2022 Virtual Masonry Educators' Workshop Sessions

Masonry Yesterday, Today, and Tomorrow

Presenter: Brian Trimble, International Masonry Institute
Date/Time: Tuesday, June 21, 2022, 1:30-2:30 pm ET
AIA Course #: TMSMEW2201
Continuing Education Credit: 1 LU / 1 PDH / 0.1 CEU

This presentation provides an overview of the history of masonry construction. While many are familiar with the history of architecture, this presentation will discuss how the masonry industry has been adapting to changes in both design and construction of masonry structures. The masonry industry has been conducting research in a variety of areas from structural analysis to the sustainability of masonry. With the help of The Masonry Society, this technical knowledge has been transformed into codes and standards used by the design community. Advancements in masonry design and construction will be exemplified where the masonry industry may be headed in the future. As an add-on, attendees will go on a virtual brick plant tour to learn how brick are made and the implications on design and construction.

- Attendees will learn how masonry progressed in both architecture and design.
- Attendees will be able to explain how masonry codes have evolved.
- Attendees will understand the type of research the masonry industry has been conducting and how that is helping the masonry industry move forward.
- Attendees will learn where the masonry industry is headed including BIM, robotics and virtual reality.

Brian E. Trimble, P.E., CDT, LEED AP, FASTM, has an Architectural Engineering degree from Penn State University and is a Licensed Professional Engineer in Pennsylvania and Virginia.

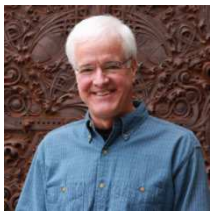
He has over 25 years' experience in the masonry industry assisting design professionals with masonry structures and is a frequent lecturer and author on masonry subjects. Brian worked for the Brick Industry Association for many years. In 2005, he was named a Fellow of ASTM International.

Why Teach Masonry to Architects? Incorporating Masonry into the Curriculum

Presenter: Patrick Rand, North Carolina State University
Date/Time: Tuesday, June 21, 2022, 3:00-4:00 pm ET
AIA Course #: TMSMEW2202
Continuing Education Credit: 1 LU / 1 PDH / 0.1 CEU

This course summarizes alternative means through which masonry design and construction systems can be incorporated into an architecture curriculum. It itemizes accreditation and licensure expectations regarding masonry design and construction systems. It also reviews key content regarding masonry construction systems, and presents the challenges faced by an architect in practice regarding masonry design and construction.

- Understand how courses containing masonry design and construction systems help meet NAAB requirements
- Understand how masonry design and construction systems are addressed in the Architectural Registration Exam
- Examine how architects in practice apply knowledge about masonry design and detailing
- Understand recent innovations regarding masonry products and accessories



Patrick Rand, FAIA, FTMS, is a Distinguished Professor Emeritus of Architecture at NC State University. He has taught architectural design studios, architectural construction systems, and seminars regarding architectural detailing, and material innovations. His focus is on the relationship between design and construction technologies. He has won more than twenty awards for the quality of his teaching at the college, university and national levels.

Rand has co-authored 5 books, including two volumes of "Materials for Design", two editions of "Architectural Detailing: Function Constructibility Aesthetics", and "Detailing for Landscape Architects".

Rand has carried out funded research regarding innovation in masonry construction systems that has attracted national attention. He maintains a small architectural practice and consults with other architectural firms. Patrick Rand is a Fellow in the American Institute of Architects and in The Masonry Society. He has served as President of The Masonry Society, the first architect to do so.

Why Teach Masonry to Engineers? Incorporating Masonry into the Curriculum

Presenter: Ece Erdogmus, Georgia Institute of Technology
Date/Time: Tuesday, June 21, 2022, 3:00-4:00 pm ET
AIA Course #: TMSMEW2203
Continuing Education Credit: 1 LU / 1 PDH / 0.1 CEU

This course will present the barriers and benefits of teaching masonry as part of an engineering program. The presenter's own experiences in teaching masonry design in a variety of ways over the years will be showcased. The course will also provide sample contents for a masonry design course.

- Understand the barriers and benefits of teaching masonry in an engineering curriculum
- Understand strategies to include masonry design in an engineering curriculum
- Understand potential contents of a masonry course
- Learn about the various resources available to be used in a masonry course

Ece Erdogmus is a Professor and Chair at the School of Building Construction at Georgia Institute of Technology (Georgia Tech). Erdogmus has taught Masonry Design to civil and architectural engineers for over 15 years and carries out research on the analysis and design of masonry. She is an active member of TMS, serving as the Chair for the Structural Members subcommittee of TMS402/602, member of the Technical Activities Committee, and chair of the upcoming 14th North American Masonry Conference that will be held in June 2023 in Omaha, Nebraska.

