

COURSES, BREAKFASTS, LUNCHEONS & FORUMS PRESENTED BY WOC EDUCATION PARTNERS

Contact information included for each organization – content up to date as of 5-3-21.

Constructing Smooth Concrete Pavements: Tips, Techniques and State of the Art Equipment

Presented by American Concrete Pavement Association.

Questions should be directed to Bill Davenport, bdavenport@acpa.org or 309-675-1280.

Course Code: ACPAMO

Date/Time: Mon, June 7 • 1:00 pm – 4:30 pm

Location: LVCC West Hall

Registration Fee: \$225



This comprehensive training session will be presented by leading authorities on the topic of concrete pavement smoothness, equipment automation and instruments. Subject matter experts will discuss equipment, instruments and technologies being used to construct smooth concrete pavements. This training is a must for contractors of all sizes and experience levels. Project and construction managers, estimators, equipment managers and quality managers, as well as civil, geotechnical and pavement engineers will benefit from learning about the latest developments.

This course includes four unique modules:

- Avoiding the Rough Stuff—brief overview to gain better understanding of roughness, why smooth pavements are so important, and how a slipform paver works
- Smoothness Begins with the Concrete Mixture—creating a good slipform mixture and evaluating essential attributes of the concrete mixture with new tests & technology
- Construction Factors a Contractor Must Consider—details for building smooth pavements including set-up, operation, grade preparation, control-charting, etc.
- How Equipment & Instruments are Making Smooth Pavements Smoother—stringless paving, real-time smoothness equipment, lightweight profilers for measuring smoothness, evaluating profiles software, magnetic topography for dowel location, and other equipment used to achieve smoothness in concrete paving operations

Proper Joint Design, Construction and Sealing for Concrete Pavements

Presented by American Concrete Pavement Association.

Questions should be directed to Bill Davenport, bdavenport@acpa.org or 309-675-1280.

Course Code: ACPAWE

Date/Time: Wed, June 9 • 9:00 am – 12:00 pm

Location: LVCC West Hall

Registration Fee: \$225



This comprehensive training session covers critical information that any paving or flatwork contractor needs to know about properly choosing and placing joints for concrete pavements and slabs on grade. The need and purpose for each type of joint and the ACPA ten-step method to laying out the location of jointing will be explained. Example problems -- from poolside recreational pavements to complex intersection/interchanges -- will address options of joint patterns, sealing and filling in addition to guidelines for a sealant reservoir.

This training is a must for small and large contractors, project and construction managers, estimators and quality managers, as well as civil, geotechnical and pavement engineers. The training is also well suited to agencies and owners, architects/designers, building managers, facilities managers, and others interested in knowing more about how to joint pavements to minimize risk of cracking and improve pavement performance.

This course includes three unique modules:

- Introduction to Joint Types and Layout—basics of designing proper contraction, control, construction and isolation/expansion joints and the ACPA ten-step method to lay out joints

- Joint Layout Example Problems—locate joints on example projects
- Joint Construction and Sealing/Filling—different construction methods and steps; joint sealing techniques and requirements for preformed, hot-pour and silicone sealants; the wipe test, a new quality control test

Techniques to Repair/Preserve Concrete Pavements

Presented by American Concrete Pavement Association.

 *Questions should be directed to Bill Davenport, bdavenport@acpa.org or 309-675-1280.*

Course Code: ACPATH

Date/Time: Thurs, June 10 • 9:00 am – 12:00 pm

Location: LVCC West Hall

Registration Fee: \$225



This interactive training session is presented by industry pavement preservation and repair experts. Full-depth and partial-depth repair/patching, dowel bar retrofit, cross-stitching and diamond grinding applications will be covered. This training is a must for anyone wanting to learn best practices to repair or preserve concrete pavements. Project and construction managers, estimators and quality managers as well as civil, geotechnical and pavement engineers will benefit from this session. This training is also well-suited to agencies and owners, building managers and facilities managers interested in how to maintain concrete pavements.

The training course features five modules:

- Full-Depth and Partial-Depth Repairs—Best practices of patching:
 - Primary dimensioning considerations for full- and partial-depth repairs in terms of construction quality & performance
 - Recommended construction procedures
 - Advantages & disadvantages of different preparation methods and repair materials
 - Typical construction problems & appropriate solutions
 - Safety considerations in performing patching repairs
- Dowel Bar Retrofit and Cross-Stitching—Best practices of joint & crack strengthening methods:
 - Retrofitting dowel bars into joints & cross-stitching cracks
 - Recommended materials and mixtures used in repairs
 - Construction procedures, process steps, problems & solutions
 - Safety considerations
- Diamond Grinding—Equipment & techniques used in diamond grinding:
 - Basics of how diamond grinding works
 - Appropriate blade spacing dimensions and recommended construction procedures for conventional diamond grinding, diamond grooving & NGCS
 - Typical construction problems and appropriate solutions
 - Safety considerations in diamond grinding

Shotcrete Nozzleman Education

Presented by the American Shotcrete Association.

