

# **Arch 585: Advanced Building Technology:**

Toward Architectural Ecotopia of Tomorrow

**Credit:** 3 semester hours

**Instructor:** Jong-Jin Kim 734-763-3518 (o) [daylight@umich.edu](mailto:daylight@umich.edu)

**Time:** Monday 8:30 - 11:30 AM

**Location:** Room 2210 Art and Architecture Building

**Office Hour:** Thursday 11:30-12:30PM @ Room 1205B Art and Architecture

**Prerequisite:** Graduate standing in architecture

## **DESCRIPTION**

This course is to examine technological innovations in building and environmental technology. Innovations in design methods for new generations of tall buildings and skyscrapers, renewable energy systems, natural energy systems, and electric lighting systems will be discussed, and their implications for shaping the architecture of tomorrow will be explored. Building on the introduction of state-of-the-art technologies, a semester-long project of designing sustainable buildings and their environmental systems will be conducted step by step. The main topics of the course are:

- 1) changing contexts of architectural practice: innovation, intelligence and ecology,
- 2) new architecture and new building forms,
- 3) new forms and functions of cavities in buildings,
- 4) building energy and HVAC systems,
- 5) natural energy systems for tall buildings,
- 6) building system integration and a proposal for a sustainable building of tomorrow

## **INSTRUCTIONAL METHODOLOGY**

In-person lectures will be given on a specific topic each week. Assignments and projects will be issued to provide students with opportunities for incorporating building technologies in building design step-by-step.