

STATUS: A

COMMON COURSE NUMBER: ARC 2303

COURSE TITLE: Architectural Design III

CREDIT HOURS: 4

CONTACT HOURS BREAKDOWN:

Lecture/Discussion 16

Lab 96

Other 32

Contact Hours/Week 7

CATALOG COURSE DESCRIPTION:

Prerequisite: ARC 1302, ARC 2201

Corequisite: None

This course emphasizes the analysis and resolution of the natural and the man-made environmental context as a generator of architectural design ideas. The analysis of architectural building programs and architectonic principles are applied to further define the organization, form, circulation and function of architectural space in buildings.

General Education Requirements - Associate of Arts Degree, meets Area(s):

General Education Requirements - Associate in Science Degree, meets Area(s):

UNIT TITLES:

1. Design process within a limited time frame.
2. Site Analysis and Reactions.
3. 2-dimensional designs derived from site reactions.
4. 2-dimensional axonometric design derived from site reactions.
5. 3-dimensional designs through architectonic schematic models using site reactions as design program.
6. Program analysis and building design resolution with site factors as main design generator..
7. Architectonic Model Making.
8. Architectural Design Drawing.

I. Course Overview:

Upon successful completion of this course, the students should be able to analyze existing contextual factors, design appropriate reactions and derive schematic designs in 2- and 3-dimensions from these reactions. The students should be able to analyze a building room program, design a floor plan layout and develop building concepts and design using site factors as the major generators.

Overview of Learning:

- o 75% of the course learning should be in the design units 1,2, 3, 4, 5 and 6.
- o 12.5% of the course learning should be in the model-making unit 7 and should happen within the design units' assignments.
- o 12.5% of the course learning should be in the architectural design drawing unit 8 and should happen within the design units' assignments.

II. Units:

Unit 1. Design process within a limited time frame - 16% of class assignments (2½ weeks)

General Outcome:

1.0 The students should be able to design a small building within a limited time frame (a Charette).

Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

- 1.1 Analyze important contextual factors for siting the building.
- 1.2 Analyze a building room program.
- 1.3 Design a building room program layout.
- 1.4 Use site factors and program to design a building.
- 1.5 Give an appropriate expression to a building.
- 1.6 Draw architectural design floor plans.

- 1.7 Draw architectural design site plans with parking.
- 1.8 Draw architectural design sections.
- 1.9 Draw an architectural plan oblique axonometric.

Unit 2. Site Analysis and Reactions - 6% of Class Assignments (1 week)

General Outcome:

2.0 The students should be able to analyze contextual (site) factors and determine appropriate architectonic reactions.

Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

2.1 Analyze the existing natural and man-made site factors.

2.2 Develop a graphic study of contextual (site) factors.

2.3 Design appropriate architectonic reactions to site factors.

Unit 3. 2-dimensional design derived from site reactions. - 6% of
Class Assignments (1 week)

General Outcome:

3.0 The students should be able to do a 2-dimensional design derived from site reactions.

Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

- 3.1 Transform site factors into architectonic 2-dimensional design reactions.
- 3.2 Do a 2-dimensional design composition on the site drawing.
- 3.3 Use line weight, line type and texture to give layering, depth and emphasis to the 2-dimensional design.
- 3.4 Understand and apply ordering principles of composition to include: hierarchy, axis, repetition, rhythm, symmetry and transformation

Unit 4. 3-dimensional axonometric design derived from site reactions. - 6% of Class Assignments (1 week)

General Outcome:

4.0 The students should be able to do a 3-dimensional axonometric design derived from site reactions.

Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

- 4.1 Transform site factors into architectonic 3-dimensional axonometric design reactions.
- 4.2 Do a 3-dimensional axonometric design composition on the site drawing.
- 4.3 Understand and apply ordering principles of composition to include: hierarchy, axis, repetition, rhythm, symmetry and transformation

Unit 5. 3-dimensional designs through architectonic schematic models using site reactions as design program. 28% of Class Assignments (4½ weeks)

General Outcome:

5.0 The students should be able to do a 3-dimensional design through an architectonic model using site reactions as the sole design program and as a derivation from previous 2-dimensional designs.

Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

- 5.1 Transform site forces into architectonic 3-dimensional design reactions.
- 5.2 Do a 3-dimensional architectonic model design composition on the site.
- 5.3 Create a spatial composition of architectural spatial units based on architectonic principles
- 5.4 Apply architectonic ordering principles (axis, rhythm, repetition, datum, hierarchy, symmetry, and transformation) to an architectonic model derived from contextual (site) and geometric relationships.
- 5.5 Understand composition of space.
- 5.6 Understand the principles of proportions in space composition.
- 5.7 Understand and create a space-dominant architectural design as opposed to mass-dominant design.
- 5.8 Understand and apply geometrical alignments, collisions of space, space within a space and articulation of form to the 3-dimensional design.
- 5.9 Understand and apply horizontal and vertical spatial flow.
- 5.10 Develop a basic vocabulary of architectural space and forms unique to its context.
- 5.11 Understand create partii diagrams.

Unit 6. Program Analysis and building design resolution with site factors as main design generator. - 38% of Class

Assignments (6 weeks)

General Outcome:

6.0 The students should be able to analyze a program, do a floor plan room layout and produce a final creative building design using context and program as the main design generators.

Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

6.1 Understand and use an adjacency matrix, stacking and bubble diagrams

6.2 Analyze different organizations of space (linear, centralized, radial, cluster and grid) and determine the most appropriate for the room program and context.

6.3 Produce an appropriate room layout in floor plan and stacking, which resolves the existing contextual factors.

6.4 Develop a site-specific spatial model from the resolution of activities, room program and context (site).

6.5 Produce a final architectural building design solution that resolves contextual and programmatic factors and incorporates the context-specific vocabulary of architectural space and forms developed in the architectonic models of Unit 5.

6.6 Understand and create diagrams for circulation, zoning, stacking, geometry, structure, massing, organization and partii.

Unit 7. Architectural Model Making (within the Design assignments)

General Outcome:

7.0 The students should be able build and use schematic architectonic models as design tools for development of contextually based designs.

Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

7.1 Understand and apply the difference between architectonic process, rough, working or bug models and final design models.

7.2 Understand and use architectonic models as design tools.

7.3 Understand and produce excellent model-making craftsmanship.

Unit 8. Architectural Design Drafting (within the design assignments:

General Outcome:

8.0 The students should be able to develop a complete set of architectural orthographic drawings and graphics for a building design.

Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

8.1 Develop architectural design freehand sketches of floor plans, elevations and sections.

8.2 Understand and apply good line quality: line weight and line density.

8.3 Use lines to create textures, line weight for emphasis, and line types for differentiation of expression.

8.4 Understand and use basic architectural hand lettering.

8.5 Understand and use architectural and engineering scale. Draw walls, windows, doors, stairs, elevators and bathrooms in design floor plans. Draw complete presentation graphics and inked floor plans, elevations, sections, plan oblique, 1- and 2-point perspectives of a building design on Mylar sheets.

8.8 Draw diagrams of circulation, zoning, stacking, geometry, structure, massing, organization and partii.