



THE OHIO STATE UNIVERSITY
COLLEGE OF ENGINEERING

Transport Phenomena in Water Resources Engineering

CIVILEN 5230

Credit Hours:

3.00 - 3.00

Course Levels:

Undergraduate (1000-5000 level)

Graduate (5000-8000 level)

Course Components:

Lecture

Course Description:

Study of the mechanisms by which momentum, heat, and mass are transported in fluid systems of interest to water resources engineers.

Prerequisites and Co-requisites:

Prereq: 3160 (516) or EnvEng 516, and Math 2173, 2177, 2255 (255), or 2415 (415).

Course Goals / Objectives:

- To develop an understanding of the mechanisms by which momentum, heat, and mass are transported in fluid systems of interest to water resources engineers
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Course Topics:

- Fluid kinematics
 - Reynolds transport theorem
 - Conservation laws
 - Constitutive equations
 - Turbulence
 - Free surface flow
 - Transport by advection and diffusion
 - Sediment transport
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Designation:

Elective