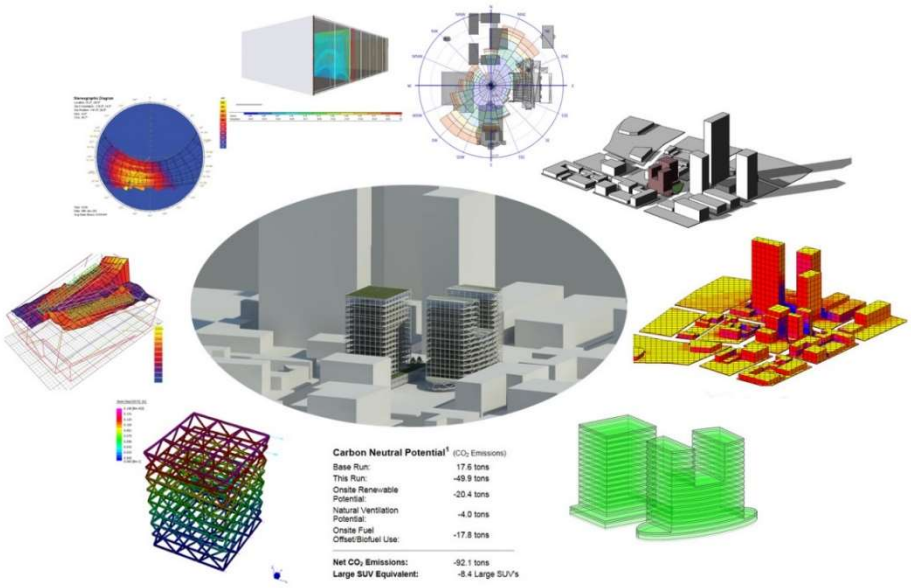
ARCH 5305, Building Systems Integration | School of Architecture, UNC Charlotte
Prof. Kyounghee Kim [kkim33@uncc.edu, Rm 227, Storrs] | Office hr: By appointment
Lab Instructor: Ok-Kyun Im, PhD Candidate [oim@uncc.edu, Rm 105] | Office hr: By appointment
Lecture/Labs 10:10-12:05 M/W @ CCB rm 602/Lab 801

Building Systems Integration



[Premise] Architecture, in general, and the act of building specifically, is a collective effort of bringing together a set of systems. Architectural technology is presented in terms of component "systems", namely site, structure, envelope, building service, and interior systems. This course attempts to narrow the gap between architectural design intentions and the pragmatic demands of integrated building technology.

[Content] This course draws on the information acquired in previous architectural design and building technology courses to present general concepts/principles and application of building systems integration. The course covers the principles and types of building system integrations using precedent examples and studio project with analysis software application as needed. The course further explores real-world problems and possible design/technological solutions that enhance sustainability in the built environment and human well-being. Case study and Final Project will be accompanied to reinforce building systems integration issues discussed in class.

[Skill/outcomes] The student is expected to understand the building systems integration issues exemplified in the course and learn to carry out performance-based design and parametric analysis for the Final project. The student should be able to further advance creative and analytical thinking of the systems integration.

[Class Requirements and Grading]
Grading will take account of attendance, participation, performance and personal improvement. Each assignment will receive a grade. Each student's grades will be summed and averaged at the end of the semester.

- Quizzes, Discussion, Attendance 30%
- Case Study 30%
- Interim/Final Reviews 40%

[Textbook] Hootman, Thomas (2013) Net Zero Energy Design. Wiley: NJ

[References] ASHRAE Fundamental 2013 IP edition
ASHRAE 90.1;ASHRAE 62.1; ASHRAE 55.
Architect's Studio Companion
Details Manual, Basel, Switzerland: Birkhauser.