University of Manitoba | Price Faculty of Engineering Civil Engineering

Streams

Environmental and Water Resources Stream (EW)

Five courses are required. Minimum of 3 courses must be taken from List A and up to 2 from List B, no more than one course from outside of Civil Eng.

List A (Select 3 to 5 courses)

Course	Title	Prerequisites
CIVL 4100	Eng Mngmnt & Enviro	p or c CIVL 3700
CIVL 4120	Water Treat Plant Design	CIVL 3690
CIVL 4130	Solid Waste Management	p or c CIVL 3700
CIVL 4180	Enviro Systems	CIVL 2780,3690,3750
CIVL 4200	Grndwater Contamination	GEOL 1340,CIVL 2790, p or c CIVL 3690
CIVL 4250	Grndwater Hydrology	GEOL 1340, CIVL 2790, MATH 2130, 2132
CIVL 4300	Urban Water System	CIVL 2790, p or c CIVL 3750
CIVL 4350	Haz Waste	CIVL 3690
CIVL 4360	Water Resourse Plan & Mgt	CIVL 2780, 3590, p or c 3750
CIVL 4470	Watershed Processes	CIVL 3750, p or c CIVL 3740
CIVL 4500 T5	Chem Reac Water Treatment	CIVL 3690

List B (Up to 2 courses, only 1 from outside of Civil Engineering)

Course	Title	Prerequisites
BIOE 4460	Air Pollution Assess & Mngmt	CIVL 2790
CIVL 4000/ CIVL 4500 T01	Uncertainty Analysis	CIVL 3590, MATH 2130, STAT 2220
CIVL 4332	CE Thesis Project [2]	ENG 2030/40 & 120 cr hrs
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Geotechnical and Geo-environmental Stream (GEO)

Five courses are required. Select 5 courses from below.

List A

Course	Title	Prerequisites
CIVL 3710	Finite Element Analysis	CIVL 2790, 2800, 3590
CIVL 4130	Solid Waste Management	p or c CIVL 3700
CIVL 4200	Groundwater Contamination	GEOL 1340,CIVL 2790, p or c CIVL 3690
CIVL 4230	Geotechnical Engineering	CIVL 3730
CIVL 4232	Geotechnical Earthquake Eng	CIVL 3730
CIVL 4250	Groundwater Hydrology	GEOL 1340, CIVL 2790, MATH 2130, 2132

List B

Course	Title	Prerequisites
CIVL 4332	CE Thesis Project [2]	ENG 2030/40 & 120 cr hrs

Structures and Construction Stream (SC)

Five courses are required. Minimum of 3 courses must be taken from List A and up to 2 from List B, no more than one course from outside of Civil Eng.

List A (Select 3 to 5 courses)

Course	Title	Prerequisites
CIVL 3710	Finite Element Analysis	CIVL 2790, 2800, 3590
CIVL 4020	Masonry Design and Construct	CIVL 2770, 3760
CIVL 4022	Propert & Des of Concrete Mix	CIVL 2770
CIVL 4024	Sustainable Building Design	p or c CIVL 3770
CIVL 4028/ CIVL 4500 T4	Build Info Modeling in Construct	ENG 3000
CIVL 4030	Advanced Structural Design	p or c 3770
CIVL 4032/ CIVL 4500 T3	Bridge Engineering	CIVL 2770, 3760
CIVL 4040	Structural Dynamics	CIVL 3760
CIVL 4500 T2	Sustainable Construction	CIVL 2780, ENG 3000

List B (Up to 2 courses)

Course	Title	Prerequisites
BIOE 4560	Structural Design in Wood	CIVL 3770
CIVL 4000/ CIVL 4500 T01	Uncertainty Analysis	CIVL 3590, MATH 2130, STAT 2220
CIVL 4332	CE Thesis Project [2]	ENG 2030/40 & 120 cr hrs

Transportation Stream (TR)

Five courses are required. A minimum of 3 courses must be taken from List A and up to 2 from List B.

List A (Select 3 to 5 courses)

Course	Title	Prerequisites
CIVL 3710	Finite Element Analysis	CIVL 2790, 2800, 3590
CIVL 4022	Propert & Des of Concrete Mix	CIVL 2770
CIVL 4032	Bridge Engineering	CIVL 2770, 3760
CIVL 4410	Transportation Systems	CIVL 3790
CIVL 4420	Pavement Engineering	p or c CIVL 3790
CIVL 4500 T6	Des & Develop of Public Transp Sys	p or c CIVL 3790

List B (Up to 2 courses)

Course	Title	Prerequisites
CIVL 4000/ CIVL 4500 T01	Uncertainty Analysis	CIVL 3590, MATH 2130, STAT 2220
CIVL 4332	CE Thesis Project [2]	ENG 2030/40 & 120 cr hrs

Notes:

1. Students may only complete one stream.
2. Subject to approval of Faculty Advisor.
3. Courses taken towards a stream take the place of the Technical Electives required in the Civil Engineering program.