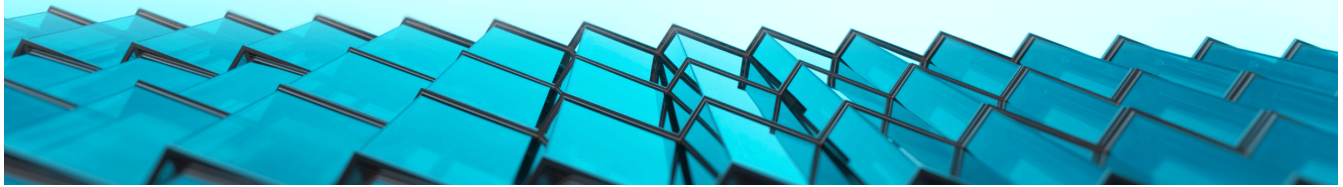




LEAN Construction Education Program

Lean Builders do it Better®



About the Course

Lean Construction is driven to minimize costs and maximize value on each project completed, challenging all stakeholders to develop and apply better ways to manage the overall construction process.

The updated Lean Construction Education Program engages students with numerous activities and group discussions designed to apply Lean Construction principles and practices. Key course activities include the Parade of Trades exercise where participants will learn the effects of varying and unreliable workflow versus smooth and reliable workflow. Students will also learn and practice the Last Planner® System in a simulation that teaches students to engage in a way that produces predictable workflow and rapid learning.

After participants complete all five units in the program, they become eligible to sit for an exam to earn the Certificate of Management – Lean Construction (CM-LEAN).

Who Should Take This Course

Construction operations staff from general contractors, specialty contractors, construction managers and trade partners at all levels from chief operating officer to project engineer and foreman.

Dates

Tuesday, September 15: Unit 1

Tuesday, September 29: Unit 2

Tuesday, October 20: Unit 3

Tuesday, October 27: Unit 4

Tuesday, November 10: Unit 5 & Exam Review

Time: 8:00 AM - 5:00 PM EDT – Each day

Location: Building Industry Center, 6 Airline Drive, Albany, NY

Registration Fee

\$2500/ AGC NYS, ECA or
NESCA Member
\$3400/ Non-member

Price includes Lean 2.0
Participant Manual
eBooks and **Meals**
(Print manuals can be
purchased separately)

[Register here](#)

Unit 1: Introduction to Lean Construction

Lesson 1 – Why Lean?

Lesson 2 – What is Lean & Respect for People

The first two lessons answer the questions Why Lean? and What is Lean? Then it introduces participants to the six tenets of Lean Construction and explains how Respect for People is a fundamental goal of Lean as we work to develop people and make work an enriching experience.

Lesson 3 – Generate Value, Remove Waste, & Optimize the Whole

Explains the way value is defined by the customer, and that each customer will define value differently. Instructors illustrate that non-value-adding activities are pure waste. Lean uses the principle of prioritizing flow efficiency as a key means to generate value and remove waste.

Lesson 4 – Continuous Improvement

Defines continuous improvement and provides an understanding of how Plan-Do-Check-Act, PDCA, supports continuous improvement. Participants will practice PDCA in a group exercise.

Unit 2: Process and Production Basics

Lesson 1 – Process, Efficiency & Variation

Provides a description of what a process and process flow are, then describes what makes a process efficient. From there instructors define what variation, what it looks like in our work, and what causes it, so in the next lesson we can see how variation impacts a process, its flow, and its efficiency and what that means for our projects.

Lesson 2 – Law of Variation

Explains how variation, buffers, and consistency affect project performance, and identify the characteristics and consequences of unreliable workflow and reliable workflow. Participants will learn these lessons firsthand in the Parade of Trades simulation.

Lesson 3 – Variation Mitigation

Describes buffers, buffer sizing and other means to mitigate variation. Participants learn specific techniques for reducing variation, and the importance of process consistency.

Lesson 4 – 5S

Shows how 5S is another Lean method to help reduce variation on projects, and it does much more. It is a means for pursuing continuous improvement. It helps us reduce waste. It shows respect for people by improving their work environment and contributing to a safer workplace.

