Course Information Form (CIF)

Course Code: IRW 119
Course Title: Pre-Engineered Buildings

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: 1-3-2
Credit Hour Distribution:

Lecture: 1	Lab: 3	Clinical: 0	**Total: 2**

General Course Information

Catalog Description

Beginning information and steps for the erection of a pre-engineered building. Includes various types of architectural design, reading blueprints and instruction manuals, and layout procedures for a building including erection procedures, fasteners and anchors, and cost determination.

General Course Objectives

Students will be able to correctly and safely build a pre-engineered building.

Minimum Placement Levels

English	Reading	Math
None	None	None

Prerequisites

Credit in IRW 118

Methods of Evaluation

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

Instructional Materials and Additional Supplies

Pre-Engineered Buildings, K. Roellig and G. Temple.

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
1. Architectural Design: a) Clear Span, b) Post and Beam, c) Low Profile, d) Rigid Frame, e) Low Rigid Frame, f) Open Web Rafters, and g) Round Storage Tank; 2. Method of Erection; and 3. Structural Limitations	1. Describe and identify the function, assembly procedures, structural design, and limitations of clear span, post and beam, low profile, rigid frame open web rafters, and round storage tank configurations.	2	5	0
Preparation: a) Foundation Requirements, b) Plumbing and Squaring at Structural Skeleton, c) Bracing for Roof Assembly, and d) Use of Proper Tables and Charts	1. Describe the foundation requirements for a pre-engineered building. 2. Describe the plumbing and squaring techniques used for pre-engineered buildings.	2	5	0
Layout: a) Blueprints and Plans, b) Sketching, and c) Anchor Bolt Locations	1. Read and interpret blueprints for the layout and erection of pre-engineered buildings. 2. Sketch the step procedure for layout and erection of a pre-engineered building. 3. Demonstrate techniques used to lay out materials. 4. Check the anchor bolts for the erection of a pre-engineered building.	2	6	0
Erection: a) Structural, b) Panels, c) Doors, d) Windows, and e) Trim	1. Demonstrate the ability to erect a pre-engineered building including framing; application of panels; and installation of doors, windows, and trim.	2	16	0
Fasteners and Anchors: a) Screws, b) Straw Nails, c) Nelson Studs, d) Ram Sets, e) Bolts, f) Pop Rivets, and g) Mastic	1. Identify and describe the types of screws, nails, studs, bolts, and other fasteners used in pre-engineered building erection.	2	3	0
Cost Awareness and Quality Control: a) Labor Cost, b) Materials per Square Foot, c) Rental of Equipment, and d) Purchasing	1. Determine labor costs for a pre-engineered building erection project. 2. Describe the procedure for figuring job costs of materials, rental of equipment, and the building purchase.	3	7	0
Exams	1. Complete all required examinations.	2	3	0

Total Contact Hours

Lecture Hours	Lab Hours	Clinical Hours
15	45	0