Questions should be directed to Alice McComas at 248-983-1702 or Alice.Mccomas@shotcrete.org.

Course Code: ASATU

Date/Time: Tues, June 8 • 8:00 am – 4:00 pm

Location: LVCC North Hall

Registration Fee: \$405; \$435 after 5/10/2021



This course is designed for shotcrete nozzlemen, individuals involved with inspection of shotcrete, and anyone interested in learning about the principles and practices that must be known and understood for a nozzleman to satisfy his role in the quality application of the shotcrete process.

ASA Nozzleman Education Courses present an overview on placement technique, finishing, curing, testing, equipment and safety as it relates to the nozzleman and the shotcrete process. This course also helps to prepare

individuals for participation in the ACI Nozzleman Certification program. ACI required work experience, written exam, performance exam and other program criteria will be discussed.

Attendees will receive: CP-60(15) Shotcrete Nozzleman Craftsman Workbook

Please Note:

- This course will satisfy the education course requirement for nozzlemen pursuing certification as an ACI Shotcrete Nozzleman
- **Attendance of this course alone will not result in certification as an ACI Shotcrete Nozzleman.**
- Attendees wishing to pursue ACI Certification need to arrange for a certification course with ASA (Wet Mix Exams are available for additional charges)
- Attendees will qualify for and receive a complimentary 1-year ASA Nozzleman Membership
- Lunch is not provided with this course. A one-hour break is scheduled for lunch.

Recognizing Quality Shotcrete

Presented by the American Shotcrete Association.

Questions should be directed to Alice McComas at 248-983-1702 or Alice.Mccomas@shotcrete.org

Course Code: ASAWE (course only) | ASAWEX (course w/exam)

Date: Wed, June 9

Times: 8:00 am - 4:00 pm (course) • 4:00 pm - 6:00 pm (exam)

Location: LVCC North Hall

Registration Fee: [ASAWE] Course: \$405; \$435 after 5/10/2021

Registration Fee: [ASAWEX] Course & exam: \$625; \$655 after 5/10/2021



NEW for WOC 2021! With the strong growth of shotcrete construction, the concrete construction industry needs on-site inspectors who are knowledgeable about producing high-quality and durable shotcrete. This one-day session from ASA provides guidance on over 40 critical elements of shotcrete applications to properly evaluate the overall quality of shotcrete – valuable information for onsite inspectors, General Contractors, shotcrete contractors and others who hire shotcrete sub-contractors. Topics covered include material selections, equipment, placement techniques, finishing, curing, protection, testing and safety as it relates to the shotcrete process.

Examinees may purchase ACI CP-61 Pack Shotcrete Inspector Reference Package direct from ACI (www.concrete.org/store): This is the reference resource permitted for the open book exam, optional for the **ACI Shotcrete Inspector Certification** – individuals pursuing the certification should use course code **ASAWEX** when registering.

Shotcrete Contractor Education

Presented by the American Shotcrete Association.

Questions should be directed to Alice McComas at 248-983-1702 or Alice.Mccomas@shotcrete.org

Course Code: ASATH (course only) | ASTHX (course w/exam)

Date: Thurs, June 10 • 8:00 am - 4:00 pm

Time: 8:00 am - 4:00 pm (course) • 4:30 pm - 6:00 pm (exam)

Location: LVCC North Hall

Registration Fee: [ASATH] Course: \$560; \$635 after 5/10/2021

Registration Fee: [ASTHX] Course & exam: \$660; \$735 after 5/10/2021



The concrete construction industry needs knowledgeable shotcrete contractors! Intended for the existing shotcrete contractor pursuing **ASA Shotcrete Contractor Qualification**, any concrete contractor interested in learning details and requirements for quality shotcrete placement of structural concrete will find this one-day session highly beneficial. Although a concrete contractor may be thoroughly experienced in form-and-pour concrete construction, shotcrete has fundamentally different equipment, material selection, crew responsibilities, application techniques, testing, curing and protection that need to be considered for producing high-quality and

durable shotcrete. This course provides “best practices” for shotcrete contractors looking to grow and increase productivity and quality in their shotcrete applications.

This highly interactive session will provide a thorough knowledge of shotcrete placement for concrete construction, including site & project logistics, environmental requirements, safety, crew requirements, shotcreting equipment, concrete mixture design, QA/QC, surface preparation, formwork, reinforcements, embedments, placement, finishing, curing, and protection.

Attendees will receive two reference documents: ACI 506.2-13, Specification for Shotcrete and ACI 506R-16, Guide to Shotcrete.

Special Note: Qualifying individuals pursuing **ASA Shotcrete Contractor Qualification** will need to take the 90-minute written exam immediately following the course – use course code ASATHX when registering.

Psychology of Employee Behavior: Connections & Performance

Presented by Caterpillar Inc.

Questions should be directed to Caterpillar Safety Services at 309-675-1280 or [Ganschow Justin_R@cat.com](mailto:Ganschow_Justin_R@cat.com).

