Instructor
 name: Professor John Crimaldi
 office: ECOT 511
 email: crimaldi@colorado.edu
 office hours: T, Th 4:45-6:00p

Lectures
 location: ECCR 1B08
 times: T, Th 3:30-4:45p

Prerequisites
 math: Multi-variable & Vector Calculus
 Differential Equations
 fluids: Graduate viscous fluid mechanics

Course Description
This course expands on the basic knowledge of
the Navier-Stokes equations as developed in
CVEN 5313. Topics will include stratified
flows, waves, and turbulence. Other topics
will be scheduled according to student
research interests.

Objectives
(1) Learn to apply the Navier-Stokes equations
to complex environmental flow phenomena.

(2) Use scientific literature as part of the
educational process.

(3) Give students the opportunity to research
individual topics and present them in a
lecture format.

(4) Incorporate current research topics into
the curriculum.

Course Communications
I will use email as the primary means of
communicating with you outside of class or
office hours. I may send modifications to
assignments, hints, etc., as necessary. You are
responsible for checking your email on a
regular basis. If you would prefer that I use an
email address other than your default CU
account (e.g., a Hotmail account), please send
me an email to that effect.

Reading Sources (all on reserve)
Panton, R.L., Incompressible Flow (2nd ed.),
John Wiley & Sons, 1996

Pope, S.B., Turbulent Flows, Cambridge
University Press, 2000

Kundu, P.K. and I.M. Cohen, Fluid Mechanics
(2nd ed.), Academic Press, 2002

Bendat, J.S. and A.G. Piersol, Random Data:
Analysis and Measurement Procedures. Wiley,
2000

Rubin, H. and J. Atkinson, Environmental Fluid
Mechanics, Marcel Dekker, Inc., 2001

Pedlosky, J., Geophysical Fluid Dynamics,
Springer-Verlag, 1987

Tritton, D.J., Physical Fluid Mechanics, Oxford
Science Publications, 1988

Turner, J.S., Buoyancy Effects in Fluids,
Cambridge University Press, 1973