

# LEAN CONSTRUCTION UNIT 1: VARIATION IN PRODUCTION SYSTEMS

**June 13, 2017 \* 7:30 a.m. - 11:45 a.m.**  
**@ EMU Livonia, 38777 W Six Mile Rd # 400, Livonia, MI 48152**

## THE LEAN EDUCATION PROGRAM

Everyone related to the construction process has incentive to get the project done faster and at a lower cost - from the project owners who want to see tangible results for their investment to the contractors and designers who want to do their job well and move on to the next project. Lean Construction is based on the holistic pursuit of continuous improvements aimed at minimizing costs and maximizing value on a construction project: planning, design, construction, activation, operations, maintenance, salvaging, and recycling.

To help contractors develop the knowledge needed to build lean, the Associated General Contractors of America developed the Lean Construction Education Program. Construction professionals at all experience levels, will learn the building blocks necessary to transform their projects and companies into a lean operating system.

## THIS COURSE

This half-day course introduces one of the foundational concepts of Lean Construction, variation. In the construction process, the work we do is all connected and variation in even one of those processes affects us all. This course provides tools to help participants recognize sources of variation on their own projects, examine variation's effect on operations, and mitigate the effects of variation in their every-day work.

Following completion of this course, participants will have the ability to: define the different types of variation; explain the concept of throughput and distinguish it from productivity; discuss the role of variation in production operations; list sources of variation in construction settings; and explain and contrast variation mitigation techniques.

### **WHO SHOULD ATTEND:**

*Contractors, construction managers, suppliers, service providers and professionals seeking additional information about the Lean process, or those interested obtaining their CM-Lean certificate.*

*The seven-unit series is intended for those individuals who will design and implement a lean transformation strategy within an organization. This course provides 4 hours of instruction in a 36 -hour program developed to help you obtain AGC's Certificate of Management - Lean (CM-Lean).*

*Following completion of all seven units of the Lean Construction Education Program, participants will be qualified to sit for an exam to earn AGC's Certificate of Management—Lean (CM-Lean).*



### **Cost:**

\$225/AGC Member

\$250/CIAP Member

\$300/Non-Member

(Includes text & continental breakfast)

### **Registration Deadline:**

June 8, 2017

To register online and pay with a credit card please go to [www.agcmichigan.org](http://www.agcmichigan.org), enter or create login information, and select the class from Upcoming Classes. Members may elect to be invoiced by e-mailing their registration information to Viki Gotts: [vgotts@agcmichigan.org](mailto:vgotts@agcmichigan.org).



## COURSE SCHEDULE:

Begin	End	Topic/Activity
7:20 a.m.	7:30 a.m.	Check In
7:30 a.m.	7:55 a.m.	Welcome/overview
7:55 a.m.	9:15 a.m.	Construction Variation
9:15 a.m.	9:30 a.m.	Break
9:30 a.m.	10:45 a.m.	Effect on Operations
10:45 a.m.	11:45 p.m.	Variation Mitigation

## COURSE FACILITATOR:

### Dr. Tariq Abdelhamid, CM-Lean

The facilitator for this 4-hour course will be Dr. Tariq Abdelhamid, CM-Lean. Tariq is Chief Lean Performance Officer with the Residential and Hospitality (RHS) Division at Michigan State University (MSU), where he is working with colleagues on a transformation journey to adopt Lean Thinking throughout RHS. He also holds an Associate Professor of Lean Construction appointment at the School of Planning, Design and Construction, Michigan State University (MSU), where he teaches, conducts research, and routinely publishes on Lean Construction. Tariq served as the Lean/IPD Coach for the recently completed (Jan 2013) Shaw Hall Dining Renovation project at MSU, the first Integrated Lean Project Delivery project at a public university in the United States. Tariq also worked with the MSU Infrastructure Planning and Facilities group on a 3-year process improvement initiative titled Excellence in Campus Operations and Services. Trained by Greg Howell and Glenn Ballard (founders of the Lean Construction Institute (LCI), USA), Tariq serves as chairperson of the LCI Academic Forum and is the Editor of the Lean Construction Journal since its inception in 2003. Tariq was a member of the first AGC Lean Construction Steering Committee, and he was also involved as a subject matter expert and content developer in the Associated General Contractors of America ongoing effort to develop a comprehensive Lean Construction Education Program (2009-2013). Tariq also works with the Enovia Consulting, ReAlignment Group, and Gemba Kaizen Consulting on Lean Construction and Integrated Lean Project Delivery engagements with design and construction teams on projects of any budget size. Prior to joining MSU, he was trained and worked as a Lean Production subject matter expert for Ford Motor Company. He also worked as a Scheduler/Planner for PAC Project Advisors, and an Engineer III for the University of Michigan Construction Engineering and Management Office.



#### FOR MORE INFORMATION CONTACT:

Viki Gotts, Director, Education  
 26001 Five Mile Rd.  
 Redford, MI 48239  
[vgotts@agcmichigan.org](mailto:vgotts@agcmichigan.org)  
 248-721-0075