



**AGC of America**  
THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA  
**Quality People. Quality Projects.**



## AGC's LEAN CONSTRUCTION EDUCATION PROGRAM ADMINISTRATION REQUIREMENTS

The information found within this document provides requirements and guidelines for hosting AGC's Lean Construction Education Program. All organizations hosting Lean Construction Education Program courses must review this document and provide a signed copy acknowledging acceptance of these requirements.

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[www.agc.org/LCEP](http://www.agc.org/LCEP)  
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## COURSE ADMINISTRATION CHECKLIST

Tasks that should be performed in order to successfully administer Lean Construction EP courses and prepare participants for future Lean Construction credentials, include (but are not limited to):

1. Read and adhere to these requirements and provide a signed copy acknowledging acceptance to AGC of America.
2. Recruit an instructor(s) who meets the outlined qualifications. Instructor requirements forms can be found at [www.agc.org/LCEP](http://www.agc.org/LCEP). Instructors must:
  - Submit an application for each unit they plan to facilitate.
  - Have the Instructor's Guide packet for that unit.
  - Receive approval from AGC of America before facilitating that course.
3. Schedule your course. All courses must, at a minimum, meet the required duration for that program and factor in additional time for breaks and/or meals.
  - AGC Chapters should post their course information on the national curriculum program calendar, found on the [Chapter Exchange](#).
  - All other organizations should email AGC of America their upcoming course information to be sure all requirements are met.
4. Apply for Continuing Education credits. Contact [curriculum@agc.org](mailto:curriculum@agc.org) to find out which CEUs your program is eligible for. All credits must be submitted no less than 30 days prior to the program date.
5. Customize the Lean Construction Education Program course marketing flyer template(s) to promote courses.
6. [Order](#) course materials through the AGC Store. Each participant must have his/her own Participant's Manual to use during class.
7. Issue Certificates of Completion for all individuals who successfully attend the course(s). AGC defines "successful" completion as having participated in a minimum of 95% of the course instruction. Email [curriculum@agc.org](mailto:curriculum@agc.org) for certificate templates.
8. Mail the original hard copies of the *Participant Registration Form* (found in the back of each Participant's Manual) for each course's participant to be logged into the National Database of course completers. **Submission of this original form is the only way that participant's course completion will be logged into the AGC database.**
9. Direct participants to the online evaluation found at [www.agc.org/LCEP/Evaluations](http://www.agc.org/LCEP/Evaluations).

## OVERVIEW OF THE LEAN CONSTRUCTION EDUCATION PROGRAM

### Course Plan

AGC's Lean Construction Education Program is a three-tiered program designed for three different types of individuals within a single company: those who want to become their company's Lean Champions, individuals who will assist in the lean movement and the company's executives.

#### ***Lean Construction Credentialing Program***

Lean transformation is most effectively driven by individuals within an organization. The Lean Construction Credentialing Program is intended for those individuals who will design and implement a lean transformation strategy within an organization, the Lean Construction champions. In order to obtain the Lean Construction credential, an individual must complete all of the following courses and an exam:

- *Unit 1: Variation in Production Systems*
- *Unit 2: Pull in Production*
- *Unit 3: Lean Workstructuring*
- *Unit 4: The Last Planner® System*
- *Unit 5: Lean Supply Chains and Assembly*
- *Unit 6: Lean Design and Pre-construction*
- *Unit 7: Problem-solving Principles and Tools*

#### ***Lean Construction Executive Course***

On a corporate level, construction executives must understand and be able to communicate the advantages of lean in order to push lean practices throughout their organization. This course will be released in late 2013.

#### ***Lean Construction Project Team Member Course***

On an individual level, all project team members must understand their role in, impact on, and the benefits of lean adoption. This one-day course will be released in late 2014.

#### ***Lean Construction 101***

*Lean Construction 101* is a one-hour online course that can be taken at any time and provides a foundation of knowledge for those interested in improving the construction process through lean strategies and practices. Visit [www.agc.org/LCEP](http://www.agc.org/LCEP) to register.

### Course Materials

Each course's Instructor's Guide includes a PowerPoint Presentation on CD and printed thumbnails, lesson plans, discussion and activity guide sheets, and suggested answers to activities. Participant's Manuals provide the core concepts and information about presentation topics and activities.

