

Architectural Design Syllabus

Course Description/Goals:

This course focuses on the knowledge and skills needed to enter a career in architecture or construction. Students will learn about design, design history, techniques and tools related to both residential and nonresidential buildings. Professional skills including communication and time management will be key parts of Architectural Design I. Course products will include drawings, renderings, site plans, elevations, scale models and a professional portfolio. The first semester will focus on hand-drawing while the second semester will utilize AutoDesk Revit software. Students will earn their Microsoft PowerPoint certification and prepare for the Revit certification.

Course TEKS/Objectives:

In Architectural Design I, students will gain knowledge and skills needed to enter a career in architecture or construction or prepare a foundation toward a postsecondary degree in architecture, construction science, drafting, interior design, or landscape architecture. Architectural Design I includes the knowledge of the design, design history, techniques, and tools related to the production of drawings, renderings, and scaled models for nonresidential or residential architectural purposes.

<https://tea.texas.gov/about-tea/laws-and-rules/sboe-rules-tac/sboe-tac-currently-in-effect/ch130b.pdf>

Course Outline:

Semester 1	Semester 2
<p><u>Unit 1: Introduction to Architecture & the Design Process (1 week)</u></p> <ul style="list-style-type: none">• What is architecture?• Role of architects in society	<p><u>Unit 7: Site Planning & Orientation (2 weeks)</u></p> <ul style="list-style-type: none">• Reading a site plan and understanding topography

- Design thinking & problem-solving
- The architectural design process: Discover, Define, Develop, Deliver
- Mini activity: Design your dream room (hand sketch)

Unit 2: Drawing & Drafting Basics (3 weeks)

- Manual drafting tools and techniques
- Line types, lettering, dimensioning
- Orthographic projections (plan, front, side views)
- Scales and measurement
- Project: Drafting a basic object (e.g., furniture piece) by hand

Unit 3: Architectural Styles & History Overview (2 weeks)

- Key global and American styles (Classical, Gothic, Modernism,

- Importance of sun, wind, views, and climate in site design
- Simple site analysis activity
- Project: Add a site context to existing house plan

Unit 8: Construction Basics & Building Systems (3 weeks)

- Basic construction materials: wood, concrete, steel
- Foundation, walls, roof systems
- Intro to plumbing, electrical, HVAC layout basics
- Activity: Cutaway drawing or digital model of a house section

Unit 9: Room Design – Kitchen or Bedroom Focus (2 weeks)

- Universal Design and ADA considerations
- Detailed design of a functional space (e.g., kitchen or bedroom)

etc.)

- Influence of culture, geography, and technology on design
- Style-matching and identification activity
- Project: Style poster or sketchbook analysis of home/neighborhood

Unit 4: Residential Design

Introduction – Floor Plans (3 weeks)

- Understanding residential spaces: zones, circulation, adjacencies
- Introduction to standard room sizes and layout principles
- Reading existing floor plans
- Sketching bubble diagrams and initial layout concepts
- Project: Hand-draw your ideal small home layout

- Sketches and digital modeling
- Project: Room design with full plan, elevation, and rendering

Unit 10: Model Making & Physical Prototyping (2–3 weeks)

- Reading plans to build a physical model
- Materials: foam board, cardboard, chipboard, wood
- Scale modeling principles
- Project: Build a physical model of part or all of your house design

Unit 11: Careers in Architecture & Professional Practice (2 weeks)

- Roles: Architect, Urban Planner, Interior Designer, Draftsperson
- Education pathways (trade school, college, internships)
- Guest speaker or virtual firm tour

Unit 5: Introduction to Digital Design Tools (3 weeks)

- Basic training in SketchUp, Revit, or AutoCAD (based on school resources)
- Drawing walls, placing doors/windows, adding furniture
- Importing floor plans and creating digital versions
- Project: Digitally recreate hand-drawn home layout

Unit 6: Basic Rendering and Presentation Techniques (2 weeks)

- Color theory, textures, and material selection
- Creating elevations and 3D views
- Annotating and labeling plans
- Project: Render and present your house design with basic color/furniture and labels

- Activity: Create a career interest poster or presentation

Unit 12: Final Project – Residential Design Portfolio (3–4 weeks)

- Revise house design with improvements and annotations
- Complete site plan, floor plan, elevations, and a basic section
- Include digital renderings and photos of physical model
- Final presentation to peers or invited guests

