SMITH ENGINEERING Queen's University — Civil Engineering

Bold = Offered in 2024/25
Shaded = Not Offered in 2024/25

Graduate Courses - Projected Course List for 2024/25 Academic Year

Revised 2024/09/05

		Fall 2024	Winter 2025	Spring 2025
Graduate Courses (Typically 3 needed for PhD, 4 for MASc, and at least 4 of the 8 courses required for MENG) [See Note 2]	Geotechnical	CIVL820 Engineering Design & Professional Practice (Van Gulck)	CIVL842 Foundation Engineering (Brachman)	**CIVL822 Structural Design of Buried Pipes (Moore) & CIVL823 Pipe Repair Using Liners (Moore)**
		CIVL840 Advanced Soil Mechanics (Take)	CIVL843 Landslides (Take)	
		CIVL847 Geosynthetics in Geotechnical Engineering (Abdelaal)	**CIVL 848 Sustainable Barrier System Design (Rowe)**	
		CIVL846 Human Factors and GeoEngineering Projects (Rowe)	**RMC CE533 Frozen Ground Engineering (Beddoe) [Note 4]**	
		RMC CE534 Applied Permafrost Engineering (Beddoe) [Note 4]	**RMC CE513 Laboratory Testing of Geomaterials (Siemens) [Note 4]**	
		RMC CE521: Instrumentation & Monitoring (Vlachopoulos) [Note 4]	RMC CE599 Introduction to Unsaturated Soils (Siemens) [Note 4]	
		RMC CE528 Numerical Methods in Engineering (Yaseri) [Note 4]		
	Structural	CIVL831 Assessment and Monitoring of Infrastructure (Hoult)	CIVL836 Advanced Steel Design (MacDougall)	
		CIVL832 Finite Element Analysis (Genikomsou)	**CIVL837/436 Prestressed Concrete (Fam) [Note 1]**	
		CIVL834 Advanced Reinforced Concrete (Genikomsou)	CIVL838 Design of Concrete Structures with FRP (Green)	
		CIVL835 Advanced Infrastructure Materials (Hoult)	**CIVL839 Approximate Structural Analysis (MacDougall)**	
		CIVL892 Structural Dynamics (Woods)	RMC CE505: Assessment, Strengthening and Repair of Concrete Structures (Wight) [Note 4]	
			RMC ME547 Advanced Finite Element Analysis (Wowk) [Note 4]	
	Hydrotechnical	**CIVL850 Advanced Fluid Mechanics (da Silva)**	**CIVL857/455 River Engineering (da Silva) [Note 1]**	
		CIVL851 Introduction to Hydrodynamic Modelling (Olsthoorn)	**CIVL852 Environmental Fluid Dynamics (Boegman)**	
		CIVL853 Water Waves (Mulligan)		
		CIVL855 Hydrodynamics of Coasts and Estuaries (Mulligan)		
		CIVL856 River Morphodynamics (da Silva)		
	Environmental	**CIVL880/471 Subsurface Contamination (Mumford) [Note 1]**	CIVL879 Groundwater Resources in Cold Regions (Wright)	CIVL884 Field methods in the Hydrogeology of Fractured Rock (Novakowski)
		CIVL882 Analytical and Numerical Methods in Groundwater Modelling (Novakowski)	CIVL881 Flow and Transport in Fractured Rock (Novakowski)	
		CIVL883 Gasses in Groundwater (Mumford)	CIVL890 Water Network Analysis/Design (Filion)	
		CIVL886 Advanced Water Treatment (Xin)	**CIVL891 Water Quality and Discolouration in Drinking Water Distribution Systems (Filion)**	
		CIVL888 Theory of Groundwater Flow and Transport (Mumford)	CIVL893 Statistics for Environmental Applications (Payne)	
		CIVL896 Engineering Sustainability and Reconciliation (Devoie & Green)	CIVL894 Drinking Water Management (Payne)	
Additional Course Options for MENG students	APSC	**APSC896 Engineering Leadership**	**APSC888 Engineering Innovation and Entrepreneurship**	**APSC877 Engineering Project Management**
	Project			**CIVL898 MENG Project** [Note 3]
	400 series [Note 1]	**CIVL442 Geotechnical Design**	**CIVL431 Infrastructure Rehabilitation**	
		CIVL430 Reinforced Concrete Design	**CIVL472 Water Treatment**	
		CIVL451 Lake, Reservoir and Coastal	CIVL473 Water Resources Systems	
		CIVL450 Municipal Hydraulics	**CIVL491 Earth Sys. Process under Climate Change**	

Note 1: MASc and PhD Students can not take a 400 series course, but can take one double numbered (400/800) course
MENG Students can take a maximum of two 400 series courses or double numbered courses or combination thereof

Note 2: CIVL MENG Students must take at least 4 full graduate courses courses with a CIVL prefix as part of their 8 courses

Note 3: Enrollment in CIVL898 requires a faculty member willing to offer and supervise a MENG project (can be any term, but typically spring)

Note 4: Enrollment in Graduate Courses at the Royal Military College (RMC) require permission of the College and instructor (see Debbie for form)