

Homework #6 – Introduction to Turbulence
ME5700/6700 Intermediate Fluid Dynamics
Due 12/7/2007 (5pm)

Read Chapter 13 in Kundu and “The Turbulence Problem: An experimentalist’s perspective,” by Robert Ecke 2004.

1. Problems 6 and 7 in Kundu Chapter 13.
2. In words describe the turbulent Energy Cascade Process
3. In Figure 3 in the Ecke paper please describe the difference between turbulent pipe flow and laminar pipe flow.
4. What is meant by “scale-independence” of turbulence?
5. Describe how you might design an experiment to determine the “turbulent viscosity” in a flow field for a RANS model.