

2011 CEE Capstone Design Project Topics

Geological Engineering

Ecothermal modelling of a granite reservoir at depth
Grey Owl Mine tailings cover design
Design of a seepage control structure
Numerical simulation of fractured reservoirs
Motor selection for improving directional drilling control in horizontal wells
Laurel Creek remediation
Waterman realignment
Design of the OSL ETF to reach a height of 60 m
Design of a fluorescent tracer injection experiment to characterize infiltration patterns
Caribou Mine tailings dam
Investigation into the failure of a grout-in-place pipe liner in a steel culvert

Environmental Engineering

Design of a snow storage facility for the Region of Waterloo
Lockwood solvent groundwater plume site remediation
Rehabilitation of fish habitat in the Rocky Saugeen River
Electrokinetic separation system for use at the IDOL Landfill
Simmons lake gas station trichloroethylene remediation
Biofilm removal device for large diameter wells
Design of a surface water treatment plant for the Village of Ayr
Upgrade of a conventional water treatment facility to address the presence of emerging contaminants in source water

Civil Engineering

Improving the sustainability of the University of Waterloo campus
Parking Structure on the University of Waterloo campus
Solar panels and recycled concrete aggregates for Engineering VI building on UW campus
Wind farm in British Columbia, Canada
Sherbourne Common architectural pavilion, Toronto waterfront
Stabilization and strengthening alternatives for spalled concrete girder bridges
University of Waterloo Light Rail Transit (LRT) station
Temporary modular bridge design for Bridgeport bridge crossing
Victoria Park pedestrian bridge design, Kitchener
University of Waterloo hydrology lab flume redesign
Design of Franklin Boulevard roundabout, Cambridge
Design of Bus Rail Transit (BRT) system at Hespeler and Pinebush Road, Cambridge
Stormwater management plan for University of Waterloo northwest campus
Nepal rural bridge project
Expansion of the Panama Canal
Formwork system for 3-story concrete office building and underground parking structure
Design of a parking garage in Vancouver, British Columbia
Material and resource management for general contracting organizations
Preventative climate change design for bridges in Ontario
Region of Waterloo Light Rail Transit(LRT): Fairview Park Mall to King-Victoria station
Implementation of a High Occupancy Vehicle (HOV) lane in an urban environment
Bear Creek culvert design
Shoring at 500 East