

METU
Department of Mechanical Engineering
ME 492 Fuel Cell Fundamentals
Fall 2015

Instructor : Dr. İlker Tari, E-206, itari

Assistant : Serdar Hiçdurmaz, A-144, hserdar

Text : The lecture notes of the instructor are mostly based on the textbook
 “Fuel Cell Engines”, by Matthew Mench, Wiley & Sons, 2008.

Schedule : Mon 11:40-12:30 and Wed 10:40-12:30 in G108.

Web page : Follow the link through <http://users.metu.edu.tr/itari/>

<u>Topics</u>	<u>Read</u>
Introduction to Fuel Cells (3 lectures)	Ch. 1
Electrochemistry Principles (5)	Ch. 2
Thermodynamics of Fuel Cell Systems (9)	Ch. 3
Activation Losses (9)	Ch. 4
Ohmic Losses (2)	Ch. 4
Concentration Losses (2)	Ch. 4
Transport in Fuel Cell Systems (6)	Ch. 5
PEM Fuel Cells (3)	Ch. 6
Solid Oxide Fuel Cells (2)	Ch. 7
Other Fuel Cells (2)	Ch. 7

Attendance to the first lecture is a must. The students will be selected according to their CGPAs from the first lecture attendance list. The ones who are not selected are expected to drop the course as soon as possible.

Homework : The problems will be assigned regularly. Some will include Mathcad calculations or some programming.

Quizzes : There may be announced closed-book-closed-notes quizzes. No make up for the quizzes. The quizzes will be based on the material covered during the lectures.

Attendance : 100% attendance is expected but will not be graded.

Midterm exams : There will be two closed-book-closed-notes MT exams.

Final exam : Final Exam will also be a closed-book-closed-notes exam.

Grading :

Exams (2 MT exams)	: 40%
Homework and Quizzes	: 30%
Final exam	: 30%