

Architectural Design II Syllabus

Course Description/Goals:

This advanced course will build on previous knowledge and immerse students in a workplace environment. Course studies will include working with clients, interpreting and evaluating design decisions, working on large scale CAD projects with design plans, models and presentations. Students will demonstrate professional and employability skills, such as communication skills, teamwork, work habits and maintain a professional portfolio. Students will earn their Revit certification.

Course TEKS/Objectives:

In Architectural Design II, students will gain advanced 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 II includes the advanced 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: Course Overview & Design Process Refresher (1 week)</u></p> <ul style="list-style-type: none">• Review of key Architectural Design I concepts• Advanced design thinking methods• Review of drafting and CAD software (AutoCAD, Revit,	<p><u>Unit 7: Urban Planning & Community Design (2 weeks)</u></p> <ul style="list-style-type: none">• Zoning, transportation, green spaces, mixed-use developments• Designing for public good and accessibility

SketchUp)

- Portfolio expectations and project overview

Unit 2: Architectural History & Contemporary Styles (2 weeks)

- In-depth study of 20th & 21st-century architecture
- Modern, Postmodern, Brutalism, Sustainable Architecture
- Case studies: Frank Lloyd Wright, Zaha Hadid, Tadao Ando, etc.
- Mini project: Redesign a famous structure in a new style

Unit 3: Site Analysis & Environmental Design (3 weeks)

- Reading topographical maps, zoning codes, and climate data
- Passive design principles
- Site selection considerations (sun orientation, wind, views)

- Project: Plan a small urban block or community park

Unit 8: Commercial Architecture – Office or Retail Design (4 weeks)

- Space planning, brand identity, and user experience
- Fire code, egress, and commercial construction standards
- Design project: Small commercial space (retail store, café, or co-working space)
- Includes 2D drawings and 3D digital model

Unit 9: Sustainability & LEED Design (2 weeks)

- Green roofs, solar design, water reuse
- Introduction to LEED certification
- Case studies and material analysis

- Project: Create a site analysis board for a residential or commercial lot
-

Unit 4: Residential Design Project – Custom Home Design (5 weeks)

- Client interviews, programming, space planning
 - Developing floor plans, elevations, and sections
 - Digital modeling in Revit or SketchUp
 - Focus on ADA compliance and sustainability features
 - Peer reviews and critiques
-

Unit 5: Structural Systems & Building Materials (2 weeks)

- Load-bearing vs. non-load-bearing walls
- Roof systems, framing methods, and foundation types

- Group Challenge: Redesign a classroom to be LEED-certified
-

Unit 10: Construction Documents & Specifications (2 weeks)

- Advanced CAD/Revit documentation: plans, sections, elevations, details
 - Title blocks, scale, legends, schedules
 - Practice: Create a full sheet set from a prior design project
-

Unit 11: Portfolio Development & Career Pathways (2 weeks)

- Resume writing, digital portfolio, and college/career planning
- Presenting to a mock design firm or panel
- Practice interviews and critiques

- Materials: concrete, steel, wood, glass, composites
 - Workshop: Build small-scale structural models or material boards
-

Unit 6: Interior Architecture & Lighting Design (2 weeks)

- Principles of interior layout, finishes, and lighting
- Furniture layout and circulation
- Rendering interiors (digital or physical)
- Mini project: Design an interior space from the residential project

- Guest speakers (architects, urban planners, or alumni)