

# COURSE DETAIL

## ECOLOGICAL ARCHITECTURE

**Country**

Korea, South

**Host Institution**

Yonsei University

**Program(s)**

Yonsei University

**UCEAP Course Level**

Upper Division

**UCEAP Subject Area(s)**

Architecture

**UCEAP Course Number**

102

**UCEAP Course Suffix****UCEAP Official Title**

ECOLOGICAL ARCHITECTURE

**UCEAP Transcript Title**

ECOLOGICAL ARCHITEC

**UCEAP Quarter Units**

4.50

**UCEAP Semester Units**

3.00

## Course Description

This course provides an in-depth exploration of building science topics related to sustainable buildings. Through a combination of lectures, workshops, and hands-on projects, students learn the fundamental scientific principles underlying these phenomena and gain practical experience with technologies and analytical techniques for designing comfortable and energy-efficient indoor environments. The course covers a broad range of topics, including climate analysis, solar energy, heat transfer, natural ventilation, HVAC systems, renewable energy, acoustics, biophilic design, landscape design, and water systems. Students apply these principles in real-world scenarios, learning to integrate energy, light, and sound considerations into architectural design to enhance building performance and occupant comfort. Topics include Introduction to Sustainable Buildings, Understanding Climate - Methods for Environmental Analysis, Understanding Comfort - Psychrometrics and Bioclimatic Chart, Solar Energy and Daylighting, Material and Building Heat Transfer, Wind and Natural Ventilation, Building Performance Simulation, HVAC and Renewable Energy, Indoor Environmental Quality, Acoustics and Biophilic Design, and Landscape Design and Water system.

## Language(s) of Instruction

English

## Host Institution Course Number

ARC3406

## Host Institution Course Title

ECOLOGICAL ARCHITECTURE

## Host Institution Course Details

## Host Institution Campus

## Host Institution Faculty

## Host Institution Degree

**Host Institution Department**

**Course Last Reviewed**

2024-2025

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