

Building Ecology

ARCH 575 (ET Elective)

Credit: 3 semester hours

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

Time: Wed 8:30 – 11:30 am

Format: Online

Office Hour: Monday 11:30 – 12:30 pm (Online)

DESCRIPTION

This course introduces ecological principles in building design, and explores strategies and methods for designing biophilic and sustainable buildings. The concepts of building ecosystems and resource self-sustainability are introduced. The principles of the economy of resources, lifecycle design, and humane design are discussed, and the ecological factors associated with these principles are examined. Design strategies, methods and processes for meeting the people's biophilic need in built environments and increasing resource efficiency and self-sustainability of built environments are investigated. Methods of enhancing buildings' energy, water and food self-sufficiency are examined. Building on the design concepts and methods introduced in the lectures, a semester-long project of designing an ecological building and its subsystems will be conducted. As an outcome of the course, at the end of semester each student will propose one's own definition of "ecological building" and a design scheme that manifest it in a physical form.

INSTRUCTIONAL METHODOLOGY

Online lectures will be given on specific topics each week. Student-driven projects and case studies of recent designs of sustainable artifacts (artworks, public works, buildings or communities) that analyze their philosophies, concepts and strategies for sustainability comprise important pedagogy of the course.

ATTENDANCE POLICY

All classes will be offered online, and all class meetings will be recorded. Attendance to all online classes are strongly encouraged. Students who reside outside the US Eastern time zone who cannot attend the class during the regular class hours are allowed to attend the classes asynchronously using the recordings of class sessions. Interactive office hours will be set up for the students who cannot attend the classes during the regular hours.