These materials are designed to work in tandem and, when used together, improve the effectiveness and consistency of the training. Instructors should review both the Instructor's Guide and Participant's Manual prior to facilitating the course. The AGC-developed course materials must be used in the delivery of Lean Construction Education Program courses.

#### ***Pricing and Shipping***

The price of course manuals vary and both retail and member prices are available. Please visit <http://store.agc.org> and login to view your price for these materials.

- *Unit 1: Variation in Production Systems*

- Instructor's Guide, Item No. 9510
- Participant's Manual, Item No. 9511
- *Unit 2: Pull in Production*
  - Instructor's Guide, Item No. 9512
  - Participant's Manual, Item No. 9513
- *Unit 3: Lean Workstructuring*
  - Instructor's Guide, Item No. 9514
  - Participant's Manual, Item No. 9515

The AGC Store offers several shipping methods:

- Ground (allow for 7-10 days),
- 2<sup>nd</sup> Day\*
- Overnight.\*

\*Orders must be placed by 1:00 PM EST to be shipped out that day

### **Return Policy**

Unopened, resalable books may be returned within 30 days without penalty. After that time, a 20% restocking fee will be charged. No returns will be accepted after 120 days from date of invoice. View the return policy, enclosed with each book upon shipment, for more information.

### **Administration**

Organizations decide when and where to present their course and perform all administrative functions associated with course delivery.

### **Course Finances**

Host organizations may set Lean Construction Education Program course tuition based on local circumstances, such as available meeting space, cost of course materials, availability of sponsors, instructor's fees, costs of refreshment, cost of supplies (tent cards, writing utensils, etc.), and other considerations.

### **Marketing**

AGC offers a variety of customizable flyers, ad templates and other marketing materials. All materials are available for download on the [Chapter Exchange](#) or by emailing [curriculum@agc.org](mailto:curriculum@agc.org).

### **Calendar**

AGC Chapters can post their upcoming Lean Construction Education Program courses to the AGC Website via the [Chapter Exchange](#). Firms and individuals across the country who are interested in the courses are directed to this web page.

### **Certificates of Completion and Curriculum Database**

As participants complete Lean Construction Education Program courses, course administrators issue a Certificate of Completion. Email [curriculum@agc.org](mailto:curriculum@agc.org) for a certificate template. Courses carrying continuing education credits will be provided credit-specific information and a special template.

Course administrators must submit to AGC of America an **original** *Participant Registration Form* (found in the Reference Section of the Participant's Manual for each course) for each student. Participant information will be logged into the national database so that all participants' progress through the program is tracked in a central location.

## UNIT 1: VARIATION IN PRODUCTION SYSTEMS

### Overview

Lean Construction challenges all project stakeholders to develop and apply better ways to manage the overall construction process. *Unit 1: Variation in Production Systems* is a half-day course that introduces one of the foundational concepts of Lean Construction, variation.

All work on a construction project is connected and variation in even one part affects the entire project. This course provides the necessary tools for participants to recognize sources of variation on their own projects, examine variation's detrimental effect on operations, and mitigate its effects.

### Course Outline and Schedule

*Variation in Production Systems* is comprised of three sessions, providing four hours of education. All courses scheduled must account for a minimum of four learning hours, plus any breaks and/or meals.

- Session 1: Construction Variation — 105 minutes
- Session 2: Effect on Operations — 75 minutes
- Session 3: Variation Mitigation — 60 minutes

### Unit 1 Instructors and Resources

A detailed *Variation in Production Systems* Instructor Qualifications Form outlines the criteria for instructors. This form must be signed and submitted to AGC of America for approval prior to an instructor facilitating the course.

All *Variation in Production Systems* instructors must have a copy of the Instructor's Guide Bundle (containing the Participant's Manual and PowerPoint CD). Presentations are not to be provided electrically to participants for their use after class, which would be a violation of copyright. All material within the PowerPoint Presentation can be found within the Participant's Manual.

### Course Learning Objectives

Following completion of *Variation in Production Systems* participants will be able to:

- Define the different types of variation
- Explain the concept of throughput
- Distinguish the concepts of throughput and work in progress
- Describe the role of variation in production operations
- List sources of variation in construction settings
- Explain variation mitigation techniques
- Contrast variation mitigation techniques

## UNIT 2: PULL IN PRODUCTION

### Overview

Lean Construction challenges all project stakeholders to develop and apply better ways to manage the overall construction process. *Unit 2: Pull in Production* is a half-day course that introduces the concept of pull as a means to reliable workflow.

