

ARCH101 : Drafting And Basic Design

General Information

Author:	<ul style="list-style-type: none"> David D Martin
Course Code (CB01) :	ARCH101
Course Title (CB02) :	Drafting And Basic Design
Department:	ARCH
Proposal Start:	Spring 2025
TOP Code (CB03) :	(0201.00) Architecture and Architectural Technology
CIP Code:	(04.0901) Architectural Technology/Technician.
SAM Code (CB09) :	Possibly Occupational
Distance Education Approved:	No
Will this course be taught asynchronously?:	No
Course Control Number (CB00) :	CCC000317968
Curriculum Committee Approval Date:	05/22/2024
Board of Trustees Approval Date:	07/16/2024
Last Cyclical Review Date:	05/22/2024
Course Description and Course Note:	ARCH 101 is a study in the fundamentals of drafting techniques used in architectural drawing, and the basic design procedure relative to good residential planning. Students will be introduced to residential building codes, drafting of working drawings, scale drawing of construction details, framing concepts, and proper dimensioning techniques.
Justification:	Mandatory Revision
Academic Career:	<ul style="list-style-type: none"> Credit
Author:	<ul style="list-style-type: none"> David D Martin

Academic Senate Discipline

Primary Discipline:	<ul style="list-style-type: none"> Architecture
Alternate Discipline:	No value
Alternate Discipline:	No value

Course Development

Basic Skill Status (CB08) Course is not a basic skills course. <input checked="" type="checkbox"/> Allow Students to Gain Credit by Exam/Challenge	Course Special Class Status (CB13) Course is not a special class. Pre-Collegiate Level (CB21) Not applicable.	Grading Basis <ul style="list-style-type: none"> Grade with Pass / No-Pass Option Course Support Course Status (CB26) Course is not a support course
---	--	---

Transferability & Gen. Ed. Options

General Education Status (CB25)

Not Applicable

Transferability

Transferable to both UC and CSU

Transferability Status

Approved

Units and Hours

Summary

Minimum Credit Units (CB07) 3

Maximum Credit Units (CB06) 3

Total Course In-Class (Contact) Hours 108

Total Course Out-of-Class Hours 54

Total Student Learning Hours 162

Credit / Non-Credit Options

Course Type (CB04)

Credit - Degree Applicable

Noncredit Course Category (CB22)

Credit Course.

Noncredit Special Characteristics

No Value

Course Classification Code (CB11)

Credit Course.

Variable Credit Course

Funding Agency Category (CB23)

Not Applicable.

Cooperative Work Experience

Education Status (CB10)

Weekly Student Hours

	In Class	Out of Class
Lecture Hours	1.5	3
Laboratory Hours	4.5	0
Studio Hours	0	0

Course Student Hours

Course Duration (Weeks)	18
Hours per unit divisor	0
Course In-Class (Contact) Hours	
Lecture	27
Laboratory	81
Studio	0
Total	108
Course Out-of-Class Hours	
Lecture	54
Laboratory	0
Studio	0
Total	54

Time Commitment Notes for Students

No value

Units and Hours - Weekly Specialty Hours

Activity Name	Type	In Class	Out of Class
---------------	------	----------	--------------

No Value	No Value	No Value	No Value
----------	----------	----------	----------

Pre-requisites, Co-requisites, Anti-requisites and Advisories

Advisory

ART130 - 2-D Foundations

Objectives

- Demonstrate a working knowledge of the basic elements of a two-dimensional art, including line, shape, texture, value, color, and spatial illusion.
- Make individual aesthetic decisions related to their own artwork, and give constructive feedback to peers via group critique.
- Write a critical evaluation of two-dimensional art using the basic vocabulary of two-dimensional design.

AND

Advisory

ESL141 - Grammar And Writing IV

Objectives

- Compose a 400 to 450-word thesis-based essay which: (a) summarizes and cites appropriately a reading passage provided as a prompt, (b) includes a clear thesis statement, (c) uses evidence to support the thesis, (d) shows clear organization into an introduction, body, and conclusion, and (e) uses appropriate rhetorical modes such as comparison/contrast, cause/effect, and persuasion in order to support a thesis.

OR

Advisory

ENGL101 - Introduction to College Reading and Composition

Objectives

- Read, analyze, and evaluate a variety of primarily non-fiction readings for content, context, and rhetorical merit with consideration of tone, audience, and purpose.
- Write timed, in-class essays exhibiting acceptable college-level control of mechanics, organization, development, and coherence.

