



THE OHIO STATE UNIVERSITY

College of Engineering

Undergraduate Education & Student Services

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January 14, 2020

Randy Smith, Vice Provost for Academic Programs
Office of Academic Affairs

Re: Certificate of Completion, Work Force Development Training Program – *Resistance Spot Welding*

Dear Randy,

This is to inform you that on January 13, 2020, the College Committee on Academic Affairs voted unanimously to approve the attached Certificate of Completion proposal, *Resistance Spot Welding*, submitted by the Professional and Distance Education Programs.

Yours sincerely,

Rosario Quinzon-Bonello

Rosario Quinzon-Bonello M.Ed.
Assistant Dean for Curriculum and Assessment
College of Engineering

College of Engineering
Proposal for a Non-Credit, 2-day Certificate of Completion
Work Force Development Training Program

“Resistance Spot Welding”

November 26, 2019

OAA Certificate Program Category: (4) Workforce Development Certificate of Completion Programs

Description

The Resistance Spot Welding training program is designed primarily for engineers and technicians from the automotive industry. The purpose of the course is to provide participants with a thorough understanding of the Resistance Spot Welding process, with a focus on how it is utilized in the automotive industry. The training program combines lectures covering fundamental concepts with many "hands-on" labs using a modern DC Resistance Spot Welding machine. Included with the course is a book authored by the two course instructors titled "Resistance Spot Welding: Fundamentals and Applications for the Automotive Industry"

Participants must attend and complete the entire two-day course in order to obtain the certificate of completion. The course will be delivered in-person at the College of Engineering and the Edison Joining Technology Center (EJTC). This course is developed by Dr. David Phillips and Dr. Kimchi Menachem in the Welding Engineering program and the Materials Science and Engineering Department and delivered through the Professional and Distance Education Programs Office, College of Engineering.

This 2-day course will initially be offered once a year for a maximum of twenty participants. Additional offerings will be provided based upon demand. The first time we will offer this is June 23-24, 2020.

Stand-alone Program and Maximum Credit Overlap between Academic Certificate and Other Academic Programs

This is a non-credit, in person course and will be a stand-alone program.

Maximum Credit Overlap with Degree Program

N/A

Minimum Acceptable Grade to Apply

N/A

Transfer Credit

N/A

EM Credit

N/A

Outcomes-based

Upon completion of the course participants will be able to:

- Understand the effects of the important Spot Welding process variables
- Develop a Spot Welding Lobe curve
- Identify the different approaches when Spot Welding modern automotive materials such as advanced high strength steels and aluminum alloys
- Be able to choose appropriate Spot Welding testing and quality control methods
- Solve common production welding problems associated with Spot Welding
- Appreciate new Spot Welding computational modelling techniques

Curriculum and Credits

The non-credit course will include these topics:

1. Process physics and fundamentals
2. Machines, electrodes, and tooling
3. Weldability and process variables
4. Spot welding of steels
5. Spot welding of coated materials
6. Spot welding of aluminum
7. Design considerations and effect on strength
8. Weld quality, testing, monitoring, and control
9. Resolving production issues
10. Advancements in spot welding modelling

The instructional material for the course will consist of two days or sixteen hours of class instruction and also hands-on demonstrations in a lab at the Edison Joining Technology Center.

Admission

No degree in engineering is required, but relative work experience in Resistance Welding processes and production environments is recommended.

Arranged/Individual Study Courses

None.

Minimum Grades and GPA to Complete Program

No letter grade will be assigned for the course. Participants must attend the full two-day program to receive a certificate of completion.

Recorded in the Student Information System (SIS)

No

Regular OSU Tuition and Fee Assessment

No, this is a non-credit program. Fee will be \$1195 per person, which includes a textbook and laboratory supplies.

Eligibility for Federal Pell Grant and Direct Student Loans

No

Diploma Issued

No.

Type of Completion Document Issued

A certificate of completion will be provided after a participant successfully completes the in-person, two-day training program.

Proposal Contact InformationProfessional & Distance Education Programs

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Welding Engineering and Materials Science

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