Unit 3: Production Systems

Lesson 1 – Lean Production Systems

The overall lesson objective is to introduce key terms and recognize aspects of common practice to create a Lean production system for construction that prioritizes flow efficiency.

Lesson 2 – Batch-Pull-Balance-Takt Simulation

Participants experience the effects of batching, pull, balancing and takt on a production system by completing the Batch, Pull, Balance, Takt Exercise.

Lesson 3 – Lean Production Systems – Pull

The focus is on Pull as part of the control for the system. Participants learn how pull helps manage variation and explain the impact of pull control on production systems.

Lesson 4 – Lean Production Systems – Law of Bottlenecks & Balance, Little's Law & Batching

The overall objective for this lesson is for participants to recognize the impact of batching on construction production and flow efficiency by looking at Little's Law and the risks and advantages of batching.

Unit 4: Lean Thinking Applied to Field Production, Last Planner System®

Lesson 1 – Introduction to Last Planner System® (LPS)

Describes how the LPS is a method of planning and control for the entire project. LPS is a common starting point for companies or projects embarking on a Lean journey. This lesson introduces LPS in terms of how it embodies the six tenets both in its design and goals in the context of field production.

Lesson 2 – Details of the Last Planner System

Describes the ideal for running the full LPS. Participants will learn the different tools, visuals, and formats that are used, but their goal of each conversation is the same. This lesson shows the steps of the Last Planner System and how it gets more detailed the closer teams get to the work. As the lesson progresses participants see the purpose of each level of the LPS, and how the levels of the LPS work together. Participants will identify methods to encourage trade partner participation in each level of the LPS, and measure to see if processes are being followed and achieving the desired results.

Unit 5: Lean Thinking Outside of Field Production

Lesson 1 – Lean Project Delivery

Describes how Lean is applied to the whole project delivery system. It explains the purpose and recognizes the advantages of cross-functional teams, and why value should be defined early in the project life cycle.

Lesson 2 – Lean in the Supply Chain

Looks at improvements that can be made exclusively within the supply chain with an understanding of customer value but without involving changes by design or construction.

Lesson 3 – Lean in Design

Describes how value creation in design focuses on identifying and meeting customer needs through efficient and effective design processes.

Lesson 4 – Process Improvement & Problem Solving

Explains how effective problem solving is focused on proactively preventing the same type of problem from occurring again because it addresses root causes. It creates a culture of problem solving where everyone brings problems forward and collaboratively works to resolve them.



Instructor: Colin Milberg | Ph.D. – Principal - ASKM Associates

Colin has over 20 years of construction management experience in both the office and the field, combined with seven years of university teaching experience in construction engineering and management. Colin has worked with public and private organizations on projects ranging from \$2 million to \$1 billion, assisting project teams and organizations in implementing Lean Construction and Enterprise practices.

Colin has a Ph.D. from U.C. Berkeley, where he studied Lean Construction and tolerance management with the Lean Construction Institute (LCI) founders. In addition, Colin co-founded LCI San Diego and LCI Southern New England, was on the core group for LCI New England, and was a member of the International Group for Lean Construction advisory board.

Earn your Certificate of Management – LEAN Construction



The AGC Certificate of Management-Lean Construction (CM-LEAN) is an assessment-based certificate credential that denotes knowledge and understanding of concepts related to lean adoption, practice and process transformation outlined in AGC's Lean Construction Education Program. Successful candidates will carry the CM-LEAN designation.

Successfully complete all five LCEP courses allows you to apply for the CM-LEAN exam. Test takers have three months to complete the exam after application approval. Test fees apply.

Registration Fee

\$2500/ AGC NYS, ECA or NESCA Member
\$3400/ Non-member

Price includes Lean 2.0 Participant Manual eBook and Meals
(Print manuals can be purchased separately)

[**Register here**](#)

Questions: Contact Brendan Manning at the AGC NYS at bmanning@agcnys.org or at (518) 456-1134