

Introduction to Surface Chemistry

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Location: Science Building 1 304

Text: Physical Chemistry of Surfaces: A. W. Adamson, A. P. Gast

Prerequisites: Graduate students, and seniors.

Description: The course begins with a conceptual introduction to surface tension and thermodynamics of interfaces. The topics covered will include interfaces between gas-liquid-solid states. A variety of chemical and physical interactions govern the properties of these interfaces and lead to unusual phases such as microemulsions, vesicles and micelles. I will emphasize the experimental techniques used to characterize interfaces, such as atomic force microscopy, scanning tunneling microscopy, transmission electron microscopy, ellipsometry and Langmuir-Blodgett films. Finally, specific applications of the surface chemical phenomena and techniques in cosmetics (anti-aging lotions), oil (tertiary oil recovery), pharmaceutical (drug delivery), and semiconductor (chemical mechanical polishing (CMP), lithography) industries will be presented.

turn back time

Cosmetics



CMP

Semiconductors



Drug Delivery

Pharmaceuticals

