Course Information Form (CIF)

Course Code: IRW 118

Course Title: Ornamental Ironworking

Department: Applied Sciences and Technologies
PCS Code: 1.2 - Occupational/Technical Instruction
CIP Code: 48.0506
Repeatability: 0

Effective Date: Summer 2026

Credit Hours

Catalog Notation: 2-6-4
Credit Hour Distribution:

Lecture: 2	Lab: 6	Clinical: 0	**Total: 4**

General Course Information

Catalog Description

Tools, sub-framing and steel supports, stairs, fire escapes, ladders, railings, fences, partitions, doors, fire doors, elevators, flagpoles, playground equipment, and swimming pool equipment. Also doorway, wall, vault, and building accessory installation; care and maintenance of aluminum, bronze, and stainless steel construction materials.

General Course Objectives

Students will be able to safely and efficiently install ornamental ironwork, including ladders, fire escapes, stairways, doors, and fences.

Minimum Placement Levels

English	Reading	Math
None	None	None

Prerequisites

Credit in IRW 117

Methods of Evaluation

The minimum number of evaluation methods includes 4 written and 3 practical exams.

Instructional Materials and Additional Supplies

Architechural and Ornamental Ironworking, Vols. 1 through 5, International Association of Ironworkers, latest edition

Course Content

General Learning Outcomes (GLOs)

- Technology: Students will demonstrate the ability to evaluate, select, and appropriately use current and emerging tools.

Course Segments and Student Learning Outcomes

Course Segment	Learning Outcomes	Lecture Hours	Lab Hours	Clinical Hours
Tools: a) Types and b) Care and Use	1. Identify and describe the care and use of tools used in ornamental work.	2	3	0
Sub-Framing and Miscellaneous Steel Supports: a) Blueprints and b) Installation	1. Describe the installation of specific types of sub-framing systems and steel supports.	2	3	0
Stairs: a) Materials, b) Types, c) Erection Procedures, d) Tools, e) Establishing Elevations, f) Pans, g) Anchoring Stringers, h) Rails, i) Drill Bits, and j) Spiral Stairs	1. Describe the tools, materials, and erection procedures for specific types of stairs.	2	3	0
Fire Escapes: a) General Information, b) Materials, c) Types, d) Tools, e) Equipment, and f) Erection Procedures	1. Describe the tools, materials, equipment, and erection procedures for counterbalanced and stationary fire escapes.	2	3	0
Railings: a) General Information, b) Materials, c) Types, d) Tools, e) Equipment, and f) Erection Procedures	1. Describe the materials, tools, and erection procedures for metal and vinyl railings.	1	3	0
Chain Link Fences: a) General Information, b) Materials Used, and c) Erection Procedures	1. Describe the materials and erection procedures for chain link fences.	1	3	0
Wire Mesh Partitions: a) General Information, b) Tools, c) Types, and d) Erection Procedures	1. Describe the tools and erection procedures for wire mesh partitions.	1	3	0
Doors: a) General Information, b) Types, c) Tools, d) Materials, and e) Erection Procedures	1. Describe the tools, materials, and erection procedures for hollow metal doors and various types of rolling doors.	2	3	0
Fire Doors: a) Types, b) Materials, c) Tools, d) Erection Procedures, and e) Classifications	1. Describe the classifications, materials, tools, and erection procedures for various types of fire doors.	2	3	0

Course Segment	Learning Outcomes	Lecture Hours	Lab Hours	Clinical Hours
Elevator Entrances: a) Materials, b) Tools, and c) Erection Procedures	1. Describe the tools, materials, and erection procedures for elevator entrances.	1.5	1.5	0
Miscellaneous: a) Flag Poles, b) Playground Equipment, and c) Swimming Pool Equipment	1. Describe the erection procedures for flag poles, playground equipment, and swimming pool equipment.	1.5	1.5	0
Sub-Framing for Entranceways: a) General Information, b) Types and Tools, and c) Blueprints	1. Read and interpret blueprints for installation of sub-framing for entranceways. 2. Select the proper tools for installation of sub-framing for entranceways.	2	3	0
Levels and Transits: a) General Information, b) Definitions, c) Setup and Adjustment, d) Focusing and Sighting, e) Leveling Rod and Rules, f) Signed Numbers and Decimal Conversions, g) Angular Measures, and h) Care of Transits	1. Set up, adjust, and use a level-transit and a leveling rod to establish an elevation. 2. Use a rule to establish new benchmarks. 3. Convert measurements from linear to metric and metric to linear. 4. Solve field leveling problems involving signed numbers (+ or -). 5. Read the degree scale and vernier to measure angles, both horizontal and vertical. 6. List and describe proper procedures for handling and storing transits.	2	3	0
Erection of Revolving Doors: a) General Information; b) Pre-Erection Layout; c) Specifications, Hardware, and Tools; and d) Erection Procedures	1. Demonstrate the proper erection and installation of revolving doors with overhead or floor mechanisms, following recommendations accompanying the materials.	1	15	0
Walls and Windows: a) Metal Curtain Wall, b) Curtain Wall Construction, c) Window Wall Handling and Construction, d) Solar Screen Erection, e) Aluminum Column Erection, f) Kawneer Zipperwall Erection, g) Sliding Window Installation, h) Low Rise Wall Unit, and i) High Rise Wall Unit	1. Demonstrate the ability to lay out wall and window installation jobs. 2. Erect walls and windows from pre-fabricated materials.	2	15	0
Materials: a) Caulking and Sealants, b) Aluminum, c) Stainless Steel, and d) Oxidizing Bronze	1. Prepare surfaces for caulking. 2. Mix and apply caulking compounds properly. 3. Identify and demonstrate proper handling, storage, and cleaning of construction metals.	1	6	0

Course Segment	Learning Outcomes	Lecture Hours	Lab Hours	Clinical Hours
Accessory Installation: a) Fire Insulated Vault Doors, b) Drive-Up Windows, c) Night Depository Box and Chute, d) 10-inch Advance Basic Fault Door, e) Cutler Mail Chutes, f) Door Checks, and g) Stage Rigging	1. Demonstrate techniques used to install vaults, drive-up windows, night depositories, mail chutes, door checks, and stage rigging.	2	15	0
Exams	1. Complete all required examinations.	2	3	0

Total Contact Hours

Lecture Hours	Lab Hours	Clinical Hours
30	90	0