

INDUSTRIAL TRAINING (AS)

Catalog Effective Term: Fall 2024

Program Code: ASINDT

Credential: Associate in Science

Program is also available online

High Demand Occupation, High Skill Occupation, High Wage Occupation

This program gives indentured journeymen of the United Association or Ironworkers, the opportunity to apply their work as certified apprentice instructors toward an associate in science degree in Industrial Training. Students will complete the general education courses, five summer instructor training sessions, and receive prior learning credits for experience in an area of specialization such as plumbing, pipefitting, HVAC, sprinkler fitting and ironworking.

Articulation

- Eastern Michigan University, several BS degrees
- Ferris State University, Bachelor degree

Copies can be obtained from the Counseling Office, a program advisor, or from the Curriculum and Assessment Office Web site: <https://www.wccnet.edu/learn/transfer-wcc-credits/articulation-agreements.php> (<http://www.wccnet.edu/learn/transfer-wcc-credits/articulation-agreements.php>).

Program Admission Requirements

Open only to United Association and Ironworker instructors.

Minimum Credits Required for the Program: 63

Major/Area Requirements (12-15 Credits)

- UA students must complete a minimum 12 additional credits from a combination of required teaching methods courses and technical update courses (UAT courses).
- Ironworker students must complete 15 credits from a combination of required teaching methods courses and technical update courses (IWT courses).

General Education Requirements (30 Credits)

Code	Title	Credits
UAT 210	Public Speaking ¹	1.5
UAT 213	Planning, Teaching and Assessing Effective Lessons - Advanced ¹	1.5
	Arts/Human. Elective(s) (https://coursecatalog.wccnet.edu/academics/general-education/#arthuma)	6
	Math Elective(s) (https://coursecatalog.wccnet.edu/academics/general-education/#math)	3
	Nat. Sci. Elective(s) (https://coursecatalog.wccnet.edu/academics/general-education/#naturalsci)	3
	Nat. Sci. Lab Elective(s) (https://coursecatalog.wccnet.edu/academics/general-education/#natscilab)	3
	Soc. Sci. Elective(s) (https://coursecatalog.wccnet.edu/academics/general-education/#socbehavsci)	6
	Writing Elective(s) (https://coursecatalog.wccnet.edu/academics/general-education/#writing)	3

General Education elective(s) to reach a minimum of 30 General Education credits. 0-3

Total Credits 30

¹ Students may choose any WCC courses that meet the Second Composition/Writing or Communication requirement. Only applies to UA programs.

Minimum Option Credits Required for the Program: 19

Complete a specialization in plumbing, pipefitting, HVAC, sprinkler fitting or ironworking. Students should apply for non-traditional credit evaluation of their apprenticeship experiences to meet the specialization requirement.

Industrial Training Options

Architectural and Ornamental Ironworker (AOIW) (19 credits)

Code	Title	Credits
IWA 120	Introduction to Ironwork	3
IWA 122	Ironworker - General Rigging	2
IWA 131	Introduction to Metal Building	2
IWA 161	Introduction to Architectural and Ornamental Ironwork	2
IWA 201	Introduction to Welding	3
IWA 224	Labor and Trade History	1
IWA 265	Advanced Architectural and Ornamental Ironwork	6

Total Credits 19

HVAC Specialty (HVTC) (26 credits)

Code	Title	Credits
UAE 140	Introduction to HVACR Service Technician Practices	3
UAE 142	Soldering and Brazing	3
UAE 144	Refrigeration	2
UAE 146	Air Conditioning	2
UAE 148	Electrical Controls	2
UAE 150	DC Electronics	2
UAE 152	Advanced Electrical Controls and Pneumatic Controls	3
UAE 154	Advanced Air Conditioning and Refrigeration	3
UAE 156	Air and Water Balancing and Motor Alignment	3
UAE 158	Advanced HVACR Practices	3

Total Credits 26

Journeyman Ironworker (JMIW) (26 credits)

