# GRADUATE PROGRAM IN
# STRUCTURAL AND EARTHQUAKE ENGINEERING
## 2011 – 2012

PRIOR TO REGISTERING FOR COURSES, STUDENTS SHOULD CONSULT WITH THEIR RESEARCH SUPERVISOR OR THE GROUP LEADER DR. KEN ELWOOD (604-822-0581 OR elwood@civil.ubc.ca).

| | | | |
|---|---|---|---|
| M.A.Sc.: | Course Credits | (18) | (Consult with Supervisor or Group Leader) |
| | Thesis Credits | (12) | (Register for CIVL 599C) |
| | Total Credits | (30) | |
| M.Eng.: | Course Credits | (30) | (Consult with Supervisor or Group Leader) |
| | Total Credits | (30) | |
| Ph.D.: | Course Credits | (30) | (Consult with Supervisor or Group Leader) |
| | Thesis Credits | (0) | (Register for CIVL 699) |
| | Total Credits | (30) | (Minimum required beyond Bachelor's degree) |

**Prerequisites:** Students who have not taken the following UBC Civil Courses (or equivalents) should consider auditing or registering for the following courses for credit (upon approval from their supervisor or specialty advisor): CIVL 432 – Steel Structures, CIVL 433 – Concrete Structures and Civil 436 – Matrix Structural Analysis and Dynamics.

Students must register for a minimum of 12 credits of Civil Graduate Level Courses (500-level and above, excluding M.A.Sc. thesis credits). Programs may be tailored to fit the needs of each individual; however, it is expected that courses will be selected primarily from the following list:

| CORE COURSE (REQUIRED FOR ALL PROGRAMS) | | CREDITS | TERM |
|---|---|---|---|
| CIVL 597[1] | Structural Seminar (Section 004) | 1 | 1/2 |
| [1]Students register only once for the course, but must attend seminars for the duration of their program. | | | |

| APPROVED ELECTIVE COURSES | | CREDITS | TERM |
|---|---|---|---|
| CIVL 507 | Dynamics of Structures I | 3 | 1 |
| CIVL 511 | Advanced Topics in Steel Structures | 3 | 1 |
| CIVL 518 | Reliability and Structural Safety | 3 | 1 |
| CIVL 537 | Computational Mechanics I | 3 | 1 |
| CIVL 580 | Geotechnical Earthquake Engineering | 3 | 1 |
| CIVL 504 | Seismicity and Seismic Design Parameters | 2 | 2 |
| CIVL 505 | Seismic Response of Structures | 3 | 2 |
| CIVL 508 | Dynamics of Structures II | 3 | 2 |
| CIVL 513 | Concrete Structures | 3 | 2 |
| CIVL 516 | Behaviour of Timber Structures | 3 | 2 |
| CIVL 539 | Advanced Theory of Structures | 3 | 2 |
| | | | |
| CIVL 509 | Nonlinear Structural Analysis | 3 | Not offered in 11/12 |
| CIVL 510 | Behaviour of Steel Structures | 3 | Not offered in 11/12 |
| CIVL 538 | Computational Mechanics II | 3 | Not offered in 11/12 |

| OTHER NON-ELECTIVES (CHECK AVAILABILITY WITH INDIVIDUAL GROUPS/DEPARTMENTS) | | CREDITS | TERM |
|---|---|---|---|
| CIVL 521 | Construction Methods and Performance | 3 | 2 |
| CIVL 526 | 3D Modeling, Cost Estimating and Construction Planning | 3 | 2 |
| CIVL 527 | Specialized Concretes | 2 | Not offered in 11/12 |
| CIVL 529 | Condition Assessment & Rehabilitation of Civil Infrastructure | 2 | 1 |
| CIVL 581 | Soil Dynamics | 3 | 2 |
| FRST 576 | Advanced Wood Mechanics | 3 | 2 |
| MECH 515 | Finite Element Analysis of Non-linear and Field Problems | 3 | Not offered in 11/12 |
| MECH 561 | Linear Elasticity | 3 | 1 |
| MTRL 494 | Composite Materials | 3 | 2 |
| MTRL 585 | Topics in Fracture Mechanics | 3 | 1 |

ADVICE TO ASSIST YOU WITH REGISTRATION:

- Please check the UBC Course Calendar for course availability as some of the listed courses are not offered in every academic year.
- Students are encouraged to take a selection of Civil and non-Civil courses as elective credits that best reflect their research and professional interests. Course approval must be made in consultation with the student's supervisor or the specialty advisor.
- Students must obtain permission from the instructor for courses they would like to take that are within Civil, but outside their area of specialization, as well as for courses in other UBC departments.
- Students may take a maximum of six (6) credits of 300/400 level Undergraduate Courses.
- Students may register for a maximum of six (6) credits towards directed studies coursework.
- Students requiring remedial course work at the 100/200 level should register to Audit the course(s) (this requires submitting a Change of Registration Form) as registering for the course under your degree program for credit will mean the mark obtained will contribute to your overall program GPA.
- All students are individually responsible for ensuring that they meet all requirements of their specialty, the Department of Civil Engineering and the Faculty of Graduate Studies (or Faculty of Applied Science for MEng).

For more information, please visit the website at http://www.civil.ubc.ca/current_students/graduates/.