

Washtenaw Community College Comprehensive Report

UAT 350B Semiconductor Fitter (UA 8049)

Effective Term: Spring/Summer 2025

Course Cover

College: Advanced Technologies and Public Service Careers

Division: Advanced Technologies and Public Service Careers

Department: United Association Department (UAT Only)

Discipline: United Association Training

Course Number: 350B

Org Number: 28200

Full Course Title: Semiconductor Fitter (UA 8049)

Transcript Title: Semiconductor Fitter (UA 8049)

Is Consultation with other department(s) required: No

Publish in the Following:

Reason for Submission: New Course

Change Information:

Rationale: New United Association course

Proposed Start Semester: Fall 2024

Course Description: In this course, students will identify methods to install plastic and stainless steel piping specifically designed for the semiconductor industry. Using a simulated semiconductor training module, students will learn hands-on hanging, bending, and installation of plastic and stainless steel pipe systems. Students will prepare chemically bonded plastic joints as well as install and torque various size flanges as per manufacturer's specifications. Limited to United Association Instructor Training program graduates.

Course Credit Hours

Variable hours: No

Credits: 3

Lecture Hours: Instructor: 45 **Student:** 45

The following Lab fields are not divisible by 15: Student Min, Instructor Min

Lab: Instructor: 3 **Student:** 3

Clinical: Instructor: 0 **Student:** 0

Total Contact Hours: Instructor: 48 **Student:** 48

Repeatable for Credit: NO

Grading Methods: Letter Grades

Audit

Are lectures, labs, or clinicals offered as separate sections?: NO (same sections)

College-Level Reading and Writing

College-level Reading & Writing

College-Level Math

Requisites

General Education

Request Course Transfer

Proposed For:

Student Learning Outcomes

1. Demonstrate heating, bending, and installation of plastic pipe.

Assessment 1

Assessment Tool: Outcome-related demonstration

Assessment Date: Fall 2024

Assessment Cycle: Every Three Years

Course section(s)/other population: All

Number students to be assessed: All

How the assessment will be scored: Checklist

Standard of success to be used for this assessment: 80% of the students will score 80% or higher.

Who will score and analyze the data: U.A. Instructors

2. Demonstrate the preparation and assembly of a chemically bonded plastic joint.

Assessment 1

Assessment Tool: Outcome-related demonstration

Assessment Date: Fall 2024

Assessment Cycle: Every Three Years

Course section(s)/other population: All

Number students to be assessed: All

How the assessment will be scored: Checklist

Standard of success to be used for this assessment: 80% of the students will score 80% or higher.

Who will score and analyze the data: U.A. Instructors

3. Demonstrate the application, installation, and torquing of plastic and stainless steel flanges.

Assessment 1

Assessment Tool: Outcome-related demonstration

Assessment Date: Fall 2024

Assessment Cycle: Every Three Years

Course section(s)/other population: All

Number students to be assessed: All

How the assessment will be scored: Checklist

Standard of success to be used for this assessment: 80% of the students will score 80% or higher.

Who will score and analyze the data: U.A. Instructors

4. Demonstrate routing, bending, and installing stainless steel tubing.

Assessment 1

Assessment Tool: Outcome-related demonstration

Assessment Date: Fall 2024

Assessment Cycle: Every Three Years

Course section(s)/other population: All

Number students to be assessed: All

How the assessment will be scored: Checklist

Standard of success to be used for this assessment: 80% of the students will score 80% or higher.

Who will score and analyze the data: U.A. Instructors

Course Objectives

1. Perform a practical project by heating, bending, and installing various angles of plastic and stainless steel pipe on the mobile trainer.
2. Install all piping plumb, level and square with accessibility to build around installed piping.
3. Terminate plastic carrier piping into chemical box connection points.
4. Flare and land plastic tubing onto the designated valve.
5. Identify and review the benefits of ready-for-use primers and glue for pipe applications.
6. Cut, tape, and clean the ends of plastic pipe fittings.
7. Apply appropriate primer and glue for bonding plastic pipe.
8. Identify the different torque patterns for various-sized flanges.
9. Review torque wrench settings and its operation.
10. Use torque wrenches to tighten hardware to the required torque setting following the flange bolt pattern.
11. Lay out routing according to piping and instrumentation diagram (P&IDs) to predetermined points of connections (POCs).
12. Produce isometric drawings to instructor-determined locations on the training module.
13. Bend tubing per the isometric drawings.
14. Identify hanging requirements when installing plastic and stainless steel pipe given various sizes.

New Resources for Course

Course Textbooks/Resources

Textbooks
Manuals
Periodicals
Software

Equipment/Facilities

<u>Reviewer</u>	<u>Action</u>	<u>Date</u>
Faculty Preparer: <i>Tony Esposito</i>	<i>Faculty Preparer</i>	<i>May 03, 2024</i>
Department Chair/Area Director: <i>Marilyn Donham</i>	<i>Recommend Approval</i>	<i>May 07, 2024</i>
Dean: <i>Eva Samulski</i>	<i>Recommend Approval</i>	<i>May 15, 2024</i>
Curriculum Committee Chair: <i>Randy Van Wagnen</i>	<i>Recommend Approval</i>	<i>Nov 07, 2024</i>
Assessment Committee Chair: <i>Jessica Hale</i>	<i>Recommend Approval</i>	<i>Nov 21, 2024</i>
Vice President for Instruction: <i>Brandon Tucker</i>	<i>Approve</i>	<i>Nov 26, 2024</i>