



## September 2009 Course Outline

### ***C5 Conceptual Structural Design***

---

***Offered via the classroom only***

**Purpose:** Structural concepts arise in business and commercial development, architecture, process design, mine development, contracting, and many other specialties. Conceptual structural design for this course means the design of concepts within the realm of structural engineering, i.e. after architectural objectives are set and those constraints that are dictated by others are set. The course objective is to develop skills in the initial concept design phase of structural design for the overall structural concept, the choice of materials, and the concepts for details in a structure. Case studies will be used as examples to illustrate.

**Selected Topics:** Approximate structural analysis fundamentals; form and function, common proportions, concept evaluation, innovative concepts (Beaver Bridge erection, Prince George); effective building concepts (developing concepts in wood and steel structures); high rise buildings (Shangri-La); institutional buildings (schools), conceptual concrete building design; seismic upgrade (Coquitlam Arena); learning from structural failures (Save-On Foods, Ironworkers Memorial Second Narrows Bridge and others).

**Instructors:** **Robert Sexsmith**, Ph.D., P.Eng., Professor Emeritus, Department of Civil Engineering, University of British Columbia, and guest lecturers.

**Contact:** **Robert Sexsmith**, email: [rgssms@telus.net](mailto:rgssms@telus.net)

**Communications:** Notices to students and questions outside of class will be handled strictly through e-mail.

**Please note:** Class size will be limited to 16. Final grade will be based on class participation. Changes to schedule and/or topics may be required. The course fee is based on twelve, two hour sessions, and will be adjusted if necessary.

**Schedule:** 12 Tuesdays, 4:00—6:00 P.M., September 15 to December 8. (**Mid-term break:** October 27)

**Venue:** Alma Van Dusen Room, Vancouver Public Library, 350 W. Georgia Street, Vancouver.