

Instructor John Westall

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Office hours: anytime or by appointment

Text Bard and Faulkner, Electrochemical Methods 2e, Wiley

Schedule

<u>Lectures:</u>	M-W-F 11:00-11:50 Gbad 101
<u>Discussion Sessions</u>	Weekly, time TBA
<u>Homework:</u>	Due on the Friday after it is assigned
<u>Tests:</u>	Wednesday, January 30 (tentative) Wednesday, February 20(tentative)
<u>Exam:</u>	Tuesday, March 18, 14:00, Comprehensive

Prerequisite: CH 442 (or permission)

Credits: 4

Grading

Test 1	24%
Test 2	24%
Exam	32%
Class Participation, Quizzes, Homework	20%

Topics

Fundamentals

1. Electrochemical cell
2. Charge transfer in a cell / equivalent circuit; thermodynamics
3. Mass transfer I - R_s (migration only)
4. Mass transfer II - R_{mt} (diffusion only, time-dependent solution)
5. Mass transfer III - R_{mt} (diffusion and advection, steady state solution)
6. Kinetics - R_{ct} - phenomenological approach
7. Electric double layer
8. Potentiometry
9. Voltammetry
10. Instrumentation

Applications

Donnan potential and suspension effect
Corrosion
Sensors
Environmental electrochemistry
Fuel cells

Expectation for Student Conduct - <http://oregonstate.edu/admin/stucon/achon.htm>

Accommodations for Students with Disabilities - Accommodations are collaborative efforts between students, faculty and Services for Students with Disabilities (SSD). Students with accommodations approved through SSD are responsible for contacting the faculty member in charge of the course prior to or during the first week of the term to discuss accommodations. Students who believe they are eligible for accommodations but who have not yet obtained approval through SSD should contact SSD immediately at 737-4098.