18.306 Advanced Partial Differential Equations with Applications
Fall 2009

Lecture 06 2009 09 28 MON

TOPICS: Graphical interpretation of solution by characteristics.
Conservation. Wave steepening and breaking.
Back to the physics.

Continue with u_t + c(u)*u_x = 0 and u(x, 0) = F(x).
Graphical interpretation of the solution by characteristics.
Show how conservation is satisfied by the characteristic laws.
Wave steepening and breaking (infinite derivatives).
Back to the physics:
Examine Traffic Flow and River Flows. What does breaking mean there?
Does it happen? What does solution do beyond that? Can we fix the math.

model so it describes the behavior even after wave breaking?