Entry Standards

Entry Standards

Course Limitations

Cross Listed or Equivalent Course

Specifications

Methods of Instruction

Methods of Instruction Lecture

Methods of Instruction Laboratory

Methods of Instruction Multimedia

Methods of Instruction Guest Speakers

Out of Class Assignments

- Essay (e.g. write a description of job requirements for a drafter/designer and explain why these are necessary)
- Group projects (e.g. complete a design project such a kitchen including cabinetry design)

Methods of Evaluation

Rationale

Exam/Quiz/Test

Vocabulary quizzes. (e.g. eight quizzes of 10 terms each)

Exam/Quiz/Test

Midterm examination and performance test. (e.g. timed drawing test of a basic architectural project)

Project/Portfolio

Final individual project. (e.g. drawings of a two-bedroom project with eight sheets of working drawings)

Exam/Quiz/Test

Final examination and performance test. (e.g. timed drawing test of a small residential project consisting of a floor plan, elevation and foundation detail)

Textbook Rationale

No Value

Textbooks

Author	Title	Publisher	Date	ISBN
Bakhoun, Nagy R. and Wakita, Osamu	The Professional Practice of Architectural Working Drawings	New York: John Wiley	2023	9781119875338

Other Instructional Materials (i.e. OER, handouts)

No Value

Materials Fee

No value

Learning Outcomes and Objectives

Course Objectives

Describe the meaning of basic architectural vocabulary terms.

Demonstrate proficiency in drawing using the latest version of the AutoCAD software program by the completion of various drawing assignments.

Describe limited examples of the use of the International Building Code as it applies to residential construction.

SLOs

Describe the architectural terminology that are used in a typical architectural project.

Expected Outcome Performance: 70.0

ILOs
Core ILOs Communicate clearly, ethically, and creatively; listen actively and engage respectfully with others; consider situational, cultural, and personal contexts within or across multiple modes of communication.

Demonstrate depth of knowledge in a course, discipline, or vocation by applying practical knowledge, skills, abilities, theories, or methodologies to solve unique problems.

ARCH
Architectural Drafting & Design - Certificate Demonstrate skills in the production of working drawings of residential and commercial structures; discuss how design/drawing techniques, application of the International Building Code (IBC), building construction techniques, and other standards affect the design of their structure.

ARCH
Architectural Drafting and Design Demonstrate skills in the production of working drawings of residential and commercial structures; discuss how design/drawing techniques, application of the International Building Code (IBC), building construction techniques, and other standards affect the design of their structure.

Describe the tools and techniques necessary to draw a typical view of a residential structure using a Computer Aided Design (CAD) software program.

Expected Outcome Performance: 70.0

ILOs
Core ILOs Communicate clearly, ethically, and creatively; listen actively and engage respectfully with others; consider situational, cultural, and personal contexts within or across multiple modes of communication.

Demonstrate depth of knowledge in a course, discipline, or vocation by applying practical knowledge, skills, abilities, theories, or methodologies to solve unique problems.

ARCH
Architectural Drafting and Design Demonstrate skills in the production of working drawings of residential and commercial structures; discuss how design/drawing techniques, application of the International Building Code (IBC), building construction techniques, and other standards affect the design of their structure.

Demonstrate techniques to accomplish drawings utilizing different computer aided design (CAD) software;

ARCH
Architectural Drafting & Design - Certificate Demonstrate skills in the production of working drawings of residential and commercial structures; discuss how design/drawing techniques, application of the International Building Code (IBC), building construction techniques, and other standards affect the design of their structure.

Demonstrate techniques to accomplish drawings utilizing different computer aided design (CAD) software;

Evaluate a building by using the International Building Code for purposes of ensuring the safety of the building occupants.

Expected Outcome Performance: 70.0

ILOs
Core ILOs

Analyze and solve problems using critical, logical, and creative thinking; ask questions, pursue a line of inquiry, and derive conclusions; cultivate creativity that leads to innovative ideas.

Demonstrate depth of knowledge in a course, discipline, or vocation by applying practical knowledge, skills, abilities, theories, or methodologies to solve unique problems.

ARCH
Architectural Drafting &
Design - Certificate

Demonstrate skills in the production of working drawings of residential and commercial structures; discuss how design/drawing techniques, application of the International Building Code (IBC), building construction techniques, and other standards affect the design of their structure.

ARCH
Architectural Drafting
and Design

Demonstrate skills in the production of working drawings of residential and commercial structures; discuss how design/drawing techniques, application of the International Building Code (IBC), building construction techniques, and other standards affect the design of their structure.

