

Course: CE 505 Open Channel Hydraulics

Instructor: Prof. Dr. Gökmen Tayfur

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Textbooks

Open channel flow by Handerson, F.M., McMillan Publ. 1966

Unsteady flows in open channels by Mahmood, K. and Yevjevich, V.M.,
Water Resources Publications, 1974.

Open channel flow by M. Hanif Chaudhry, Prentice Hall, 1993

Course outline

Basic concepts of fluid flow

Derivation of point-scale flow equations (Navier-Stokes Eqs)

Derivation of depth-averaged flow equations (St. Venant Eqs)

Derivation of cross-sectionally-averaged flow equations (St. Venant Eqs)

Hydraulic flood routing

Hydrologic Flood Routing

Rating Curve Method

Reverse Flood Routing

Grading

Assignments 10%

Midterm Exam 30%

Term Project 20%

Final Exam 40%