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Iron & Steel Preservation

April 08, 2015



Greetings,

Repair, rehabilitation and restoration of metals is essential for preservation of metal structures, and the electric arc welding process is a valuable tool for preservation projects that involve both historic and contemporary metals. For those who are responsible for making decisions for preservation or the training of those performing the work, Lansing Community College can design a welding course that meets your requirements.

Other training courses include:

- Braze welding
- Flame straightening
- Hot riveting with a field rivet hammers



This issue of the newsletter focuses on Arc Welding courses. On another subject, read to the bottom of the page for a preview of the May newsletter featuring the Schell Memorial Bridge.



Vern Mesler
Iron & Steel Preservation Coordinator
Lansing Community College

Customized Arc Welding Courses

Customized arc welding courses are being offered at Lansing Community College, West Campus, Lansing, Michigan. These courses can be designed for individuals or groups for either introductory or advanced training in the Flux Cored Arc Welding (FCAW), Metal Cored Arc Welding (MCAW), and Shielded Metal Arc Welding (SMAW) processes.



Depending on the client's needs, customized courses can include lectures, demonstrations, and hands-on activities with instructions on the essential variables (voltage, amperage, and other operating parameters) of the arc welding processes.

Your Custom Course Could Include

- Safety procedures used in the Flux Cored Arc Welding (FCAW), Metal Cored Arc Welding (MCAW) and Shielded Metal Arc Welding processes.
- Equipment used in the FCAW, MCAW and SMAW processes, including power sources, flow meters, guns and wire feeders. The selection of gases and wire combinations for different metals.



- Electrode and wire AWS classification system for the FCAW, MCAW and SMAW processes.
- Proper set-up procedures for amperage (wire feed speed); effects of voltage and gas flow for FCAW and MCAW processes; effect of amperage for SMAW.
- Weld gauges for measuring fillet welds (in the flat and horizontal positions) and groove welds.
- Weld defects and discontinuities, their causes and repair procedures, and methods for reducing distortion.

Rates

Rates depend on the number of hours of training. Sample rates are as follows:

- \$2,500 an eight hour course with one instructor and five students
- \$3,600 sixteen hour course with one instructor and five students
- \$4,650 twenty four hour course with one instructor and five students

Lansing Community College is authorized to award Continuing Education Credits (CEUs) for these customized training courses.

American Welding Society Certification Tests

Lansing Community College has on staff American Welding Society certified welding inspectors (CWI) who can conduct Standard AWS certification tests for the FCAW, MCAW, and SMAW processes. The costs for certification testing are separate from the course, arrangements to be made directly with the CWIs

Of Interest To

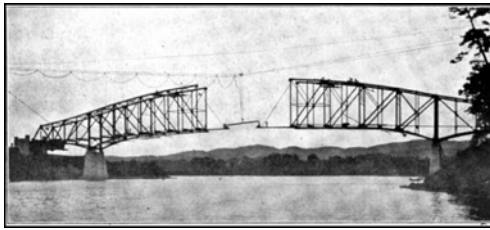
- State and Federal Departments of Transportation (DOTs, FHWA)
- State Historic Preservation Offices (SHPOs)
- Engineers
- Ironworkers, Steel fabricators
- Craftsmen
- General Contractors
- Preservationists, Historians
- Students and Educators

Schell Memorial Bridge

Preparing for a presentation for the Friends of Schell Memorial Bridge in Northfield, Massachusetts, in June of 2012, I obtained a copy of "The Schell Memorial Bridge" published in Volume 50 (No. 25 - 27) of The Engineering Record (1904, December 17, December 24, and December 31) and discovered a unique structure not designed, fabricated or erected "*for utilitarian purposes only.*"

In the upcoming May Iron & Steel Preservation Newsletter I'll travel back to 1904 through this article and share the discoveries I made of the truss design, fabrication and erection of the Schell Memorial Bridge.

Thanks to historian Elaine Davis and Michigan State University engineering librarian Tom Volkening for finding clear copies of these articles, digitized by Google from the collection of the University of Michigan.



Cableway apparatus used in the erection of the Schell Memorial Bridge

Past Iron & Steel Preservation Newsletters

[March ISP Newsletter: Craftsmen](#)

[Feb ISP Newsletter: ISP Registration](#)

[Jan ISP Newsletter : ISP Registration, Chicago Fastener](#)

[Dec ISP Newsletter: Longfellow Bridge, Purdue Univ research](#)

[October ISP Newsletter: March 2015 Workshop](#)

[Sept ISP Newsletter: Flame Straightening](#)

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