Course Content

Lecture Content

Introduction to the Study of Architecture (4 hours)

- Function and design of a residential structure
- Basic purpose of shelter • Room sizes
- Traffic patterns within the home
- Building code requirements
- Architectural terminology
- Styles of architecture
- Past/Historic styles
- Present trends
- Architectural practice
- Drafter/designer
- Architect
- Engineer

Architectural Symbols (1 hour)

- Material symbols
- Interior section symbology
- Exterior materials
- Electrical and plumbing symbols
- Door and window types and symbols

Projection Methods (2 hours)

- Visualization practice
- Orthographic projection
- Isometric projection
- Discussion of perspective projection

Architectural Lettering (1 hour)

- Lettering styles and practice
- Dimensioning

Construction Techniques (4 hours)

- Wood framing methods
- Concrete foundation
- Application of finish materials
- Roughing in plumbing and electrical
- Fixtures
- Building code requirements

Building Materials and Components (3 hours)

- Wood, stone, steel, concrete, brick, adobe
- Uses
- Limitations
- Reference manufacturer sources
- Sweet's catalog
- Other manufacturer's sources
- Use of the Internet for research

Orientation of the Home (1 hour)

- Effects of weather and sunlight
- Setback and size limitations
- Zoning and economics

Architectural Working Drawings (4 hours)

- Title sheet
- Site plan
- Floor plan
- Foundation plan
- Foundation details
- Section views
- Electrical plan
- Framing plan
- Exterior elevations

Architectural Renderings (1 hour)

- Proper use of pencils and other media used in architecture
- Sketching and delineation of architectural forms
- Landscape forms

Presentation of Final Project (1 hour)

- Portfolio of completed drawings
- Rendering of display drawings
- Purpose of architectural models
- Study models
- Finished models
- Computer models
- Final critique

Use of the AutoCAD Computer Aided Design (CAD) (5 hours)

- Software, Use of CAD tools used in architectural drafting
 - Placing lines
 - Adding dimensions
 - Use of layers
 - Creating and using blocks
 - Proper scale for various architectural drawings
 - Use of hatch patterns
 - Placing text
 - Use of the array tool
 - Printing the drawing

Total Hours: 27

Laboratory/Studio Content**Introduction to the Study of Architecture (1 hour)**

- Function and design of a residential structure
- Basic purpose of shelter
- Room sizes
- Traffic patterns within the home
- Building code requirements
- Architectural terminology
- Styles of architecture
- Past/Historic styles
- Present trends
- Architectural practice
- Drafter/designer
- Architect
- Engineer

Architectural Symbols (4 hours)

- Material symbols
- Interior section symbology
- Exterior materials
- Electrical and plumbing symbols
- Door and window types and symbols

Projection Methods (5 hours)

- Visualization practice
- Orthographic projection
- Isometric projection
- Discussion of perspective projection

Architectural Lettering (4 hours)

- Lettering styles and practice
- Dimensioning

Construction Techniques (6 hours)

- Wood framing methods
- Concrete foundation
- Application of finish materials
- Roughing in plumbing and electrical
- Fixtures
- Building code requirements

Building Materials and Components (8 hours)

- Wood, stone, steel, concrete, brick, adobe
- Uses
- Limitations
- Reference manufacturer sources
- Sweet's catalog
- Other manufacturer's sources
- Use of the Internet for research

Orientation of the Home (4 hours)

- Effects of weather and sunlight
- Setback and size limitations
- Zoning and economics

Architectural Working Drawings (34 hours)

- Title sheet
- Site plan
- Floor plan
- Foundation plan
- Foundation details
- Section views
- Electrical plan
- Framing plan
- Exterior elevations

Architectural Renderings (2 hours)

- Proper use of pencils and other media used in architecture
- Sketching and delineation of architectural forms
- Landscape forms

Presentation of Final Project (4 hours)

- Portfolio of completed drawings
- Rendering of display drawings
- Purpose of architectural models
- Study models
- Finished models
- Computer models
- Final critique

Use of the AutoCAD Computer Aided Design (CAD) (9 hours)

- Software, Use of CAD tools used in architectural drafting
 - Placing lines
 - Adding dimensions
 - Use of layers
 - Creating and using blocks
 - Proper scale for various architectural drawings
 - Use of hatch patterns
 - Placing text
 - Use of the array tool
 - Printing the drawing

Total Hours: 81

Additional Information

Is this course proposed for GCC Major or General Education Graduation requirement? If yes, indicate which requirement in the two areas provided below.

No

GCC Major Requirements

No Value

GCC General Education Graduation Requirements

No Value

Repeatability

Not Repeatable

Justification (if repeatable was chosen above)

No Value

Resources

Did you contact your departmental library liaison?

No

If yes, who is your departmental library liaison?

No Value

Did you contact the DEIA liaison?

No

Were there any DEIA changes made to this outline?

No Value

If yes, in what areas were these changes made:

No Value

Will any additional resources be needed for this course? (Click all that apply)

No Value

If additional resources are needed, add a brief description and cost in the box provided.

No Value