High Performance Enclosures

ARCH 410/510
Instructor: Erik Lawrence
Schedule: Monday, 5pm-6:50pm

In an effort to increase our safety and comfort, humans have been perfecting the building enclosure for almost 30,000 years. Today’s building enclosures are the most sophisticated in history. As a result, architects necessarily need to enhance their understanding of the scientific principles affecting buildings, and how they affect enclosure performance and sustainability.

This course will focus on enhancing knowledge of basic building science principles gained in ARCH 471/571. After reviewing the basics of critical control layers, common building materials, and building assemblies, students will broaden their knowledge of materials, assemblies, and systems related to below grade conditions, high performance wall and roof assemblies, and high performance fenestration systems. We will also discuss current and future industry trends and how they affect design, detailing, and testing of high performance building enclosures.

Air, water, gravity and time constantly take their toll on that which separates the interior from the exterior environment. This course seeks to provide students with knowledge of current best practices with respect to enclosure design and detailing, with an eye toward new and emerging technologies.