

ChE 761
Polymer Rheology
Fall 2001

Instructor: Dr. Rakesh Gupta
Room 421 ESB
293-2111 ext 2427

Class: 3:00 – 4:40 M W, 449 ESB (class will not meet every week)

Office Hour: Friday 11 – noon

Objective: To present the flow behavior of polymer melts, polymer solutions, and two-phase polymer systems and to relate these observations to the material microstructure.

Grading:

Midterm exam	40%
Final Exam	40%
Term paper	10%
Homework	10%

Text: R.K. Gupta, Polymer and Composite Rheology, 2nd ed.,
Marcel Dekker, New York, 2000

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Course Outline

Stress, Strain Rate and Material Functions

Instruments for Shear Rheology

Shear Behavior of Polymeric Fluids

Linear Viscoelasticity

Extensional Flow

Constitutive Equations

Suspensions

Emulsions

Foams

Granular Powders