

16:375:527 Environmental Process Dynamics

Course Description

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This course covers fundamentals of process dynamics analysis and modeling in natural and engineered environmental systems. Major topics include chemical reaction thermodynamics and reaction kinetics, transport processes (advection and dispersion), molecular diffusion process at the particle scale, interphase mass transfer (rate and equilibrium), and reactor design. Reactions in homogeneous and heterogeneous systems, air stripping, gas-liquid absorption, liquid-solid adsorption processes, and particle-particle interactions for water and air quality control are also discussed.