Course Code: CATTU

Date/Time: Tues, June 8 • 8:00 am – 9:30 am

Location: LVCC West Hall

Registration Fee: \$105; \$125 after 5/10/21



When leaders understand drivers of differing employee behavior, such as performing better or worse when being observed, it’s easier to understand connections between people, culture, and performance. Through specific examples and personal experiences this **presentation will shed light on how people assess risk**. The presenter will share tools to help you achieve an understanding of your work environment, the people with whom you work, the way decisions are made and how the sheer presence of others can impact even the most cautious person.

Safety Performance: From the Office to the Jobsite

Presented by Caterpillar Inc.

Questions should be directed to Caterpillar Safety Services at 309-675-1280 or [Ganschow Justin_R@cat.com](mailto:Ganschow_Justin_R@cat.com).

Course Code: CATTH

Date/Time: Thurs, June 10 • 8:00 am – 9:30 am

Location: LVCC West Hall

Registration Fee: \$105; \$125 after 5/10/21



Every person in a construction organization has a specific function to get the job done, and yet all are held “responsible for safety.” Executives, project managers and supervisors have a particularly wide scope of influence and accountability, so it is **critical that they demonstrate commitment through both words and actions**. It starts with leading by example, but true leadership goes beyond wearing proper PPE and ensuring others do the same. This keynote focuses on tactical activities to create and sustain a culture of positive safety performance through leadership, communication, training, and recognition. Safety doesn’t just happen – it is built through trust, consistency, and accountability. Participants will learn how to integrate these principles into their daily routines.

3D Printing in Concrete Construction

Presented by COBOD International. (offered twice during WOC – choose your preferred day!)

Questions should be directed to Jakob Jorgensen at jj@cobod.com.

Course Code/Date/Time: COBMO • Mon, June 7 • 8:00 am – 11:00 am

Course Code/Date/Time: COBTH • Thurs, June 10 • 8:00 am – 11:00 am

Location: LVCC West Hall

Registration Fee: \$195; \$235 after 5/10/21



NEW for WOC 2021! This new and exciting course is being offered twice during the week of WOC – choose your preferred Monday or Thursday morning session. “State of the art” of 3D construction printing will be presented

including the different technologies used in current projects plus permitting, structural, material and design considerations.

Topics of discussion:

- Introduction to 3D printed construction
- World-wide overview, projects, and players
- Different technologies
- Materials
- Design, controls, and limitations

Shotcrete Problems, Causes & How to Repair

Presented in Spanish by Colegio de Ingenieros Civiles de León A.C.

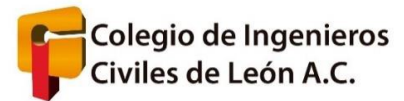
Preguntas sobre este curso deberán dirigirse al Ing. Raúl Bracamontes Jiménez, rbracamontes@hydro-arch.com.

Course Code: CICLWE

Date/Time: Wed, June 9 • 9:00 am – 2:00 pm

Location: LVCC West Hall

Registration Fee: \$285



College of Civil Engineers of de León brings an international instructor of shotcrete to teach how to identify the origin of problems and causes in shotcrete applications, both dry mix and wet mix, and how to repair them. It's intended for shotcrete nozzleman and people related to inspection, quality control, application and finishing of shotcrete. **Shotcrete Problems and Their Causes** (written in Spanish) is included with course registration fee.

Attendees will learn how to identify common problems of shotcrete—summarized in 5 main causes:

1. Design
2. Planning
3. Materials (type of cement, mix design, quantity of materials)
4. Application & finishing
5. During the service life of the concrete (and best options for repairing)

Concreto Lanzado Problemas y sus Causas y Metodo de Reparacion

El colegio de ingenieros civiles de león trae a uno de los mejores instructores internacionales de concreto lanzado a para impartir el curso con la finalidad de aprender a identificar el origen de los problemas y sus causas en el concreto lanzado, tanto vía seca como vía húmeda, y como repararlo, está dirigido a lanzadores de concreto y personas relacionadas con la inspección, control de calidad, aplicación, acabado del concreto lanzado.

En el curso se tratarán los orígenes de los problemas del concreto lanzado, como identificarlos y poder llegar a su causa raíz la cual se puede resumir en 5 causas principales:

1. Diseño
2. Planeación
3. los materiales
4. colocación y acabado
5. durante la vida de servicio

NOTA: El libro Problemas y sus Causas en el Concreto Lanzado (en español) está incluido con tu inscripción.

How to Prepare Estimates that Win You Jobs

Presented by the Concrete Sawing and Drilling Association.

Questions should be directed to Erin O'Brien at 727-577-5004 or erin@csda.org.

Course Code: CSDAMT

Date/Time: Mon - Tues, June 7 - 8 • 8:00 am – 5:00 pm

Location: LVCC West Hall

Registration Fee: \$785



This two-day classroom course focuses on the practice of estimating sawing and drilling jobs. The course outlines the role of an estimator, reviews different methods of estimating, compares estimates and actual costs, and discusses how estimators affect the company's bottom line. Attendees will learn what the costs of a job are, estimating techniques, how to build an estimating model, verify the estimate, and read blueprints in addition to customer service skills.