Masonry Materials, Resources and Opportunities

Panel Discussion led by Nick Lang, National Concrete Masonry Association
Date/Time: Tuesday, June 21, 2022, 4:15-5:15 pm ET
AIA Course #: TMSMEW2204
Continuing Education Credit: 1 LU / 1 PDH / 0.1 CEU

Via this panel discussion with masonry experts, masonry material properties and standards will be reviewed, new masonry products will be discussed, and industry resources to assist with education of students and designers will be overviewed. Prior to the session, a questionnaire will be sent to attendees to solicit questions they have on masonry materials and systems that will be used by the moderator to guide the discussions. Questions will also be fielded during the session.

- Review properties and differences of masonry materials
- Discuss recent changes in ASTM standards related to masonry materials and systems.
- Introduce attendees to new and evolving masonry materials
- Expose attendees to resources to assist with education on masonry including technical resources (textbooks, software, online resources and more), scholarships and awards

Nick Lang represents the National Concrete Masonry Association as its Vice President of Business Development. In this capacity, he manages various projects for the Association, especially in the areas of technical education and market communications. He oversees the membership recruitment and retention functions of the Association, as well as implementation of various programs, including literature development and promotion and certification programs. Mr. Lang previously was the Director of Research and Development and Laboratory Manager for NCMA.

Masonry Design and Detailing from an Architect's Perspective

Presenter: Patrick Rand, North Carolina State University
Date/Time: Wednesday, June 22, 2022, 12:30-1:30 pm ET (Part 1)
Wednesday, June 22, 2022, 3:00-4:00 pm ET (Part 2)
AIA Course #: TMSMEW2205
Continuing Education Credit: 2 LU (HSW) / 2 PDH / 0.2 CEU

This course identifies challenges and opportunities associated with masonry construction systems. It describes basic masonry wall assembly options, and the pros and cons of each. Means available to an architect for masonry assemblies to meet building and energy codes are described. Common masonry detailing problems and solutions are presented, including recent innovative strategies.

- Identify challenges and opportunities associated with masonry construction systems
- Describe four general masonry wall types, and the pros and cons of each
- Identify common masonry detailing errors and corrections
- Understand innovative means to enhance the performance of masonry walls
- Understand various means available for masonry assemblies to meet building and energy codes

Overview of Masonry Codes

Presenter: Richard M. Bennett, University of Tennessee
Date/Time: Wednesday, June 22, 2022, 12:30-1:30 pm ET (Part 1)
Wednesday, June 22, 2022, 3:00-4:00 pm ET (Part 2)
AIA Course #: TMSMEW2206
Continuing Education Credit: 2 LU (HSW) / 1 PDH / 0.1 CEU

This session will provide an overview of the TMS 402/602 code and specification. An overview of the organization of the code will be covered. The allowable stress design method will be compared to the strength design methods. The instructor will regale the participants with stories behind some of the code provisions. Notes and spreadsheets will be provided to participants for a complete structural masonry design course.

- Understand the organization and relationship of TMS 402 and TMS 602
- Compare and contrast allowable stress design and strength design
- Understand the basis for some of the code provisions
- Learn the code provisions for beams, pilasters, and walls under both in-plane and out-of-plane loading

Richard Bennett is a Professor of Civil and Environmental Engineering at the University of Tennessee. He has been very active in the TMS 402/602 Code Committee. He was vice-chair for the 2013 code, chair for the 2016 code, and currently 2nd vice-chair for the 2022 code. He was instrumental in producing the 2016 code which had fewer pages than the previous edition. He was also instrumental in going to a six-year code cycle.

Moving Masonry Design to Construction

Presenter: Jerry Painter, Painter Masonry Inc.
Date/Time: Wednesday, June 22, 2022, 1:45-2:45 pm ET
AIA Course #: TMSMEW2207
Continuing Education Credit: 1 LU / 1 PDH / 0.1 CEU

The role of the Mason Contractor and all team members in moving design concepts to construction will be discussed. Methods of design and detailing to facilitate masonry construction will be reviewed including making details understandable and reasonable, and developing accurate and current specifications. A few common “pressure points” expected by designers that make construction more difficult or expensive will be reviewed so that educators can alert students, thus facilitating more economical and rapid construction in the future. During the presentation, a construction site will be visited, allowing participants to see common masonry construction, while asking questions on various parts of the construction.

- Review the roles of the mason contractor, designers, and general contractors and how they relate to one another
- Review design and detailing decisions that greatly affect masonry construction
- Discuss alternatives and recommendations related to masonry design to facilitate masonry construction
- Virtually visit a construction site to see key aspects of construction

Jerry Painter of Gainesville, Florida is owner of Jerry Painter Masonry Consulting, LLC. He is a third-generation bricklayer by trade and had 52 years as a masonry contractor. Mr. Painter is a past-president of the Masonry Association of Florida (MAF), as well as, a board member of the Florida Masonry Apprentice and Education Foundation. He is an instructor for the Florida Structural Masonry Certification program and a NCCER Certified Apprentice Instructor. He is a recipient of the MAF Lifetime Achievement Award.

