



Building As Power Plant, Center for Building Performance and Diagnostics

48-723 Advanced Building Systems Integration for Performance (Spring 2021)

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Course Description

Visionary architects and building engineers are pursuing and developing innovative building systems through design detailing and specification to achieve a whole new level of design creativity. For some professionals, these visually exciting technologies are the end result, while others pursue these technologies and their integration to achieve the highest levels of building performance to create healthier, more creative, and more sustainable built environments.

This course will introduce methods and approaches that provide fundamental scientific, technological and ecological opportunities in building design for a more sustainable future. Students will learn about innovative building systems and their integration towards an integrated and multi-disciplinary design practices. Innovative building systems explored will include structure, enclosure, interior, mechanical, lighting, communications, and site systems. These building systems and their integration will be related to human occupancy performance goals of spatial, thermal, acoustic, visual, and air quality and building integrity, as well as resource effectiveness. The sustainable use of energy, water, and materials will also be highlighted in the course.

The course will begin the dialogue of integrated design practices for delivering systems integration for total building performance, including the constructability and maintainability of the built environment given changing spatial environments for the individual and organization.