Attendee Requirements: Attendees should have at least three years of experience in the concrete cutting industry and want to become estimators or be current estimators who want to broaden their knowledge in the field of estimating.

NOTE: Attendees need to bring a calculator and architect/engineering scale for blueprint section of this course.

Concrete Polishing 101

Presented by the Concrete Sawing and Drilling Association.

Questions should be directed to Erin O'Brien at 727-577-5004 or erin@csda.org.

Course Code: CSDAPTW

Date/Time: Tues - Wed, June 8 - 9 • 8:00 am – 5:00 pm

Location: LVCC West Hall

Registration Fee: \$785



This two-day course will provide an overview of the concrete polishing industry and fundamentals of concrete, diamond tool technology, diamond selection process, practical applications and maintaining polished surfaces. Introduction into various types of concrete grinders, hand polishers, vacuum systems, burnishers and auto scrubbers including their applications and components; diamond selection and abrasive pad selection; how diamonds work with each type of grinder; training regarding set-up, operation, and troubleshooting. Wet and dry concrete polishing will be discussed. Final two hours of the course will address estimating and bidding.

IMPORTANT: All attendees need to **wear/bring sturdy work boots and safety glasses** for the outdoor demo portions of the class. Space is limited to 48 participants, so **register early!**

GPR Methods & Theory

Presented by the Concrete Sawing and Drilling Association.

Questions should be directed to Erin O'Brien at 727-577-5004 or erin@csda.org.

Course Code: CSDATH

Date/Time: Thurs, June 10 • 8:00 am – 5:00 pm

Location: LVCC West Hall

Registration Fee: \$450



This course covers concrete investigation basics, methods, and theory. Attendees will be taught basic GPR theory, proper procedures on GPR scanning, industry standards on marking out concrete, and limitations of GPR. Case studies from contractors will be presented. This course is geared towards new GPR technicians, company owners looking to add GPR as a service, architects, engineers, general contractors and anyone looking to understand how GPR should properly be used in any job environment.

NOTE: This is an introductory course – **not a certification course.**

Heavy Equipment Management: Data for Making Best Decisions

Presented by EquipmentWatch in partnership with the Association of Equipment Management Professionals.

Questions should be directed to Susanna Leone at susanna.leone@informa.com or 972-974-7115.

Course Code: EQWTH

Date/Time: Thurs, June 10 • 9:00 am – 10:00 am

Location: LVCC North Hall

Registration Fee: \$50



NEW for WOC 2021! Contractors invest heavily in equipment and making the most of that investment is critical to productivity, profitability, and competitiveness. Smart decisions about when to buy, divest, rent or own translates directly to increases in the bottom line. Understanding your internal charge rates allows you to bid accurately and competitively. Attendees will leave this session with a greater understanding of how to make these decisions with real-time, reliable, and specific data about their equipment.

EquipmentWatch has partnered with the Association of Equipment Management Professionals (AEMP) to share how your organization can benefit from data-driven fleet decisions. EquipmentWatch develops data for over 3,500 contractors giving insights into costs, rates, and the value of fleets. AEMP provides contacts, knowledge, and career development for professionals who manage and maintain heavy, off-road fleets.

Workflows of Drones in AEC

Presented by Kuker-Ranken Inc.

Questions should be directed to Douglas Spotted Eagle at douglas@krinc.net or 801-201-9212.

Course Code: KRITH

Date/Time: Thurs, June 10 • 1:00 pm – 3:00 pm

Location: LVCC North Hall

Registration Fee: \$75; \$100 after 5/10/21



A TRADITION IN PRECISION

NEW for WOC 2021! This session will describe the use of unmanned aircraft (drones) in the Architecture, Engineering and Construction (AEC) industry. Discussions will range from regulations to deliverables, drone to pointclouds to civil tools.

What attendees will learn:

- How unmanned aircraft/drones are currently being used in the AEC world
 - photogrammetry, orthophotos, LiDAR scans, and other applications
- How outputs are generated for subs, saving time, money, and offering faster and safer capture
- Deliverables that benefit project turnover
- Cost savings and safety benefits of UAS/drones on the jobsite via various case studies

Who should attend:

Anyone involved in planning, developing, or operating construction projects including VDCs, architects, site supervisors, and construction stakeholders.

Breakfast with the Experts at World of Concrete

Hosted by Master Builders Solutions.

Questions should be directed to seminars@worldofconcrete.com.

Course Codes: TUBE1-2, WEBE1-2, THBE1-2

Dates: Tues - Thurs, June 8 -10

Time [1]: 6:45 am - 7:45 am • **Time [2]:** 8:15 am - 9:15 am

Location: LVCC North Hall



Early risers can find answers to their toughest concrete construction and repair questions when industry experts take questions in a small, relaxed setting – choose from two start times, 6:45am/8:15am. Hot breakfast included.

