



BROWARD COMMUNITY COLLEGE COURSE OUTLINE

LAST REVIEW: 2008-2009
(i.e. 2003-2004)

NEXT REVIEW: 2013-2014
(i.e. 2008-2009)

STATUS: A
(A, I, D)

COURSE TITLE: Architectural Design IV

COMMON COURSE NUMBER: ARC 2304

CREDIT HOURS: 4

CONTACT HOUR BREAKDOWN

(per 16 week term)

CLOCK HOURS:
(Voc. Course ONLY)

Lecture: 16 Lab: 96

Clinic: Other:

PREREQUISITE(S): ARC 2303 with a grade of "C" or higher.

COREQUISITE(S): None

PRE/COREQUISITE(S): ARC 1701

COURSE DESCRIPTION *(750 characters, maximum):*

This course covers the development of architectonic conceptual ideas from program requirements and contextual factors as generators of architectural design. Architectonic principles of enclosure, massing, articulation of form, proportions, geometry, scale and structures are applied in the development of imagery for building design. A portfolio is created from each student's best work for the purpose of transfer admission to a university program.

General Education Requirements - Associate of Arts Degree, meets

Area(s):

General Education Requirements - Associate in Science Degree, meets

Area(s):

UNIT TITLES

1. 3-dimensional Explorations from 2-dimensional Coordinates.
2. Portfolio Workshop
3. Word Interpretations of Conceptual Ideas.
4. 2-dimensional Designs derived from Word Interpretations of Conceptual Ideas.
5. 3-dimensional Axonometric Design Derived from Conceptual Ideas.
6. Architectonic Space Design through Schematic Models of Conceptual Ideas as a Design Program.
7. Program Analysis, Contextual Factors and Building Design Resolution with Image and Conceptual Ideas as a Main Design Generators.
8. Architectonic Model Making.
9. Architectural Design Drawing.

EVALUATION:

Please provide a brief description *(250 characters maximum)* that details how students will be evaluated on the course outcomes.

Upon successful completion of this course, the students should be able to create schematic designs in 2- and 3-dimensions of conceptual ideas for building design. The students should be able to analyze site



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factors, a building room program, design a floor plan layout and develop building concepts and design using image and conceptual ideas as the major generators.

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UNITS

Unit 1 3-dimensional Explorations from 2-dimensional Coordinates. -
20% of class assignments (3 weeks)

General Outcome:

- 1.0 **The student shall:** The students should be able to understand the use of two different sets of 2-dimensional Cartesian Coordinates perpendicular to each other and to apply them into a 3-dimensional abstract design composition of architectonic space.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 1.1 Derive and draw two sets of 2-dimensional Cartesian Coordinates from existing site conditions.
- 1.2 Project and collide two sets of 2-dimensional Cartesian Coordinates, perpendicular to each other, into a 3-dimensional axonometric design composition of architectonic space.
- 1.3 Project and collide two sets of 2-dimensional Cartesian Coordinates, perpendicular to each other, into a 3-dimensional architectonic model design composition of architectonic space.
- 1.4 Create a spatial composition of architectural spatial units based on architectonic principles.

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- 1.5 Apply architectonic ordering principles (axis, rhythm, repetition, datum, hierarchy, symmetry, and transformation) to an architectonic model derived from colliding and transforming two sets of 2-dimensional Cartesian coordinates.



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- 1.6 Understand composition of space.
- 1.7 Understand the principles of proportions in space composition.
- 1.8 Understand and create a space-dominant architectural design as opposed to mass-dominant design.
- 1.9 Understand and apply geometrical alignments, collisions of space, space within a space and articulation of form to the architectonic space composition.
- 1.10 Understand and apply horizontal and vertical spatial flow.



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Unit 2 Portfolio Workshop – 12% of Class Assignments (2 weeks)

General Outcome:

2.0 **The student shall:** The students should be able to design and develop a portfolio or pin-up of their own architectural work.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 2.1 Determine which examples of work are worth including in the portfolio or pin-up.
- 2.2 Understand the purpose of the portfolio or pin-up of architectural work.
- 2.3 Design and compose the overall portfolio of work or pin-up for aesthetic or visual appeal.
- 2.4 Design and compose each sheet or parts of the portfolio of work or pin-up for aesthetic or visual appeal.
- 2.5 Produce a draft of the design and composition of the portfolio of work or pin-up.



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Unit 3 Word Interpretations of Conceptual Ideas. - 6% of Class
Assignments (1 week)

General Outcome:

3.0 The student shall: The students should be able to develop word interpretations of conceptual ideas appropriate to the project and do 2-dimensional drawings derived from these interpretations.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 3.1 Develop word interpretations of conceptual ideas appropriate to the context, locale, region, type of project, type of user and type of building.
- 3.2 Transform word interpretations of conceptual ideas into architectonic 2-dimensional drawings.
- 3.3 Do a 2-dimensional drawing composition of the word interpretations of conceptual ideas.
- 3.4 Use line weight, line type and texture to give layering, depth and emphasis to the 2-dimensional drawing.