Within construction the unpredictable workflow can have a large impact on the project. This course provides the necessary tools for participants to distinguish between push and pull systems, recognize the impact of pull systems, and implement pull strategies in construction operations.

### Course Outline and Schedule

*Pull in Production* is comprised of three sessions, providing four hours of education. All courses scheduled must account for a minimum of four learning hours, plus any breaks and/or meals.

- Session 1: Push/Pull Production Systems — 85 minutes
- Session 2: Effect on Production — 95 minutes
- Session 3: Pull System Scenarios — 60 minutes

### Unit 2 Instructors and Resources

A detailed *Pull in Production* Instructor Qualifications Form outlines the criteria for instructors. This form must be signed and submitted to AGC of America for approval prior to an instructor facilitating the course.

All *Pull in Production* instructors must have a copy of the Instructor's Guide Bundle (containing the Participant's Manual and PowerPoint CD). Presentations are not to be provided electrically to participants for their use after class, which would be a violation of copyright. All material within the PowerPoint Presentation can be found within the Participant's Manual.

### Course Learning Objectives

Following completion of *Pull in Production* participants will be able to:

- Compare batch-and-queue and continuous-flow production systems
- Distinguish push systems from pull systems
- Describe the impact of pull on production systems
- Explain pull strategies in construction operations

## UNIT 3: LEAN WORKSTRUCTURING

### Overview

Lean Construction challenges all project stakeholders to develop and apply better ways to manage the overall construction process. *Unit 3: Lean Workstructuring* is a half-day course that introduces an essential component of the Last Planner® System, Lean Workstructuring.

Within construction, we all strive to plan our projects in a way that produces predictable workflow and continuous improvement. This course provides participants with the tools needed to apply Lean Workstructuring principles within the Last Planner® System.

### Course Outline and Schedule

*Lean Workstructuring* is comprised of three sessions, providing four hours of education. All courses scheduled must account for a minimum of four learning hours, plus any breaks and/or meals.

- Session 1: Pull Planning — 120 minutes
- Session 2: Lean Workstructuring Basics — 60 minutes
- Session 3: Last Planner® System — 60 minutes

### Unit 3 Instructors and Resources

A detailed *Lean Workstructuring* Instructor Qualifications Form outlines the criteria for instructors. This form must be signed and submitted to AGC of America for approval prior to an instructor facilitating the course.

All *Lean Workstructuring* instructors must have a copy of the Instructor's Guide Bundle (containing the Participant's Manual and PowerPoint CD). Presentations are not to be provided electrically to participants for their use after class, which would be a violation of copyright. All material within the PowerPoint Presentation can be found within the Participant's Manual.

### Course Learning Objectives

Following completion of *Lean Workstructuring* participants will be able to:

- Apply the methods and tools utilized in pull planning
- Describe the concept of Lean Workstructuring
- Outline the desired products of Lean Workstructuring
- Describe the characteristics and application of the Last Planner® System



## AGC OF AMERICA CONTACT INFORMATION

To order course material, contact the AGC Store at 1-800-242-1767 or <http://store.agc.org>.

For questions about course content, delivery or any other items related to the Lean Construction Education Program, contact:

Director, Lean Construction Education Program  
Direct Phone: (703) 837-5387  
Email: [curriculum@agc.org](mailto:curriculum@agc.org)

The Associated General Contractors of America  
2300 Wilson Boulevard, Suite 400  
Arlington, Virginia 22201  
Fax: (703) 837-5402

## ACKNOWLEDGEMENT OF ADMINISTRATION REQUIREMENTS

I acknowledge the requirements outlined in the document and will follow these procedures for all Lean Construction Education Program courses hosted by my organization.

I recognize that failure to comply with any of the requirements outlined in this document may cause my course records to be excluded from the Lean Construction Education Program database.

\_\_\_\_\_  
Signed Name

\_\_\_\_\_  
Date

### Printed Contact Information

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Company Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_ Fax: \_\_\_\_\_

Email Address: \_\_\_\_\_

Lean Construction Organization Affiliations (if any): \_\_\_\_\_

**Please sign and return this page to AGC via email at [curriculum@agc.org](mailto:curriculum@agc.org) or fax at (703) 837-5402.**