DESGN 340

Title: Architecture and Construction

Units: 5.00

Prerequisite: DESGN 302 (Technical Documentation with CADD), AND DESGN 325 (Architectural Modeling and Design) or DESGN 328 (Engineering Modeling and Design) and DESGN 320 (Three Dimensional Graphics and Design), AND DESGN 310 (Graphic Analysis), or ENGR 312 (Engineering Graphics) with grades of "C" or better

Hours: 54 hours lecture, 108 hours laboratory

Description: This course is an introduction to the residential architectural design process. It covers the fundamentals of construction materials and methodology, basic code requirements, and the introduction of applied engineering concepts for light construction. It also includes the application of a predefined program, environmental analysis, sustainable design, building mass prototyping, and graphical technical documentation.

Learning Outcomes and Objectives

Upon completion of this course, the student will be able to:

- integrate basic organizational and spatial principles for the conception and development of a residential design project
- solve residential design problems using design process methodologies and to synthesize possible solutions
- illustrate the skills associated with representing envisioned ideas, objects, and environments for residential architecture
- employ appropriate representational media including study and presentation models (electronic and physical); freehand and conceptual drawing; technical documentation and diagramming to convey visualize ideas and convey essential formal elements at the programming stage, design stage, and construction documents stage
- assess residential construction methodologies and techniques including materials and systems
- evaluate primary building systems including structure, structural engineering concepts, and environmental systems that are integrated into a residential building
- assemble a set of documents including cross-referencing, code review, checklists, coordination, and other planning methods
- identify diverse roles that utilize individual talents when working as members of a team to maximize accomplishment
- assess historical, cultural, human, aesthetic, environmental (sustainable), and social issues to be able to create change in the development of built environment
- communicate within group discussion and formal oral presentation
- justify design solutions through research documentation, three dimensional graphics, and two dimensional technical documentation