Sponsored and hosted by Master Builders Solutions, Breakfast with the Experts provides attendees peer-to-peer opportunities each show morning to pose technical, or not so technical, questions to leading concrete industry experts. A panel will answer questions on new concrete construction, concrete repair, expansion joint systems, and maintenance of concrete structures. Each day's content will be different, based on attendee questions, so come spend the week!

INDIVIDUAL BREAKFAST Registration Fee: \$45; \$55 after 5/10/21

- TUBE1, WEBE1, THBE1: 6:45 am - 7:45 am
- TUBE2, WEBE2, THBE2: 8:15 am - 9:15 am

SPECIAL SAVINGS! Discounted 3-Day Pass: \$115; \$135 after 5/10/21

- TWTBE1: 6:45 am - 7:45 am
- TWTBE2: 8:15 am - 9:15 am

Extending Joint Spacing in Slabs-on-Ground

Presented by Master Builders Solutions.

Questions should be directed to Calvinia Fields at calvinia.fields@mbcc-group.com or 216-867-8717.

Course Code: MBSTU

Date/Time: Tues, June 8 • 10:00 am – 12:00 pm

Location: LVCC North Hall

Registration Fee: \$95



Contraction joints are typically needed in concrete slabs-on-ground to minimize random mid-panel cracking. Joint edge deterioration and corner cracking at joint intersections are problematic. Maintenance joints have been reported to account for approximately 80 percent of the problems with slabs. To minimize maintenance costs and reduce the downtime associated with joint repair in industrial slabs, engineers and owners are adopting procedures and material recommendations to reduce joints in concrete slabs-on-ground.

Topics of Discussion:

- Effects of concreting materials & construction practices on cracking
- Current industry recommendations for joint spacing
- Options for extending joint spacing & their differences
- Operational efficiencies achieved through use of low-shrinkage fiber-reinforced concretes

Addressing Unused and Returned Fresh Concrete

Presented by Master Builders Solutions.

Questions should be directed to Calvinia Fields at calvinia.fields@mbcc-group.com or 216-867-8717.

Course Code: MBSWE

Date/Time: Wed, June 9 • 10:00 am – 12:00 pm

Location: LVCC North Hall

Registration Fee: \$95



NEW for WOC 2021! Dealing with returned, fresh concrete is an operational and environmental problem for concrete producers. This presentation will share technologies and best practices for addressing unused and returned fresh concrete – treating a waste material for beneficial applications.

Options for treating concrete with hydration control and returned concrete treatment admixtures will be addressed. Hydration control admixtures provide options batch concrete into the unused mixture and provide the concrete for use in construction projects. Discussions also include returned concrete treatment admixtures that granularize fresh, unused concrete turning the treated material into road base or backfill aggregate. Returned concrete treatment admixture can be used at job site with a concrete contractor or at the concrete batch plant.

High-Performance Waterproofing

Presented by Master Builders Solutions.

Questions should be directed to Calvinia Fields at calvinia.fields@mbcc-group.com or 216-867-8717.

Course Code: MBSTH

Date/Time: Thurs, June 10 • 10:00 am – 12:00 pm

Location: LVCC North Hall

Registration Fee: \$95



NEW for WOC 2021! Concrete structures can be exposed to rain or ground water over their lifetime. Because concrete is porous, and susceptible to cracking, water can penetrate through the concrete which can lead to premature deterioration, high humidity levels, mold, and mildew and therefore affect our well-being and comfort.

To help produce more watertight concrete structures, engineers, contractors and owners are adopting new concrete materials to reduce and minimize water penetration into concrete.

Topics of Discussion

- Water leakage in concrete structures
- Key elements and practices for producing watertight concrete structures
- Measuring water penetration - test methods and specifications
- Effects of concrete materials on permeability
- Watertight concrete achieved by using crystalline permeability-reducing admixtures
- Example projects

Foundations of Demolition Risk Management

Presented by the National Demolition Association.

Questions should be directed to Lindsey Sullivan at lsullivan@demolitionassociation.com or 202-367-2382.

Course Code: NDATH

Date/Time: Thurs, June 10 • 8:00 am – 5:00 pm

Location: LVCC West Hall

Registration Fee: \$795



NEW FOR WOC 2021! Foundations of Demolition Risk Management is one of four courses that make up NDA's **Foundations of Demolition Management Certificate Program**. This course will cover a broad overview of risk management topics in the demolition industry—from health and safety risks to commercial risks including potential risks to schedules, insurance, and markets.

Discussions will address:

- Proactively managing risks on a demolition project
- Methods to rank and determine risk
- Reputational risk and crisis management
- Best practices for managing non-safety related risks

Improving Old Concrete from the Inside Out

Presented by OXO H2O Solutions Inc.

Questions should be directed to Martin.Herrington@oxoh2o.com or 714-319-9565.

Course Code/Date/Time: OXOWE • Wed, June 9 • 10:00 am – 11:00 am

Location: LVCC North Hall

Registration Fee: \$75



NEW for WOC 2021! Attendees will hear about a simple 4-phase nondestructive process that has proven to revitalize concrete and increase compressive and flexural strength by: renewing pH, halting electrolytic activity, exfoliating acids and salts, increasing abrasion resistance, eliminating carbon dioxide diffusion, and providing long term penetrative resistance to any products or substances harmful to concrete.