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Unit 4 2-dimensional Design Derived from Word Interpretations of Conceptual Ideas. - 6% of Class Assignments (1 week)

General Outcome:

4.0 The student shall: The students should be able to do a 2-dimensional design derived from word interpretations of conceptual ideas.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 4.1 Transform word interpretations of conceptual ideas into architectonic 2-dimensional designs.
- 4.2 Do a 2-dimensional axonometric design composition of conceptual ideas.
- 4.3 Understand and apply ordering principles of composition to include: hierarchy, axis, repetition, rhythm, symmetry and transformation
- 4.4 Use line weight, line type and texture to give layering, depth and emphasis to the 2-dimensional design.



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Unit 5 3-dimensional Axonometric Design Derived from Conceptual Ideas. - 6% of Class Assignments (1 week)

General Outcome:

5.0 The student shall: The students should be able to do a 3-dimensional axonometric design derived from conceptual ideas.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 5.1 Transform conceptual ideas into architectonic 3-dimensional axonometric designs.
- 5.2 Do a 3-dimensional axonometric design composition from conceptual ideas.
- 5.3 Understand and apply to the axonometric design composition, ordering principles (hierarchy, axis, repetition, rhythm, symmetry and transformation).



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Unit 6 Architectonic Space Design through Schematic Models of Conceptual Ideas as a Design Program. - 20% of Class Assignments (3 weeks)

General Outcome:

6.0 The student shall: The students should be able to do a 3 dimensional architectonic space design through a schematic model with conceptual ideas as the sole design program and as a derivation and reinterpretation of previous 2-dimensional designs.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 6.1 Transform conceptual ideas into architectonic 3-dimensional interpretations.
- 6.2 Do an architectonic model design composition of the 3-dimensional interpretation of conceptual ideas.
- 6.3 Create a spatial composition of architectural spatial units based on architectonic principles of the 3-dimensional interpretation of conceptual ideas.
- 6.4 Apply architectonic ordering principles (axis, rhythm, repetition, datum, hierarchy, symmetry, and transformation) and geometric relationships in the architectonic model of the 3-dimensional interpretation of conceptual ideas.
- 6.5 Understand composition of space.
- 6.6 Understand the principles of proportions in space composition.

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- 6.7 Understand and create a space-dominant architectural design as opposed to mass-dominant design.

- 6.8 Understand and apply geometrical alignments, collisions of space, space within a space and articulation of form.

- 6.9 Understand and apply horizontal and vertical spatial flow.

- 6.10 Develop a basic vocabulary of architectural space and forms unique to the project conceptual ideas.



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Unit 7 Program Analysis, Contextual Factors and Building Design Resolution with Image and Conceptual Ideas as a Main Design Generator. - 30% of Class Assignments (5 weeks)

General Outcome:

7.0 The student shall: The students should be able to analyze contextual factors, a building room program, do a floor plan room layout and produce a final creative building design using context, program and conceptual ideas as the main design generators.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 7.1 Analyze the existing natural and man-made contextual factors.
- 7.2 Design appropriate architectonic reactions to contextual factors.
- 7.3 Understand and use an adjacency matrix, stacking and bubble diagrams.
- 7.4 Analyze different organizations of space (linear, centralized, radial, cluster and grid) and determine the most appropriate for the room program and context.
- 7.5 Produce an appropriate room layout in floor plan and stacking, which also resolves the existing contextual factors.
- 7.6 Develop a site-specific spatial model from the resolution of activities, room program and context.
- 7.7 Produce a final architectural building design solution that resolves contextual and programmatic factors and incorporates the vocabulary of architectural space and forms developed from the 3- dimensional interpretations of conceptual ideas in the architectonic models of Unit 6.
- 7.8 Understand and create diagrams for circulation, zoning, stacking, geometry, structure, massing, organization and partii.

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Unit 8 Architectural Model Making (within the Design assignments)



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General Outcome:

8.0 The student shall: The students should be able build and use schematic architectonic models as design tools for development of conceptual ideas.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 8.1 Understand and apply the difference between architectonic process, rough, working or bug models and final design models.
- 8.2 Understand and use architectonic models as design tools.
- 8.3 Understand and produce excellent model-making craftsmanship.



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Unit 9 Architectural Design Drafting (within the design assignments)

General Outcome:

9.0 **The student shall:** The students should be able to develop a complete set of architectural orthographic drawings and graphics for a building design.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 9.1 Develop architectural design freehand sketches of floor plans, elevations and sections.
- 9.2 Understand and apply good line quality: line weight and line density.
- 9.3 Use lines to create textures, line weight for emphasis, and line types for differentiation of expression.
- 9.4 Understand and use basic architectural hand lettering.
- 9.5 Understand and use architectural and engineering scale.
- 9.6 Draw walls, windows, doors, stairs, elevators and bathrooms in design floor plans.
- 9.7 Draw complete presentation graphics and inked floor plans, elevations, sections, plan oblique, 1- and 2-point perspectives of a building design on Mylar sheets.
- 9.8 Draw diagrams of circulation, zoning, stacking, geometry, structure, massing, organization and partii.