

# GRADUATE PROGRAM IN ENVIRONMENTAL ENGINEERING GEO-ENVIRONMENTAL OPTION (2010 – 2011)

PRIOR TO REGISTERING FOR COURSES, STUDENTS SHOULD CONSULT WITH THEIR RESEARCH SUPERVISOR OR THE GROUP LEADER DR. L. LI (604-822-1820 OR [lli@civil.ubc.ca](mailto:lli@civil.ubc.ca)).

<b>M.A.Sc.:</b>	Course Credits	(18)	(Consult with Supervisor or Group Leader)
	Thesis Credits	(12)	(Register for CIVL 599C)
	<b>Total Credits</b>	<b>(30)</b>	
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<b>M.Eng.:</b>	Core Credits	(21)	
	Elective Credits	(9)	(Consult with Supervisor or Group Leader)
	<b>Total Credits</b>	<b>(30)</b>	
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<b>Ph.D.:</b>	Course Credits	(36)	(Consult with Supervisor or Group Leader)
	Thesis Credits	(0)	(Register for CIVL 699)
	<b>Total Credits</b>	<b>(36)</b>	(Minimum required beyond Bachelor's degree)

There is only **one required core course** for M.A.Sc. and Ph.D. students: CIVL 597.

**Program Prerequisite:** Soil Mechanics (CIVL 210 or equivalent).

The following core courses are required for the M.Eng. Program.

CORE COURSES (MENG PROGRAM ONLY)		CREDITS	TERM
CIVL 562	Environmental Contaminant Analysis Lab	3	2
CIVL 570	Soil Mechanics	3	1
CIVL 572	Environmental Geotechnique	3	1
CIVL 577	Soil Exploration for Engineering Design	3	Not offered in 10/11
CIVL 579	Geosynthetics	2	1
EOSC 533	Advanced Groundwater Hydrology	3	1
EOSC 535	Transport Processes in Porous Media	3	2
CIVL 597 <sup>1</sup>	Graduate Seminar	1	1/2

<sup>1</sup>Students register only once for the course, but must attend seminars for the duration of their program.

The following courses are approved for M.Eng., M.A.Sc. and Ph.D. programs. Individual M.A.Sc. and Ph.D. programs are designed by selecting appropriate courses in contaminant analysis, remediation technologies, and related areas.

APPROVED ELECTIVE COURSES		CREDITS	TERM
CIVL 541	Environmental Fluid Mechanics	3	Not offered in 10/11
CIVL 557	Toxic and Hazardous Waste Treatment and Disposal	2	Not offered in 10/11
CIVL 561	Investigation, Risk Assessment and Management	3	Not offered in 10/11
CIVL 566	Transport and Mixing of Pollutants in Aquatic System	2	1
CIVL 567	Water Pollution Control Engineering	2	Not offered in 10/11

NON-CIVIL ELECTIVES		CREDITS	TERM
CHBE 572	Water Pollution Control	2-6	Not offered in 10/11
CHBE 575D	Air Pollution control	3	1
CHEM 301	Aqueous Environmental Chemistry	3	1
EOSC 540	Advanced Groundwater Geochemistry	3	1
FRST 590	Statistical Methods in Hydrology	3	2
MINE 580	Acid Rock Drainage	3	1
MINE 581	Environmental Technologies and Issues	3	Not offered in 10/11
RMES 515	Integrated Watershed Management	3	2

### ADVICE TO ASSIST YOU WITH REGISTRATION:

- The above are minimum requirements; omissions in an applicant's background may require that additional remedial coursework be taken.
- 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**.
- All students, including those who have been approved to make substitutions to the above core course list, must register for a minimum of 12 credits of Civil Graduate Level Courses (500-level and above, not including MAsC thesis credits).
- 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/](http://www.civil.ubc.ca/current_students/graduates/).