ILLINOIS
Architecture

Fall 2025 Course Description

ARCH 594-EXP Graduate Seminar
EXPERIMENTAL ENVELOPES

Professor: Scott Murray
Credit: 3 hours
Thursdays 2:00 – 4:50 PM

As the primary interface between interior and exterior environments, the building envelope is an important architectural component with great potential for impacting building performance.

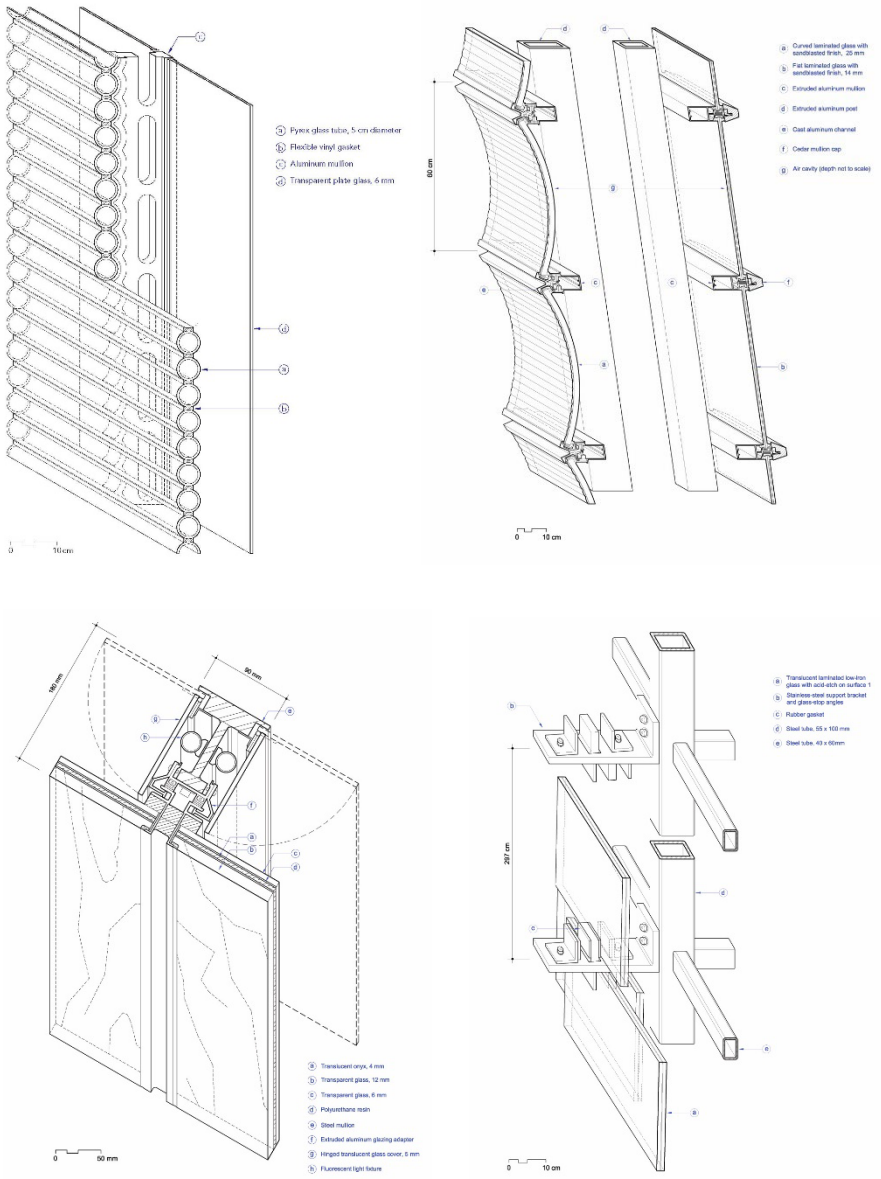
This graduate seminar focuses on the theory, design, and analysis of building-envelope systems, with an emphasis on experimental approaches in the realms of energy performance, geometry, fabrication, and user experience. How have architects advanced the field of building envelope design over the last century, and where is the potential for future development?

In addition to learning fundamentals of building-envelope design and studying historical precedents, students will complete a series of projects to envision and analyze new systems of enclosure that push the boundaries of current technology. Topics of study will include envelope system typologies, materials, fabrication techniques, daylighting analysis, and passive and active responses to climatic parameters and energy-code requirements.

Class format includes periodic lectures on fundamental topics in building-envelope design, group discussion of required readings, case-study research, and student presentations of analysis and design studies. The course will require documentation of students' research in graphic and verbal forms, including digital and physical modeling, detailed drawing, and software analysis.

Students who successfully complete the course will gain knowledge necessary to address a broad range of architectural issues, aesthetic as well as technical, encompassed by the design of building-envelope systems in contemporary practice.

For students enrolled in the Building Performance Concentration, this course qualifies as a concentration elective.



Images from the book *Translucent Building Skins*, by Scott Murray.