ARCH A115: ARCHITECTURAL DESIGN AND THEORY 1

Item	Value
Curriculum Committee Approval Date	12/08/2021
Top Code	020100 - Architecture and Architectural Technology
Units	4 Total Units
Hours	108 Total Hours (Lecture Hours 54; Lab Hours 54)
Total Outside of Class Hours	0
Course Credit Status	Credit: Degree Applicable (D)
Material Fee	Yes
Basic Skills	Not Basic Skills (N)
Repeatable	No
Open Entry/Open Exit	No
Grading Policy	Standard Letter (S)
Associate Arts Local General Education (GE)	• Area 3 Arts and Humanities 3A Theory (OC1)
Associate Science Local General Education (GE)	• Area 3A Arts (OSC1)

Course Description

This beginning architectural design course includes the perceptual and physical study of three dimensional design theories, principles and compositional techniques used in the creation and manipulation of architectural form, space, and light. Focus will be on fundamental design skills and will progress to a complete architectural design project using models, drawings, and graphics to study and communicate the design. ADVISORY: ARCH A105. Transfer Credit: CSU; UC

Course Level Student Learning Outcome(s)

1. Physically, graphically, and verbally communicate a variety of architectural compositions that demonstrate successful manipulation of form, space, and light as evidence of knowledge of design principles to be assessed by the instructor.
2. Document their design concepts, process, and project outcomes in an informal process portfolio as well as present a complete solution to a small- to medium-scale project in a jury critique situation as assessed by the instructor.

Course Objectives

- 1. Identify and discuss the Vitruvian principles of architecture in relationship to significant architectural examples and their own design work.
- 2. Identify and compare different theories and ideologies of architecture.
- 3. Select and apply elements of architecture into a composition.
- 4. Demonstrate a working understanding of basic structural principles as evidenced in their work.
- 5. Utilize principles of design to achieve conceptual goals.
- 6. Demonstrate understanding of transitional spaces, form, transformation, and ordering principles.
- 7. Control movement through space using spatial principles and ordering devices.
- 8. Create a logical sense of hierarchy for a particular program of spaces.
- 9. Identify and utilize grids and proportional systems to aesthetic and structural advantage.
- 10. Analyze and identify site considerations and limitations.
- 11. Develop a client program into an architectural composition that meets conceptual goals.
- 12. Utilize drawing and digital visualization techniques for studying and developing composition.
- 13. Articulate design concept, process, and outcomes verbally and graphically in a portfolio.
- 14. Present project and concept verbally and using composite design boards and models.

Lecture Content

This is a project-based design course and will incorporate the following outlined course content within the framework of 5-7 short design exercises that are structured to teach fundamental 3-dimensional design principles. A final project is structured to allow the students to test their design skills on a more complex project with a focus on process and conceptual development through drawings and models. Design problems may be more abstract in nature so as to allow for a more intensive focus on formal design and design methodologies, rather than programmatic elements. Definitions of Architecture and Introduction to Theory Shelter Cultural and Historical determinants Aesthetic Intention Economics and client Vitruvian Principles Utilitas Commodity/Usefulness Client Plan Fimitas Firmness/Structure Builder Section Venustas Delight/Beauty Architect Exterior images Elements of Architecture Point, Line, Plane Form, Volume, Light Primary and transitional spaces Transformation Dimensional Rotational Collision Clustered Spatial Principles Ordering Devices Linear, axial Grid Symmetrical/Asymmetrical Datum Hierarchy Space within a space Horizontal/vertical Additive/subtractive Rhythm, repetition Proportional Systems Golden Section Ken grid Modulor, Fibonacci Anthropometry Structural Principles Trabeation Arcuation Cantilever Tension, Compression Loads: dead and live Exoskeleton, steel frame Design Process Client program Site analysis Context and site Conceptualization of program Composition and organization Visualization Techniques Plans, Sections, Elevations Models building Digital visualization Perspectives and paralines Presentation Skills Verbal Graphic Composite board presentations Portfolio Development Photographing process models Composition Sequential process narration Use of digital formatting Reprographics and reductions

Lab Content

composition graphic presentation design theory working with materials project presentation strategies final architectural design project

Method(s) of Instruction

- Lecture (02)
- DE Live Online Lecture (02S)
- DE Online Lecture (02X)
- Lab (04)
- DE Live Online Lab (04S)
- DE Online Lab (04X)

Instructional Techniques

Methodologies are consistent with the professional design process and university architectural studio courses, and include lecture, discussion, and demonstration of various approaches to design problem solving; instructor feedback and challenges to design concept and process methodologies; collaborative studio work sessions, process sketchbook/ journal; and juried critiques of student work which include feedback and suggestions for design improvements.

Reading Assignments

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Writing Assignments

Critical thinking skills will primarily be demonstrated through the design, drawing, and modeling of 3-dimensional solutions. Some minor writing will occur in the form of graphical text on visual presentations (such as presentation boards, portfolios, and concept statements) and in the quizzes.

Out-of-class Assignments

Out of class assignments will include assigned reading as project background and precedent research.

Demonstration of Critical Thinking

Evaluation and critique of drawings, models, and process portfolio by instructor. Oral and graphic presentation to juried critiques of design concept and process with instructor and guest professional. Evaluation of knowledge of Vitruvian principles and basic theories of Architecture with quizzes.

Required Writing, Problem Solving, Skills Demonstration

Critical thinking skills will primarily be demonstrated through the design, drawing, and modeling of 3-dimensional solutions. Some minor writing will occur in the form of graphical text on visual presentations (such as presentation boards, portfolios, and concept statements) and in the quizzes.

Textbooks Resources

1. Required Ching, Francis D.K. . Architectural: Form, Space Order, Current ed. New York: John Wiley Sons, 2014 Rationale: Addresses architectural design fundamentals and precedence 2. Required Ingles, Bjark. Yes is More, Current ed. Koln: Taschen, 2009 Rationale: This is a standard course reference that is available to all students in the OCC Library