn about work site safety issues that women in particular have to handle, and recommendations for dealing with them.

# ENGINEERING COURSE LIST ABRIDGED

3-D Modeling

A Guide to the Application of Section 4(f) for Transportation Projects

Addressing Utility/Railroad Accommodation Challenges in the Public Right-of-Way

Airports 101: An Introduction to Airport Design

Bike Trail Engineering Design

Bridge Rehabilitation and Inspection

Brownfields: Turning a Liability into an Asset

Civil/Site Design

Constructability Reviews: Save Time, Money, and Resources

Construction Cost Estimating

Construction Specifications

Cost Estimating: An Introduction to Concepts and Applications

Cost Estimating II

Curb Ramp Implementation and Design

Developing and Implementing a Project Construction Safety Program

Engineering Aspects to Joint PADEP Water Obstruction and Encroachment Permit and US Army Corps of Engineers Section 404/10 Permit

Engineering Considerations and Application of Historic Paving Materials

Engineering Design of Pedestrian Facilities for ADA Accessibility

Engineering Ethics: The Professional Engineer's Challenge

Environmental Technical Series

Ethical Considerations of Consultant and Public Sector On-site Assignments

Ethics for Engineers: An Introduction

Historic Considerations for Engineering Infrastructure Projects

Joint Chapter 105 Water Obstruction and Encroachment Permit and Section 404 US Army Corps of Engineers Permit

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