

Syllabus

MSE/Pharmaceutics/Bioengineering 752

Polymer Surface Analysis

Spring 1987

4 credit hours

MEB 2545, 5:00 - 6:30 p.m., Tu. & Thu.

Instructor: J. D. Andrade, Room 2202 MEB, Phone: 581-6911

Teaching Assistant: Jin-Nan Lin, Room 2491 MEB, Phone: 581-8611

Text on Reserve: Surface and Interfacial Aspects of Biomedical Polymers, Vol. I, Plenum Press, J. D. Andrade, Ed. 1985.

<u>Grading:</u>	Midterm Exam:	30%
	Final Exam:	30
	Lab Report:	35
	Seminars	5

Report: Due Monday, June 1. No more than 20 pages total, including all figures, tables, spectra, etc.

Topic Schedule

* Class is 5:00 - 7:00 p.m. these dates.

3/31 Andrade - Introduction to Surface Analysis Techniques

4/2 No class

4/7 Andrade - Course Assignments/Lab Reports

4/9 No class

4/14 Andrade - Interface Energetics/Acid Base

4/16 No class

4/21* ✓ Wei - Surface Energetics/Contact Angle
✓ Lea - Surface Tension/Hysteresis

4/23* Tingey - Calorimetry
✓ Yen - Surface Area, BET

→ 4/28 Price - Zeta Potential

4/30 ↗ Andriano - Surface IR

↘ 5/5 Smith - Surface Fluorescence

5/7* Jin - Microscopy, SEM
Park - X-Ray, EDAX

5/12 Midterm Examination

5/14* Yee - Monolayers
Kellar - Ellipsometry

5/19 Yon - XPS, Element Analysis, Quantitative

5/21 Zhang - XPS, Chemical Bond

5/26 Li - XPS, Variable Angle

5/28 Andrade - Auger and Ion Microprobes

5/2 Andrade - ISS/SIMS

6/4 Andrade - New Techniques/Review

6/9* Final Exam

707 WBB
RM 101 EMRC - RAZIY?

~~RM 4 SK~~

RM 214 EMRC

Raman Probe
IR score
Effective chem?

Need 150 now
COP 1-20

MSE/Bioengr. 752 Surface Analysis

Project Evaluation Sheet

Speaker's Name: _____

Date: _____

Topic/Title: _____

Evaluate the presentation, using a 1-10 rating (10-excellent, 1-very unsatisfactory).

Content

- Introduction to Technique _____
- Theoretical Principles _____
- Relation to Surface Science _____
- Instrument Design and Principles _____
- Advantages and Disadvantages _____
- Sample Preparation and Selection _____
- Data Collection _____
- Data Analysis _____
- Relation to Other Techniques _____

Presentation

- Handouts _____
- Audio or Visual Aids _____
- Oral Presentation:
 - Organization _____
 - Speaking _____
 - Stimulation _____
- Demonstration or "Mock" Demonstration _____
- Questions/Discussion _____
- (Was the speaker knowledgeable?) _____

Relevance/Impact

Was the presentation useful to you? Do you have an appreciation for the technique discussed? Discuss, please.