Course Name:
Environmental Hydrodynamics

Course Number:
20702

Credit:
3

Course Content (outline):
- Introduction to hydrodynamics of stratified flows; applications in estuaries, oceans, lakes, and reservoirs
- Equations of motion for incompressible fluids: Euler equations, conservation of mass and energy
- Approximation of governing equations for special cases.
- Perturbation method in engineering analysis
- Internal waves in bounded and unbounded stratified fluids
- Internal and surface dynamics of lakes
- Selective withdrawal in reservoirs
- Instability in two-layer fluid
- Mixing in rivers

References: