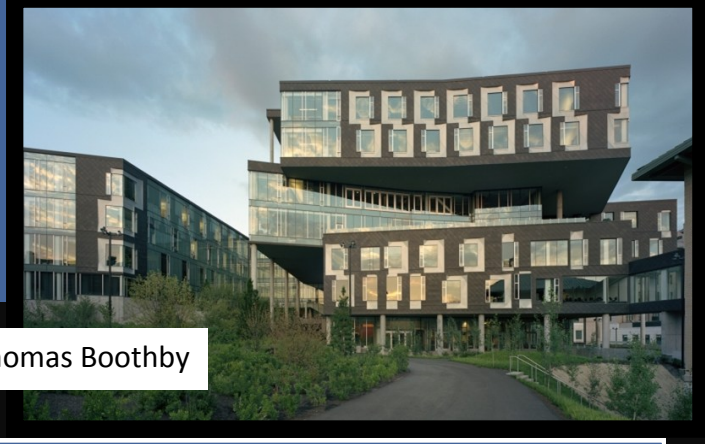
# The University Sciences Building

Northeastern, USA



Chris Dunlay | Structural Option | Dr. Thomas Boothby

## General Building Information

| | |
|---|---|
| **Size** | 209,000 SF |
| **Function** | Classroom/Office/Laboratory |
| **Height** | 142' (max) 114' (min) |
| **Construction** | August 2006 - December 2009 |
| **Construction Cost** | Withheld by Owner |
| **Delivery Method** | Construction Manager at Risk |

## Project Team

| | |
|---|---|
| **Owner** | Not Released |
| **Architect** | Mack Scogin Merrill and Elam |
| **Structural** | ARUP |
| **MEP** | ARUP |
| **Civil** | Civil and Environmental Consultants |

## Structure

Foundation:

- Drilled Caissons, strip and column footings

Superstructure:

- Lower floors: Formed Concrete columns, beams, and slabs
- Upper Floors: Steel columns and composite floor system
- Lateral System: Concrete shear walls and steel brace frames

## Construction

- Foundation of building two was sequenced with construction of building one level 3.
- Complex floor framing and connections delayed fabricators and erectors, delaying overall schedule.

## Architecture

- Two building System
  - · Building 1– Offices and laboratories
  - · Building 2 - Classrooms, Offices, Collaborative Spaces
- Central Idea - Atriums and Open Interactive Spaces
- Unevenly spaced windows with aluminum trim and zinc paneling façade
- Complex floor plans producing interesting cantilevers

## MEP Systems

Mechanical:

- 11 Air Handling Units ranging from 4,800 - 40,700 CFM
  - · 5 AHU's match exhaust unit with energy recovery wheel
- Multiple zones supplied by VAV boxes with terminal reheat
- Chilled water and steam supplied by the campus utility plant
- 3 atrium smoke exhaust fans

Electrical/Lighting:

- 4.16 kW main switchboard
- Main power is 480Y/277V 3 phase, 4 wire
- 900kW diesel emergency generator
- Lighting consists of fluorescent, metal halide, and decorative LED's

http://www.engr.psu.edu/ae/thesis/portfolios/2012/CJD5135/index.html