Concrete Rehabilitation versus rip down and repair offers many benefits including cost savings, minimal or no loss of use, and a favorable environmental impact. Concrete structures around the world are subject to replacement resulting from years of exposure to the elements and premature deterioration from factors such as alkali-aggregate chemical reactions. The solution has been to treat concrete from the surface with products that penetrate to a depth of approximately 1/2 inch. New delivery systems are now available that penetrate up to a depth of 10 inches and outperform traditional Sodium, Potassium and Lithium delivery systems or densifiers & hardeners tenfold.

Discussions will address:

- The History – 85-year-old church in Key West, FL, constructed using beach sand, saltwater limestone aggregate, and cement for the concrete mixture; entire matrix fully restored to that of new concrete
- The Fundamental Principles – concrete & water both friend and foe

- The Mechanisms – how the process works
- The Accomplishments – historical account of various applications of the system

PTI Certification Workshop: Level 1 Unbonded PT Installation

Presented by the Post-Tensioning Institute.

Questions should be directed to info@post-tensioning.org or 248-848-3180.

Course Code: PTIMT

Date/Time: Mon - Tues, June 7 - 8 • 8:00 am – 5:00 pm

Location: LVCC West Hall

Registration Fee: \$460



This 2-day workshop outlines the basic body of knowledge that should be possessed by all personnel involved in the installation and inspection of single strand unbonded post-tensioning systems for elevated structures. It also serves as an effective introduction for personnel new to post-tensioning, while at the same time providing support and organization for experienced persons.

Course Details:

- Post-tensioned concrete concepts and theory
- Post-tensioning components
- Special requirements for encapsulated systems
- Installation requirements
- Tendon stressing and equipment
- Barrier cable installation

Who should attend: This training is of value to installers (new & experienced), inspectors, building officials, engineers and architects, or anyone who wants to know more about unbonded post-tensioning installation.

Benefits of Certification: Quality of materials and workmanship are critical to the long-term durability and performance of post-tensioning. Individuals who complete this training will have a sound working knowledge of post-tensioning installation and inspection that will benefit them and their employers in many ways, including:

- Durability of PT construction
- Improved productivity
- Enhanced safety & risk reduction
- Code and specification compliance
- Improved profitability and competitiveness
- Professional development & better value for the owner

Code and Specification Compliance: The International Building Code incorporates ACI 318, “Building Code Requirements for Structural Concrete,” which requires post-tensioning installation be performed by individuals certified by an independent training/certification program; PTI-certified field personnel meet this requirement.

PTI Certification: Level 1 & 2 Unbonded PT Repair, Rehabilitation & Strengthening

Presented by the Post-Tensioning Institute.

Questions should be directed to info@post-tensioning.org or 248-848-3180.

Course Code: PTIRRWT

Date/Time: Wed - Thurs, June 9 - 10 • 8:00 am – 5:00 pm

Location: LVCC West Hall

Registration Fee: \$605



NEW TO WOC 2021! This workshop enhances the knowledge and capabilities of installers and inspectors and other key personnel involved in the repair, rehabilitation and strengthening of single strand unbonded post-tensioning (PT) systems for elevated structures.

Topics covered include:

- Overview of historical and current PT systems

- Overview of initial construction
- Contract documents
- Evaluation
- Repair steps and techniques
- Safety
- Unbonded PT rehabilitation and strengthening
- Case studies

NOTE: Participants should have current PTI certification for installation and stressing of single strand unbonded tendons for elevated construction plus field work experience in installation and stressing of unbonded tendons.

PTI Certification: Level 1 & 2 Slab-on-Ground Installer & Inspector

Presented by the Post-Tensioning Institute.

Questions should be directed to info@post-tensioning.org or 248-848-3180.

Course Code: PTISGWT

Date/Time: Wed - Thurs, June 9 - 10 • 8:00 am – 5:00 pm

Location: LVCC West Hall

Registration Fee: \$475



NEW TO WOC 2021! This 2-day workshop is designed specifically for installation and inspection of single strand unbonded post-tensioning (PT) systems for residential and light commercial slabs-on-ground. It outlines the installation and stressing of PT in these light foundation systems. Hands-on training is included and requires examinee to demonstrate a proficiency of the necessary skills for working with single strand unbonded post-tensioning systems for slab-on-ground construction.

PCI Quality Control Technician/Inspector Certification

Presented by Precast/Prestressed Concrete Institute.

Questions should be directed to Beth Taylor at btaylor@pci.org, 312-360-6780.

Level I Code/Dates/Times: PCI1 • Mon, June 7, 8 am – 5 pm • Tues, June 8, 8 am – 10 am

Level II Code/Dates/Times: PCI2 • Tues, June 8 • 10 am – 5 pm • Wed, June 9, 8 am – 11 am

Level I & II Combo Code: PCI3

Location: LVCC North Hall

Registration Fees: \$615 Level I; \$615 Level II; \$1045 Level I & II Combo



Quality Control Technician/Inspector Level I & II Certification presented together for a three-day learning experience and certification opportunity. Attendees will receive a copy of the valuable **Quality Control Technician/Inspector Level I & II Training Manual TM-101**, plus class notes and reference material.