Mr. Painter is a past president of TMS and a member of the TMS 402/602 committee. Mr. Painter is a member of the Mason Contractors Association of America (MCAA), where he serves as co-chair of the Technical Committee. He presents seminars and webinars for MCAA and is a technical consultant for MCAA. Mr. Painter is an inaugural member of the MCAA Hall of Fame. Mr. Painter is a member of the American Society for Testing and Material (ASTM) and serves on several committees. He is the past-chair of Committee C12 on Mortars and Grout as well as past-chair of Subcommittee C15.05 on Masonry Assemblies. He was also awarded the Fellow of ASTM Award (FASTM).

Masonry Assemblages & Discussion of Performance Attributes

Presenter: W. Mark McGinley, University of Louisville
Date/Time: Wednesday, June 22, 2022, 4:15-5:15 pm ET
AIA Course #: TMSMEW2208
Continuing Education Credit: 1 LU / 1 PDH / 0.1 CEU

Using a flipped class room approach attendees are asked to watch the 1-hour video of Session 6 of Masonry 101 – Masonry Assemblies, the basic attributes of masonry assemblies will be reviewed and discussed.

- Understand basic masonry Assemblies, construction techniques and the effects these have on Masonry Assembly Attributes
- Identify critical structural properties for masonry assemblies.
- Understand other material properties for masonry
- List the key masonry codes, standards and resources.
- Identify critical performance attributes of masonry assemblies especially as it relates to sustainability and resilience
- Introduce BIM for Masonry

W. Mark McGinley, Ph.D, PE, FASTM,FASTM, Professor and Endowed Chair for Infrastructure Research, Civil and Environmental Engineering, J.B. Speed School of Engineering University of Louisville, is a structural engineer and building scientist with more than 30 years of research and forensic engineering practice in building systems. He joined the faculty in the Civil and Environmental Engineering Department at the University of Louisville in 2007 and is a recognized expert in masonry building systems, in particular, masonry building envelopes. His research has included basic research on the structural performance of masonry walls, water penetration experiments on envelopes and the building envelope performance of brick veneer and steel stud wall systems. Over 130 publications have resulted from his research efforts. Dr. McGinley has won numerous awards in masonry research and standards development, and leads technical committees in both the Masonry Design standard organization and ASTM. He is currently the Chairman of ASTM C 15, the Design Subcommittee of TMS 402 and past Chair of ASTM C 12. He is also the President of the Masonry Society.

Innovative Approaches to Masonry Education

Presenters: Patrick Rand, North Carolina State University
and Ece Erdogmus, Georgia Institute of Technology
Date/Time: Wednesday, June 23, 2022, 12:30-1:30 pm ET
AIA Course #: TMSMEW2209
Continuing Education Credit: 1 LU / 1 PDH / 0.1 CEU

Experienced faculty in several disciplines will present successful methods that they have used to deliver content regarding masonry design, construction and research. Innovative methods that can be used in lecture courses, laboratories and design studios will be discussed, with their associated implications regarding time, space and resources. Examples of possible collaborations with local masonry industry resources will be presented.

- Understand how to enhance lecture courses containing masonry content
- Understand how labs and design studios can contribute to masonry education
- Understand how to create and deliver several innovative masonry project assignments
- Understand how to collaborate with local industry to improve teaching effectiveness

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What Students Should Know About Historic Masonry

Presenter: Craig Bennett, Bennett Preservation Eng. PC
Date/Time: Wednesday, June 23, 2022, 2:00-3:00 pm ET
AIA Course #: TMSMEW2210
Continuing Education Credit: 1 LU (HSW) / 1 PDH / 0.1 CEU

This lecture provides masonry educators with a background in the history of masonry construction and in behavioral problems associated with specific periods and styles of construction. It further provides educators with knowledge of the materials and techniques used in the repair and strengthening of historic masonry structures.

- Understand the history of masonry construction.
- Recognize problems with the behavior of existing, and especially historic, masonry.
- Have knowledge of the materials used in the repair of historic masonry.
- Understand different approaches to the strengthening of historic masonry.

Craig M. Bennett, Jr., PE, SE is a structural engineer who limits his practice exclusively to historic structures, working from New Orleans to Washington, DC and to the Caribbean. He is president of Bennett Preservation Engineering in Charleston, SC, former head of that city's Board of Architectural Review and is adjunct faculty at the Clemson / College of Charleston joint Graduate Program in Historic Preservation.