

# PREFABRICATION AND MODULAR CONSTRUCTION

## CM 214 Residential Construction - Learning Module

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### Abstract:

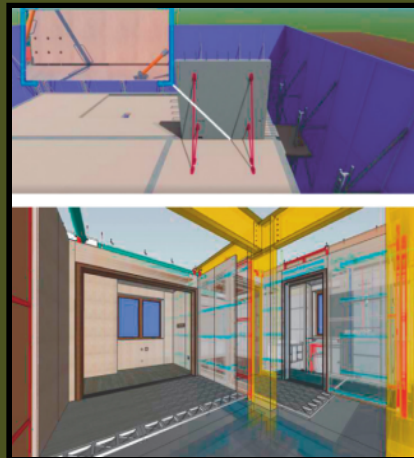
This project seeks to educate future Construction Management students about a smarter, more efficient, and sustainable method of homebuilding; Modular Construction. Distinguishing the difference between prefabrication and modularization is imperative. Prefabrication is the process of manufacturing the essential structural components of a home at an off-site location. Modular Construction, however, is defined as the comprehensive method of residential construction that emphasizes the procurement, preconstruction and prefabrication of such prefabricated structural components that comprise a home. It is my belief that the integration of Prefabrication and Modular Construction within the Cal Poly Construction Management curriculum should be of high importance as it is the future of the residential construction industry.

## PREFABRICATION



- Critical structural components assembled at off-site factory (wall panels, flooring, roofing)
- Prefabricated components delivered to the jobsite for installation
- BIM Integration for QA/QC
- Most essential operation in residential modular construction
- Efficiency in cost, labor, environmental and project life cycle

### BIM Integration



## MODULAR CONSTRUCTION



- Comprehensive method of residential construction prioritizing time, cost and ecological efficiency (Study states a 73.2% reduction in building phase)
- Large-scale outsourcing of manufactured home
- Utilizes the same methods and materials of conventional stick-built residential construction
- Barriers and limitations regarding potential safety hazards, labor demands (hesitancy to conform) and latent design changes



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