This curriculum was developed especially for quality control personnel, engineers, technician/managers, plant managers/superintendents, consulting engineers and technicians. However, the schools and certifications are open to everyone involved in planning, operations, and quality control in the precast products industry.

Level I includes a review of PCI certification programs, both plant and personnel. Basic concrete topics and mix design concepts (such as water/cementitious ratio) are introduced as well as beginning design concepts such as concrete strength, the need for reinforcement and conventional reinforcing bars.

Level II continues with intermediate concrete topics and mix design concepts. Prestressing is introduced; attendees run calculations and discuss correction factors. Level I & II program is packed with activities: practice sessions, student-instructor interaction, and certification examinations.

NOTE: **\$185 savings** when you register for both Level I & II – use course code PCI3 when registering.

PCI Certified Field Auditor Training & Certification

Presented by Precast/Prestressed Concrete Institute.

Questions should be directed to Beth Taylor at btaylor@pci.org, 312-360-6780.

Course Code: PCIFA

Date/Time: Mon - Wed, June 7 - 9 • 8:00 am – 5:00 pm

Location: LVCC West Hall

Registration Fee: \$970



NEW for WOC 2021! The Certified Field Auditor (CFA) QC School is a three-day course that reviews industry quality and safety standards applicable to the erection of precast concrete members. OSHA regulations are also reviewed during this course. **Registrants will receive** copies of the MNL-127, Erectors Manual – Standards and Guidelines for the Erection of Precast Concrete Products, and MNL-132, Erection Safety – For Precast and Prestressed Concrete, plus class notes and extensive reference material.

The course provides a unique opportunity for peers to discuss common issues and share solutions and successes. At the conclusion of each day, candidates will take a certification examination. Candidates must pass all three certification examinations, with a minimum score of 80% on each examination, to be eligible for the CFA personnel certification.

Waterproofing: The Next Generation of Solutions

Presented by Sika Corporation.

Questions should be directed to Eric Muench at muench.eric@us.sika.com.

Course Code: SSSTU

Date/Time: Tues, June 8 • 1:00 pm – 3:30 pm

Location: LVCC North Hall

Registration Fee: \$115; \$135 after 5/10/21



This session will explore the state of the art in waterproofing and weatherproofing throughout the entire building envelope. Product and application areas like elastomeric joint sealants, liquid applied traffic coatings, liquid applied below grade waterproofing, air barrier and roofing applications will be included in the presentation.

SSPC Concrete Coating Inspector (CCI) - Levels 1 & 2

Presented by the Society for Protective Coatings.

Questions should be directed to Sara Badami at badami@sspc.org or 412-281-2331 ext 2208

Course Codes: SSPC1 - Level 1 and SSPC2 - Level 2

Level 1 & 2 Dates/Times: Sun - Wed, June 6- 9 • 8:00 am - 5:00 pm

Level 2 Exam: Thurs, June 10, 8:00 am - 12:00 pm

Location: LVCC West Hall

Registration Fee: \$1,345 CCI Level 1; \$1,545 CCI Levels 1 & 2



Inspections are one of the most essential parts of the coatings process. Inspectors, contractor managers, specifying engineers, technical personnel and material/equipment suppliers involved in the concrete coating industry should attend this course. Participants can walk away as Level 1 or Level 2 Certified Concrete Coating Inspectors with deeper understanding of surface preparation, coatings, inspection instruments, and tests done before, during and after coating of industrial concrete structures and facilities.

COURSE CONTENT:

- Common duties, responsibilities, and role of a concrete coating inspector
- Job-specific duties identified in pre-job conferences & work plans
- Concrete coating inspection equipment
- Inspection of concrete surface preparation
- Moisture impact on concrete substrate, moisture vapor emissions rate and concrete moisture testing
- Concrete coating inspections during and after coating application
- Inspection plan/procedure

COURSE AGENDA:

- Sunday-Tuesday: classroom lectures, quizzes, written homework and assigned readings
- Wednesday: inspection of coating application; three workshops (coating adhesion testing, inspection plan development, simulated QA/AC inspection); CCI Level 1 written exam; and hands-on practical focusing on use of inspection instruments
- Thursday: **Level 2 Certification exam** for candidates who passed the CCB eCourse and CCI Level 1 exams

REGISTRATION INCLUDES: comprehensive manual with references of relevant SSPC standards and **required** online Concrete Coating Basics (CCB) eCourse. Lunch is not provided with this course.

Lather Training for Cement Stucco

Presented by Stucco Manufacturers Association.

Questions should be directed to Mark Fowler at mark@stuccomfgassoc.com or 714-473-9579.

