

CIVE 652. BIOPROCESSES FOR WASTEWATER RESOURCE RECOVERY.

Credits: 4

Offered by: Civil Engineering (Graduate Studies)

Terms offered: Winter 2026

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Description

Technologies and design approaches for reclaiming water, nutrients, carbon and energy, while achieving protection of human and environmental health in the context of enhancing sustainability. Unit processes for both wastewater and solids-handling trains. Advanced mathematical modeling to describe suspended-growth and attached-growth multispecies bioreactors for aerobic, anaerobic and phototrophic processes. Microbial diversity in different reactor conditions, and specific population metabolisms explaining important stoichiometries and kinetics. Advanced molecular microbiology techniques to document microbial diversity and dynamics. Bioreactor designs in the context of stakeholder interactions and energy efficiency.

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