

**Unit 1: Stairs
(4 days)**

Lesson	Student Notes	Teacher Notes	Activity	Duration	Lesson Notes
Stair Design	Stairs - Student	Stairs - Teacher		4 days	Present “Stairs” and have students complete the notes.
			Stairs Project Stairs Drawing		Have students complete “Stair Project” in conjunction with “Stairs Drawing.”

**Unit 2: Long Term AutoCAD Project
(31 days)**

Lesson	Student Notes	Teacher Notes	Activity	Duration	Lesson Notes
Long Term Project	Electrical Drawings - Student	Electrical Drawings - Teacher		½ day	Present “Electrical Drawings” and have students complete the notes.
			Long Term Project	Floor plan: 8 days Elevations: 5 days Model: 8 days Sections: 5 days Electrical: 3 days Finishing: 2 days	Have students complete “Long Term Project” making sure to evaluate/ provide feedback after each step so that corrections/ modifications can be incorporated before proceeding to the next phase.

Unit 3: Structural Design

(Present as students are working on Long Term AutoCAD Project)

Lesson	Student Notes	Teacher Notes	Activity	Duration	Lesson Notes
Basic Vocabulary	Basic Structural Design I	Basic Structural Design I		½ day	Present “Basic Structural Design I” and have students complete the notes.
Design Loads	Basic Structural Design II	Basic Structural Design II	Dead, Live and Snow Load Worksheet	½ day	- Present “Basic Structural Design II” and have students complete the notes. - Have students complete “Dead, Live and Snow Load Worksheet.”
Structural Systems Overview	Basic Structural Design III	Basic Structural Design III		½ day	Present “Basic Structural Design III” and have students complete the notes.
Load Bearing Structures	Basic Structural Design IV	Basic Structural Design IV		½ day	Present “Basic Structural Design IV” and have students complete the notes.
Structural Steel Framed Structures	Basic Structural Design V	Basic Structural Design V		½ day	Present “Basic Structural Design V” and have students complete the notes.
Reinforced Concrete Framed Structures	Basic Structural Design VI	Basic Structural Design VI		½ day	Present “Basic Structural Design VI” and have students complete the notes.
	Fiber Reinforced/ Tensioned Concrete Video Notes		Fiber Reinforced Concrete Video Comparing Pre-tensioned and Post-tensioned Concrete Video	½ day	Have students watch “Fiber Reinforced Concrete Video” and “Comparing Pre-tensioned and Post-tensioned Concrete Video” and complete “Fiber Reinforced/ Tensioned Concrete Video Notes.”
Lateral Structural Systems	Basic Structural Design VII	Basic Structural Design VII		½ day	Present “Basic Structural Design VII” and have students complete the notes.
Building Foundations	Basic Structural Design VIII	Basic Structural Design VIII		½ day	Present “Basic Structural Design VIII” and have students complete the notes.

Unit 4: Mechanical Design

(Present as students are working on Long Term AutoCAD Project)

Lesson	Student Notes	Teacher Notes	Activity	Duration	Lesson Notes
Heat Transfer	Mechanical Systems I: Heat Transfer	Mechanical Systems I: Heat Transfer		½ day	Present “Mechanical Systems I” and have students complete the notes.
HVAC Basics	Fundamentals of HVAC - Basics of HVAC Notes		Fundamentals of HVAC - Basics of HVAC Video	½ day	Have students watch “Fundamentals of HVAC - Basics of HVAC Video” and complete “Fundamentals of HVAC - Basics of HVAC Notes.”
The Refrigeration Cycle	Mechanical Systems II: The Refrigeration Cycle	Mechanical Systems II: The Refrigeration Cycle		½ day	Present “Mechanical Systems II” and have students complete the notes.
Parts of the HVAC System	Mechanical Systems III: Parts of the HVAC System	Mechanical Systems III: Parts of the HVAC System		½ day	Present “Mechanical Systems III” and have students complete the notes.
Heat Loss Calculations		Heat Loss Calculation Project Example	Heat Loss Calculation Project	1 day	Work through “Heat Loss Calculation Project Example” with students. Then, have students complete “Heat Loss Calculation Project” by themselves.

Unit 5: AutoCAD Certified User Exam Preparation

[Option 1: Beginner to Certification Exam \(Long Version\)](#) - Best for students who need extensive review.

[Option 2: Beginner to Certification Exam \(Short Version\)](#) - Best for students who need targeted review.

[Option 3: Certification Exam](#) - Best for students who do not need any review.

**Unit 6: Introduction to Revit
(10 days)**

Lesson	Student Notes	Teacher Notes	Activity	Duration	Lesson Notes
Project #1			Video	4 days	Have students create a simple building similar to the one shown in the video. The building should include a storefront, mezzanine and stairs.
Project #2			Video Part I Video Part II PDF Guide	6 days	Have students watch the two videos to create the referenced residence. Students may wish to alternate between the videos and the PDF Guide in order to complete the project.