

**Electrochemical Energy Materials and Devices**  
Materials Science and Engineering 395

**Winter 2010:** TuTh 12:30-2:00

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**Grading:**  
Homework: 40%  
Quizzes: 40%  
Lab: 20%

**Text:**  
Fuel Cell Fundamentals (O'Hayre, Cha, Colella,  
Prinz)  
Notes from Advanced Batteries (Huggins)

<u>Week</u>	<u>Important Events</u>	<u>Lecture Topics</u>	<u>Readings</u>
1 1/4		Introduction	Chapter 1
2 1/11		NO CLASS	
3 1/18		Electrochemical Thermodynamics	Chapter 2
4 1/25		Electrochemical Kinetics	Chapter 3
5 2/1		Electrical and mass transport Electrochemical characterization	Chapters 4, 5 Chapter 7
6 2/8		Fuel cell basics	Chapter 8
7 2/15		Fuel cell materials	Chapter 9
8 2/22		Battery basics	NOTES
9 3/1		Battery materials	NOTES
10 3/8		Electrochemical capacitors	NOTES

**No Final Exam**