ARC 6624, The New Technology of Building Enclosures, 3 credits.

The lecture course is a capstone experience that integrates the various disparate topics and experiences associated with design studio, technology "support" courses, professional practice and theory. The objective is to view the various aspects of architectural design holistically.

Course Goals & Objectives:

To provide a synthesis of structure, environments, technology and materials/methods of construction.
To understand the role of research.
To understand the basic principles of building envelope, buildings systems, and materials and assemblies.

Student Performance Criterion/addressed:

A.4 Technical Documentation
Ability to make technically clear drawings, write outline specifications, and prepare models illustrating and identifying the assembly of materials, systems, and components appropriate for a building design.

A.11 Applied Research
Understanding the role of applied research in determining function, form, and systems and their impact on human conditions and behavior.

B. 10 Building Envelope Systems
Understanding of the basic principles involved in the appropriate application of building envelope systems and associated assemblies relative to fundamental performance, aesthetics, moisture transfer, durability, and energy and material resources.

B. 11 Building Service Systems
Understanding of the basic principles and appropriate application and performance of building service systems such as plumbing, electrical, vertical transportation, security, and fire protection systems.

B. 12 Building Materials and Assemblies
Understanding of the basic principles utilized in the appropriate selection of construction materials, products, components, and assemblies, based on their inherent characteristics and performance, including their environmental impact and reuse.

Topical Outline:

Building Envelope Systems	50%
Building Materials and Assemblies	20%
Technical Documentation	10%
Applied Research	10%
Building Service Systems	10%

Prerequisites:

Admission to professional program

Textbooks/Learning Resources:

Benedikt, M. (1991) *Deconstructing the Kimbell*: Lumen Books
Frampton, K. (1995) *Studies in Tectonic Culture: The Poetics of Construction in 19th and 20th Century Architecture*: MIT Press
Iwamoto, L. (2009) *Digital Fabrications: Architectural Material Techniques*: Princeton Architectural Press
Leatherbarrow, D. (2002) *Surface Architecture*: MIT Press

Ots, E. (2011) *Decoding Theoryspeak*: Routlege
Rush, R. (1986) *The Building Systems Integration Handbook*: AIA
Sakamoto, T. and Ferre, A. (2008) *From Control to Design: Parametric/Algorithmic Architecture*: Actar
Tschumi, B. and Cheng, I. (2003) *The State of Architecture at the Beginning of the 21st Century*: Monacelli Press

Offered:

Spring only; annually

Faculty assigned:

Enn Ots (F/T)