

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

Time: Monday 8:30 - 11:30 AM

Location: Room 2222 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.