Plan of a Course on Performance Based Seismic Design of Tall Buildings

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Agenda

1. Why a course on PBEE?
2. Why LATBSDC?
3. For who?
4. How?
5. When?
Why a course on PBEE?

- PBEE is becoming more prevalent
  - For example, LADBS has recently approved use of LATBSDC Criteria for all buildings
- Engineering practice is becoming more and more automated and computerized.
- Automation has increased reliance on younger engineers who are more computer-savvy.
- Years of experience and practice that serves as a safety valve for traditional design does not exist to the same extent for PBEE in a typical design office.
Why a course on PBEE?

• Very few universities offer formal courses on PBEE
• From those who do, even fewer are practice oriented.
• Therefore, the young workforce who enters design offices and is entrusted with “computing” does not have a solid understanding of PBEE principles and methods.
• Something needs to be done to rectify this situation
Why LATBSDC?

- The initial thought was to gather the leaders of PBEE from academia and practice to:
  - Develop a practice oriented PBEE curriculum
  - Divide the work such that each instructor would do one or two lectures and not be over burdened
  - Leverage distance learning tools so that each lecture is available to students regardless of school, distance, and geographic location
  - Have several schools adopt this curriculum and give credit to students who take it.
  - The results would be a high level, uniform set of principles and methods taught to engineering students before they enter the workforce regardless of where they go to school.
Why LATBSDC?

• Soon realized that the difficulties of changing curriculum, cross school education, and bureaucracy makes this idea practically impossible at this time.

• Therefore, we opted for a simpler approach:
  – Why not LATBSDC gather the same world-class academics and practitioners, develop the course(s) and make it available to practitioners who are interested in mastering PBEE?
  – The target audience has changed from graduate students to young practitioners but the objective is the same.

• If LATBSDC and PEER, together, cannot make this a reality, who can?
For Who?

- Engineers with MS plus minimum 2 years of experience after their degree
- The attendants of the initial class will be hand-picked from participating firms
- Attendance in the first class will be limited to 15 to 20 student.
- A minimum of two to three TA’s (one TA for every 5 to 10 students)
How?

- The operation is intended to be self-supportive and to break even
- Participating firms pay for their employees to participate
- Faculty receive an honorarium for developing course material and gets the right to use the rest of the course material in their university teaching.
- Classes will be conducted once a week
  - One hour lecture
  - 30 minutes design lab
How?

- Students are expected to do approximately 2 hours “homework per class
- Participation in person or via Webex or other online tool.
- Currently ≈20 classes envisioned for the first course
- Project would be something like a 10 story reinforced concrete building that is rectangular in shape; Frame in long direction and coupled shear walls at the ends in the short direction
- All lectures and assignments will be targeted to completing project tasks
- Online chat facilities will be provided for students to communicate with each other and with TAs during the week.
- Two or more exams will be given during class in addition to weekly project assignments and final project report.
When?

- Classes to be conducted weekly from noon to 1:30PM
- Initially planned a start on September 2010, however, putting together the teaching team, development of the curriculum, assignments, etc., may take longer and postpone launching
Thank you!

Any ideas or questions?