Code	Title	Credits
IWA 120	Introduction to Ironwork	3
IWA 122	Ironworker - General Rigging	2
IWA 131	Introduction to Metal Building	2
IWA 141	Introduction to Reinforcing Ironwork	3
IWA 155	Rigging/Machinery Mover II	3

IWA 161	Introduction to Architectural and Ornamental Ironwork	2
IWA 172	Introduction to Structural Features	4
IWA 201	Introduction to Welding	3
IWA 224	Labor and Trade History	1
IWA 272	Advanced Structural Features	3
Total Credits		26

Metal Building Erector (MTBE) (19 credits)

Code	Title	Credits
IWA 120	Introduction to Ironwork	3
IWA 122	Ironworker - General Rigging	2
IWA 131	Introduction to Metal Building	2
IWA 161	Introduction to Architectural and Ornamental Ironwork	2
IWA 172	Introduction to Structural Features	4
IWA 201	Introduction to Welding	3
IWA 224	Labor and Trade History	1
IWA 235	Advanced Metal Building	2
Total Credits		19

Pipefitter Specialty (PIPE) (26 credits)

Code	Title	Credits
UAF 102	Introduction to Arc Welding, Soldering, and Brazing	3
UAF 120	Introduction to Pipefitter Practices	3
UAF 122	Drawing Interpretation and Plan Reading	2
UAF 124	Oxy Fuel Cutting and Shielded Arc Welding	2
UAF 126	Hydronic Heating and Steam Systems	2
UAF 128	Refrigeration and Electrical Controls	2
UAF 130	Advanced SMAW Welding	3
UAF 132	Advanced Pipefitter Topics	3
UAF 134	Controls and Instrumentation	3
UAF 136	GTAW Welding	3
Total Credits		26

Plumber Specialty (PLUM) (26 credits)

Code	Title	Credits
UAP 100	Introduction to Plumbing Practices	3
UAP 102	Introduction to Arc Welding, Soldering and Brazing	3
UAP 104	Drawing Interpretation and Plan Reading	2
UAP 106	Oxy Fuel Cutting and Shielded Arc Welding	2
UAP 108	Water Supply and Drainage	2
UAP 110	Customer Service Techniques	2
UAP 112	Plumbing Fixtures and Appliances	3
UAP 114	Plumbing Codes and Regulations	3
UAP 116	Medical Gas and Backflow Prevention Techniques	3
UAP 118	Advanced Plumbing Practices	3
Total Credits		26

Reinforcing Ironworker (REIW) (19 credits)

Code	Title	Credits
IWA 120	Introduction to Ironwork	3
IWA 122	Ironworker - General Rigging	2
IWA 141	Introduction to Reinforcing Ironwork	3
IWA 201	Introduction to Welding	3
IWA 224	Labor and Trade History	1
IWA 241	Advanced Reinforcing Ironwork	7
Total Credits		19

Rigger/Machinery Mover (RGMM) (19 credits)

Code	Title	Credits
IWA 120	Introduction to Ironwork	3
IWA 122	Ironworker - General Rigging	2
IWA 151	Rigging/Machinery Mover I	3
IWA 155	Rigging/Machinery Mover II	3
IWA 191	Reinforced Iron and Structures for Rigging	4
IWA 201	Introduction to Welding	3
IWA 224	Labor and Trade History	1
Total Credits		19

Sprinkler Fitter Specialty (SPRF) (26 credits)

Code	Title	Credits
UAR 160	Introduction to Sprinkler Fitter Practices	3
UAR 162	Basic Drawing and Introduction to Automatic Sprinklers	3
UAR 164	Reading Automatic Sprinkler Piping Drawings	2
UAR 166	Installation of Sprinkler Systems	2
UAR 168	Architectural Working Drawings and Blueprint Reading for Sprinkler Fitters	2
UAR 170	Sprinkler Water Supply and The Automatic Sprinkler	2
UAR 172	Types of Fire Protection Systems and Alarms	3
UAR 174	Special Application Sprinkler Systems and Hydraulics	3
UAR 176	Human Relations	3
UAR 178	Technical Writing	3
Total Credits		26

Trade Related Elective Credits (19-26)

- Trade Related Elective Credits 19-26