ARCH125 : Residential Architectural Design II

General Information

Author:	• David D Martin
Course Code (CB01) :	ARCH125
Course Title (CB02) :	Residential Architectural Design II
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) :	Clearly Occupational
Distance Education Approved:	No
Will this course be taught asynchronously?:	No
Course Control Number (CB00) :	CCC000206809
Curriculum Committee Approval Date:	Pending
Board of Trustees Approval Date:	07/16/2024
Last Cyclical Review Date:	05/22/2024
Course Description and Course Note:	ARCH 125 presents a study of the numerous considerations required to build a typical two story, four unit townhouse or apartment complex. Students will review the fundamentals of design, building code considerations, techniques of construction, working drawings and construction details. Topics covered include structural considerations, heating, insulation, sound proofing, sanitary systems, foundation design, presentation techniques, and model building techniques.
Justification:	Mandatory Revision
Academic Career:	No value
Author:	• David D Martin

Academic Senate Discipline

Primary Discipline:	• Architecture
Alternate Discipline:	No value
Alternate Discipline:	No value

Course Development

Basic Skill Status (CB08)

Course is not a basic skills course.

☐ 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

• Grade with Pass / No-Pass Option

Course Support Course Status (CB26)

No value

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.

Funding Agency Category (CB23)

Not Applicable.

☐ Cooperative Work Experience Education Status (CB10)

☐ Variable Credit Course

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

Prerequisite

ARCH120 - Residential Architectural Design I (in-development)

Objectives

- Plan and design a two story structure.
- Draw a complete set of documentation or working drawings.
- Document selection of components from structural manufacturing literature.
- Expand usage of the International Building Code (IBC).
- Demonstrate familiarity with a body of technical vocabulary coinciding with the study of two story construction.

AND

Advisory

ENGR109 - Computer Aided Design AutoCAD I (in-development)

Objectives

- Create a complete set of CAD drawings that communicates technical information for a complex geometric part or assembly.
- Evaluate CAD designs to determine clarity and manufacturability.

AND

Advisory

ARCH250 - Introduction To Autodesk Revit Architecture (in-development)

Objectives

- Explain the relationship between floor plans, elevations, and section views within a parametric environment.
- Create three-dimensional models and construction documents for a residential design project.
- Create photo-realistic renderings of architectural projects.

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
Methods of Instruction	Presentations

Out of Class Assignments

- Field trip (e.g. written summary or summaries of visits to local construction sites, tour of architectural offices)
- Final individual project. (e.g. this will typically consist of a set of working drawings or architectural model of a two story, three or four bedroom residential structure.)

Methods of Evaluation	Rationale
Exam/Quiz/Test	Midterm examination
Exam/Quiz/Test	Final examination or presentation (eg. this will typically be a 5-10 minute presentation of the final project to the instructor and the rest of the class.)
Project/Portfolio	Portfolio review and critique. (e.g. critique of all of the work that the student has accomplished during the course.)

Textbook Rationale

No Value

Textbooks

Author	Title	Publisher	Date	ISBN
Bakhoum, Nagy R., Wakita, Osamu A.	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

Plan and design a group of two story structures.

Draw a complete set of documentation or working drawings.

Demonstrate familiarity with a body of technical vocabulary coinciding with the study of two story apartment or townhouse construction.

Describe the various types of residential structures.

SLOs

Discuss the application of the International Building Code (IBC) to the student's project. 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.
	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.

Evaluate structural manufacturing literature to select the proper structural building components for the student's project. 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.

Plan and generate construction documents and models for a mixed-used residential/commercial structure. 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.

Additional SLO Information

Does this proposal include revisions that might improve student attainment of course learning outcomes?

No

Is this proposal submitted in response to learning outcomes assessment data?

No

If yes was selected in either of the above questions for learning outcomes, explain and attach evidence of discussions about learning outcomes.

No Value

SLO Evidence

No Value

Course Content

Lecture Content

Introduction to the Project (3 Hours)

- Size and location limitations
- Building department considerations
- Presentation methods of finished project
- Use of architectural materials
- Reference material sources-Sweet's catalogs
- Manufacturers' resources
- Library and on-line resources

Design Considerations (6 Hours)

- Scale and proportion
- Weather and sunlight
- Traffic flow in a two-story structure
- Stairs
- Code requirements
- Client considerations
- Underrepresented students in architecture
- Americans with Disabilities Act (ADA) requirements
- Other considerations • Sanitary
- Heating and cooling
- Site factors
- Parking needs
- City requirements
- Landscaping
- Preliminary sketches
- Instructor and peer critique

Architectural Working Drawings (8 Hours)

- Site plan
- Floor plan
- Foundation plan
- Roof plan
- Landscaping plan
- Exterior elevations
- Interior elevations - notations

Selected Construction Details (3 Hours)

- Foundation details
- Door and window details
- Earthquake requirements

Presentation of Project (2 Hours)

- Portfolio review and critique
- Creating a three dimensional study model of project
- Verbal and written final presentation

Schedules (2 Hours)

- Door
- Windows
- Room Finish

Structural Drawings (3 Hours)

- Sections

- Foundation Plan
- Foundation Details
- Framing Plan
- Framing Details

Total Hours: 27

Laboratory/Studio Content

Introduction to the Project (3 Hours)
- Size and location limitations
- Building department considerations
- Presentation methods of finished project
- Use of architectural materials
- Reference material sources-Sweet's catalogs
- Manufacturers' resources
- Library and on-line resources

Design Considerations (19 Hours)
- Scale and proportion
- Weather and sunlight
- Traffic flow in a two-story structure
- Stairs
- Code requirements
- Client considerations
- Underrepresented students in architecture
- Americans with Disabilities Act (ADA) requirements
- Other considerations • Sanitary
- Heating and cooling
- Site factors
- Parking needs
- City requirements
- Landscaping
- Preliminary sketches
- Instructor and peer critique

Architectural Working Drawings (29 Hours)
- Site plan
- Floor plan
- Foundation plan
- Roof plan
- Landscaping plan
- Exterior elevations
- Interior elevations - notations

Selected Construction Details (4 Hours)
- Foundation details
- Door and window details
- Earthquake requirements

Presentation of Project (9 Hours)
- Portfolio review and critique
- Creating a three dimensional study model of project
- Verbal and written final presentation

Schedules (5 Hours)
- Door
- Windows
- Room Finish

Structural Drawings (12 Hours)
- Sections
- Foundation Plan
- Foundation Details
- Framing Plan
- Framing Details

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 liason?

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