Course Code: SMAWE

Date/Time: Wed, June 9 • 1:30 pm – 3:00 pm

Location: LVCC North Hall

Registration Fee: \$75; \$100 after 5/10/21



NEW for WOC 2021! This session will cover lath materials, tools and Installation of lath for cement stucco. Attendees will learn what to look for to approve the substrate and ensure flashing is in place with proper blocking. Enhanced techniques on applying building paper, lath and trim accessories will also be addressed in addition to methods of moisture drainage, rainscreen and continuous insulation. Class discussions enhanced with numerous pictures and videos will cover codes and standards and WHY certain practices should be followed.

Plaster Training for Cement Stucco

Presented by Stucco Manufacturers Association.

Questions should be directed to Mark Fowler at mark@stuccomfgassoc.com or 714-473-9579.

Course Code: SMATH

Date/Time: Thurs, June 10 • 1:30 pm – 3:00 pm

Location: LVCC North Hall

Registration Fee: \$75; \$100 after 5/10/21



NEW for WOC 2021! This session will cover plaster materials, mixing, ratios, identifying quality sand, and safety tips. Application of plaster by hand tool and machine will be covered with best practices for making walls straight and improving water-resistance. Crack reduction will also be covered as well as in-depth review of smooth trowel plaster techniques, fog coating and patching – all discussions incorporated with pictures and multiple videos to enhance the learning experience.

Pervious Concrete: Why & How

Presented by the Tennessee Concrete Association.

Questions should be directed to Alan Sparkman at 615-360-7393 or asparkman@tnconcrete.org.

Course Code: TCAMO

Date/Time: Mon, June 7 • 1:00 pm – 4:00 pm

Location: LVCC West Hall

Registration Fee: \$125; \$155 after 5/10/21



This session is targeted toward contractors and will focus on why pervious concrete is specified and how to successfully both install and maintain durable pervious concrete pavements.

Pervious Certification Candidates: For those interested in being certified by NRMCA as a Pervious Concrete Technician, see 4-hour certification review seminar **MO402** scheduled Mon, 8 am - 12 pm and corresponding written exam **TUPCW** scheduled Tues, 3 pm – 5 pm. Separate registration & fees required.

Concrete Polishing Luncheon & Forum - Specifications for Polished Concrete

Hosted by the World of Concrete and the ASCC Concrete Polishing Council.

Sponsored by CureCrete, Skudo and Superabrasive.

Direct questions to Bill Palmer at bill.palmer@informa.com or 773-494-4619.

Course Code: TUCPL

Date/Time: Tues, June 8 • 11:30 am – 1:30 pm

Location: LVCC North Hall

Registration Fee: \$105; \$135 after 5/10/21



ACI-ASCC Committee 310 recently released a new specification on polished concrete (ACI-ASCC 310.1-20). An expert panel of those involved with development of the new specification will explain the implications for polishing contractors. Topics include polisher certification, pre-construction conferences, mock-ups, testing, quality assurance acceptance, and more. The panel will discuss how the contractor can help guide the specifier towards the finished look their clients desire while managing expectations.

The panel will also discuss the contradictions that can arise within a polishing specification and how to handle those to everyone's satisfaction. There are many things to look out for in specifications that are direct contradictions with other parts of the same specification or with industry standards, such as:

- QC tests to use (DOI or gloss)
- documents to reference
- manufacturers permitted, required materials, approval of alternatives
- specific polishing steps to follow
- protection requirements
- ways to work through the contradictions to satisfy all parties

Don't miss the chance to learn how to steer your customers towards sensible and productive specifications.

Panelists include **Clark Branum**, Advanced Concrete Coatings and former chair of ACI-ASCC Committee 310; **Bob Harris**, Structural Services Inc.; **Roy Bowman**, Solid Surface Care; and **Pat Harrison**, Structural Services Inc.

Quality in Concrete Slabs Luncheon & Forum

Hosted by the World of Concrete and the American Society of Concrete Contractors.

Sponsored by CureCrete and Somero Enterprises.

Direct questions to Bill Palmer at bill.palmer@informa.com or 773-494-4619.

Course Code: WESOG

Date/Time: Wed, June 9 • 11:30 am – 1:30 pm

Location: LVCC North Hall

Registration Fee: \$105; \$135 after 5/10/21



Specifications for Industrial Floors and Pavements: Opportunities and Threats

Two of today's hottest markets in concrete construction are interior industrial floors and exterior industrial concrete pavements for parking lots and distribution centers. Learn what to look for in a contract/specification for these markets that might get you into trouble. This can include vapor retarders, moisture expectations, flatness/levelness expectations, site preparation requirements, retention payments, mix designs, use of ACI documents, pre-pour discussions, and designer expectations. Review specifications with an eye towards provisions to exclude from your bid, provisions that need extra money added to the bid, and provisions to discuss at the preconstruction conference. A panel of specifiers and contractors will discuss all of this and answer your questions. Panelists include **Jim Klinger**, ASCC; **Jon Hansen**, NRMCA; **Chris Tull**, CRT Concrete Consulting; and **Bryan Birdwell**, Structural Services Inc.