Registration:

Registration - $350

To register for this course please contact Richelle Weiger at rweiger@engr.psu.edu or visit the registration page

For questions regarding course content please contact Dr. Thomas Boothby at tebarc@engr.psu.edu.

This course can also be offered at your place of business or at the University Park Campus. Contact us to discuss more options.

Architectural Engineering Department
The Pennsylvania State University
104 Engineering Unit A
University Park, PA 16802

Graphic Statics

Dr. Thomas Boothby

PhD, PE, RA

Wednesday, July 31st
2:00pm-4:00pm
Wednesday, August 7th
2:00pm-4:00pm
Wednesday, August 14th
2:00pm - 4:00pm

Online through Adobe Connect

PENNSTATE

Course Contents

This course covers the use of scaled diagrams to solve problems in structural analysis. This includes the analysis of arches and cables, beams, and trusses. The force polygon and funicular polygon constructions for a variety of loading conditions are discussed. This course is broken into three, two hour sessions.

5 Learning Outcomes

At the end of this course, participants will be able to:

1.) Understand the force polygon and the funicular polygon constructions for a variety of loading conditions

2.) Apply the force and funicular polygon constructions to the determination of the shape for a cable structure

3.) Apply the force and funicular polygon constructions to the determination of the axial force and bending moment in an arch structure

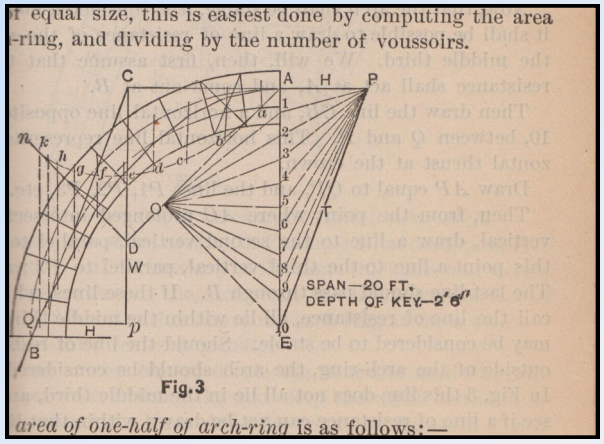
4.) Analyze truss, arch, and beam structures by the graphical method

Why this Course?

The information presented provides a quick and elegant means of solving problems in structural analysis. It is truly the method of choice for the solution of problems in arch and cable analysis. It is equally applicable to truss and beam structures. This method is of particular interest to professionals involved in historic preservation, due to the widespread use of graphic statics in the late 1800s.

Who should Attend?

This course will be of benefit to professionals involved in the construction industry including: Engineers, Architects, and Historic Preservation Specialists.



About the Instructor

Dr. Thomas Boothby is a Professor of Architectural Engineering at Penn State University. His publications include topics on:

- Assessment of Masonry Arches and Vaults
- Historical Development of Structural Design Methods
- Masonry Arch Bridges
- Historic Preservation of Thin-Shell Concrete Structures

Dr. Boothby is currently researching Masonry Arch Bridges, Graphic Statics, and the Design of Truss Bridges. His book on late nineteenth century structural design *Stone and Iron in the Gilded Age* will be published by the ASCE Press in 2014.

Dr. Boothby is a Professional Engineer (PE).

This course is designed to meet state continuing education requirements for license renewal.