lecture twenty eight

the semester and beyond

Office Hours

<table>
<thead>
<tr>
<th>Professor Anne Nichols (845-6540)</th>
<th>Spring 2008</th>
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<td>April 30 (Wednesday)</td>
<td>May 1 (Thursday)</td>
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Structural Design Criteria

- components stay together
- structure acts as whole to be stable
  - resist sliding
  - resist overturning
  - resist twisting and distortion
- internal stability
  - interconnectedness
- strength & stiffness
Structural Design Sequences

- first-order design
  - structural type and organization
  - design intent
  - contextual or programmatic

- second-order
  - structural strategies
  - material choice
  - structural systems

- third-order
  - member shaping & sizing

Component Design Guides

Final Exam Material

- my list:
  - equilibrium - $\Sigma F$ & $\Sigma M$
    - supports, trusses, cables, beams, pinned frames
  - materials
    - strain & stress ($E$), temperature, constraints
  - beams
    - distributed loads, tributary width, V&M, stresses, design, section properties ($I$ & $S$), pitch, deflection

Final Exam Material

- my list (cont’d):
  - columns
    - stresses, design, section properties ($I$ & $r$)
  - frames
    - $P$, $V$ & $M$, $P-\Delta$, connection design, tension member design
  - design
    - ASD
    - LRFD
    - wood peculiarities