Polymer Section of Chem3102 - 2006 The Department of Chemistry, The Faculties The Australian National University

Instructor:

Dr. Edie Sevick, Associate Professor Research School of Chemistry email: <u>sevick@rsc.anu.edu.au</u>

Lecture notes accessible from the ``lectures" button on my web-site

http://rsc.anu.edu.au/~sevick/groupwebpages/

Homework assignments (15%) due Fridays and Exam (15%).

Dates and Venue:

All lectures are in Chemistry 1.35, Tuesdays & Wednesdays at 10AM, and, as needed for problem sessions, Fridays, at 12 PM for 6 weeks

Course Content:

The 13 lectures will introduce topics of modern polymer science. The lectures are designed to introduce students to polymers at the molecular scale rather than the atomic or chemical scale.

- I. The ideal chain
- II. Thermodynamics of an Ideal Chain: Stretching and Squashing
- III. Single polymer chains in good and poor solvent conditions.

IV. Polymers at interfaces: surface adsorption, brushes, and colloidal stabilisation

- V. Solution thermodynamics of polymers
- VI. Introduction of flow properties of polymer solutions

Homework is due Fridays at Noon and late assignments will not be collected/graded. Lowest

Student Name / e-mail address for .pdf mailings / Field of study