Class 1, March 27, 2012: What is a good detail design & how does it fit into comprehensive design?

Questions To Be Considered
How do you apply principles of design to create a detail?
How do detail designs fit into comprehensive/integrated design?

Things to Understand
Definition of a detail.
Comprehensive / Integrated Design = considering structure, skin, services, safety, sustainability together
All materials in a building assembly tie to the structure.
Industry's technical documentation standards.

in-class exercise 1:
Five S's proposal
Total of all In-class exercises counts as 10% of mark

homework 1A:
Integrated design summary, part 1 (10% of mark)
assigned March 27, 2012, due April 3, 2012):

Class 2, April 3, 2012: What are the impacts of MEP systems ("Services") on detail design?

Questions To Be Considered
What are the physical characteristics of each building service?
What is the relationship of services to structure, skin, safety?

Things to Understand
External elements of services affect details for skin.
Internal elements of services affect details for safety.
Detail designs for sets for skin affect sizes of services.

in-class exercise
What's in YOUR ceiling

homework:
none

Class 3, April 10, 2012: How do 'green principles' affect detail design?

Questions To Be Considered
What are time-honored strategies for sustainable building?
What are contemporary strategies for sustainable building?

Things to Understand
Sustainable principles affect building design.
Physical characteristics of "sustainable" services.
Physical characteristics of "sustainable" skins.

in-class exercise:
The skylight - super insulation dilemma

homework 1A assignment returned
homework 1B:
Integrated design summary, part 2 (20% of mark)
assigned April 10, 2012, due April 17, 2012

Class 4, April 17, 2012: What is the purpose of the building envelope ("Skin")?

Questions To Be Considered
What is the purpose of the building envelope?
What are the characteristics of various wall system designs?

Things to Understand
Envelope components address wind force, precipitation, thermal conductance, condensation.
How water vapor condenses within an envelope.
Different climates have different envelope design strategies.

in-class exercise:
Precipitation / thermal conductance / condensation 3 climates

homework 2A:
Envelope summary detail, part 1 (10% of mark)
assigned April 17, 2012, due April 24, 2012):

Class 5, April 24, 2012: What are design strategies for wall assemblies?

Questions To Be Considered
What is contemporary practice for envelope design?

Things to Understand
Allen's condition for leak in assembly - water, force, opening.
Envelope (skin) system components require continuity.

in-class exercise:
Parapet to window head

homework assignment 1B returned
homework 3A:
head, jamb, sill details- part 1 (10% of mark)
assigned, April 24, 2012, due May 1, 2012

Class 6, May 1, 2012: Building Envelope Case Study

Questions To Be Considered
What does reality look like?

Things to Understand
Integrated design process
Solutions must address all building systems

in-class exercise:
Reduce carbon footprint of a brutalist classic

homework assignment 2A returned
homework 2B:
Envelope summary detail, part 2 (20% of mark)
assigned May 1, 2012, due May 8, 2012

Class 7, May 8, 2012: What are design strategies for roofs and foundations?

Questions To Be Considered
What are the characteristics of different kinds of roof systems
What are the characteristics of foundation systems

Things to Understand
Sloped and low sloped roof design strategies are different.
Foundation design strategies

in-class exercise:
Window Sill to footing

homework assignment 3A returned
homework 3B:
head, jamb, sill details - part 2 (20% of mark)
assigned May 8, 2012, due May 15, 2012

Class 8, May 15, 2012: Informal Recap

Informal discussion at time homework turned in.

Turn in homework 3B