

- How can I convince the Engineer to reduce the size of piping and duct?
- How can I more accurately provide a schematic estimate from a Basis of Design?
- What architectural design elements are driving up the cost of the chiller?
- Can this air handler be smaller?

*...find out the answers to these and many other questions!*



**MCAWW Board of Education:**

Maria Boyer (Chair),  
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**MCA of Western Washington**  
 is proud to sponsor ongoing  
 educational programs and seminars  
 for the benefit of our members:

**Project Manager Certification:**

- CMPM 1
- CMPM 2
- CMPM 3

**Technical Training Series:**

- Intro to HVAC
- HVAC Engineering
- Plunging into Plumbing
- The Last 10%

**Mechanical Service Professional (MSP)**

**Mechanical Contracting Leadership (MCL)**

**Sample of Recent, Specialized Seminars:**

- Organizational Skills/Getting Things Done
- Introduction to Virtual Design & Construction
- Building Controls
- MCCM
- Business Writing
- Payroll Trust Reporting
- Lean Construction
- ...And many more!

For more information, please contact  
**Tamara Butler, Director of Education at (206) 442-9029,**  
 or via email at [tbutler@mcaww.net](mailto:tbutler@mcaww.net)

*MCAWW educational programs are for Western Washington  
 Mechanical Contracting Industry Improvement Fund contributors.*

**MCAWW Board of Education Mission:**

**Providing MCAWW Members innovative,  
 meaningful learning opportunities**

Knowledge ~ Growth ~ Respect



**Mechanical Contractors Association**  
 WESTERN WASHINGTON

**MCA of Western Washington**  
 1100 Olive Way, Suite 1250, Seattle, WA  
 Tel. (206) 442-9029 ~ Fax (206) 442-9364  
[www.mcaww.net](http://www.mcaww.net)

**INTERMEDIATE**

# HVAC Engineering for Non-Engineer Project Managers

**Course #401-18**



**Dates: March 7- May 2, 2018  
 (Wednesdays)  
 Time: 12:00 to 4:00 p.m.**

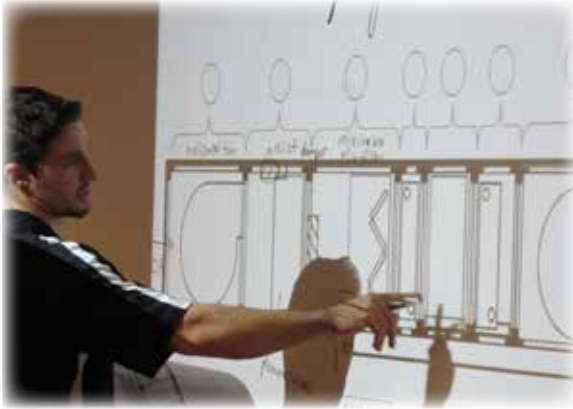
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 WESTERN WASHINGTON

'HVAC Engineering for Non-Engineer Project Managers' is designed to provide project managers with a solid understanding of HVAC Engineering concepts.

This program will provide students with the ideal environment for learning engineering basics alongside peers from a similar background.



## SCHEDULE & LOCATION

*subject to change*

**Dates: March 7 - May 2, 2018 (Wednesdays)**

**Time: 12:00 to 4:00 p.m. (lunch at 11:30 a.m.)**

**Location: MCAWW Training Center,  
1100 Olive Way, Suite 1250, Seattle**

## COST

**\$900** (includes all class materials and lunch for each session)

**SPACE IS LIMITED!**

**Registration Deadline:  
February 8, 2018**

## WHO SHOULD ATTEND

This program is designed for project managers with approximately five years of experience, who do not have an engineering degree, but need to communicate effectively with design engineers as part of their construction career.



Candidates are involved with:

- Pre-Construction
- Change Orders
- Value Engineering
- Design-Build Projects
- Design-Assist Projects
- Sales Interviews & Presentations

## BENEFITS

- » Students will learn how to select the most cost-effective equipment, evaluate loads and suggest value engineering alternatives.
- » The program will also teach skills on how to minimize oversizing. Students will be more capable of laying out systems based on Basis of Design concepts.
- » Upon completion, students will be prepared to ask better questions, communicate with engineers during the pre-construction processes, and participate with an advantage in change order negotiations and interviews.

## TOPICS

- Thermodynamics
- Comfort & Psychrometrics
- Heating & Cooling Load Calculations
- Hydronic Pipe Sizing
- Pump Sizing & Curve Evaluations
- Air Handling Units
- Refrigeration
- Ductwork Sizing
- Wet Side Equipment



## HVAC Engineering Program #401-18

## REGISTRATION FORM

*(all fields are required; incomplete applications will not be processed)*

Name: \_\_\_\_\_  
Firm: \_\_\_\_\_  
Title: \_\_\_\_\_  
Cell: \_\_\_\_\_  
Email: \_\_\_\_\_  
Dietary Restrictions? \_\_\_\_\_  
Degree/License: \_\_\_\_\_  
Yrs in Industry: \_\_\_\_\_ Yrs as a PM: \_\_\_\_\_  
Supervisor: \_\_\_\_\_  
Supervisor's email: \_\_\_\_\_  
Are you available for all sessions? \_\_\_\_\_  
If no, please list exceptions: \_\_\_\_\_

Check here if you require special accommodations under the American with Disabilities Act.

Check here to opt in to the MCAWW E-Newsletter and stay current on all upcoming classes and events.

## Registration Instructions:

1. **Submit your completed registration form to MCAWW by February 8, 2018.**
2. The MCA Board of Education will review and evaluate all applications.
3. Candidates will be notified of their acceptance into the program by **February 16, 2018.**
4. Upon acceptance into the program, please submit payment to MCA by **March 7, 2018.** Payment can be made by check or credit card.

*Number of attendees per firm may be limited due to class size limits.*

## Send registration materials to:

MCA of Western Washington  
1100 Olive Way, Suite 1250, Seattle WA 98101  
or Fax: 206-442-9364  
or Email: tbutler@mcaww.net

Please direct any inquiries to Tamara Butler,  
(206) 442-9029 or tbutler@mcaww.net