**ARCH 6229: Construction Technology and Design Integration I, 3 credits**

**Course Description:** Introduction to materials and methods of construction, history of architectural technologies, project delivery types, sustainability impact, and conventions of architectural drawing for construction.

**Course Goals & Objectives:**

* Students will learn how materials for buildings are produced, assembled and evaluated.
* Students will learn how the selection of materials is driven by project design realities: costs, sustainability, building codes, environmental factors, labor, etc.
* Students will be exposed to the terminology and nomenclature of construction technology.
* Students will explore how architects integrate building materials and technologies in their designs.
* Students will demonstrate knowledge of basic representations of construction (orthographic drawings prepared in sketch problem format).

**Student Performance Criteria Addressed:**

A.3. Visual Communication Skills (A)

B.9. Structural Systems (U)

B.10. Building Envelope Systems (U)

B.12. Building Materials and Assembly (U)

**Topical Outline:**

Project delivery/management (5%), Building Codes/Zoning (5%), Foundations (10%), Concrete (15%), Masonry (10%), Steel (10%), Light wood frame (10%), Heavy Timber (10%), Glazing/Cladding Systems (10%), Roofing Systems (5%), Sustainable Principles (5%), Design Integration Precedents (5%)

**Prerequisites:**

None

**Textbooks/Learning Resources:**

Ed Allen, Joseph Iano, Fundamentals of Building Construction: Materials and Methods, J. Wiley & Sons, NY, 5th edition, 2008

**Semester & Frequency Offered:**

Fall only; annually

**Faculty assigned (list all faculty assigned during the two academic years prior to the visit):**

Charles Rudolph, Associate Professor (Full-time Faculty)

Jude LeBlanc, Associate Professor (Full-time Faculty)