Advanced Building Science: Fundamentals

BBE 4414/5414 **Pat Huelman**
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Class Project

The project must include:
a. a general background of the topic area, including common practices, concerns/problems, etc.
b. a comprehensive discussion of the pertinent building science aspects of the topic (primarily heat, moisture, and airflow), including reasonable and appropriate literature citations
c. a proposed solution(s) for your topic area
d. a presentation of the general topic, the assigned problem and solution(s) to the class

Paper Guidelines (12 Points)

Minimum page length
Undergraduate – 10+ pages
Graduate – 15+ pages
1" margins, double-space, 11 or 12 pt font
You can count 1 page of supporting graphics/pictures
You must incorporate proper citations and bibliography

Presentation Guidelines (3 Points)

Length = 20 minutes max (10 to 15 minutes of presentation; 5 to 10 minutes of Q & A)
Must have supporting visuals (PowerPoint is not required, but highly recommended)
Limited time on background, with focus on your specific problem and solution

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Class Project: For this project you will complete a paper and presentation on a topic that will deepen your understanding of a component of high-performance buildings. It should be prepared in a way that it could potentially assist a building partner in incorporating new technology and/or process changes into their construction practice.

The Building Science of Basement Slabs
The Building Science of Basement Walls
The Building Science of Slab on Grade Construction
The Building Science of Crawl Space Foundations
The Building Science of Pier (or Grade Beam) Foundation*
The Building Science of Above-Grade Walls
The Building Science of Conventional Roofs with Attics
The Building Science of 1-1/2 Story Roofs
The Building Science of Sloped Roofs
The Building Science of Windows *
The Building Science of Skylights *
The Building Science of Indoor Air Quality *
The Building Science of Indoor Humidity *
The Building Science of Air Exchange *
The Building Science of HVAC+F
The Building Science of Domestic Hot Water Systems

* generally reserved for graduate students