

Syllabus CHM6153, Spring 2025

Instructor – Charles R Martin, crmartin@ufl.edu, CLB 218

Course management - This class will meet in LEI 109, which is reserved for our class during Periods 7 and 8 (1:55 PM - 3:50 PM) on Tuesdays and Thursdays. That is four 50-minute lecture periods per week, and the class only requires three periods, or 150 minutes, per week. Let's try this schedule, which provides the requisite 150 minutes per week.

Tuesdays – 2:00 to 3:15

Thursdays - 2:00 to 3:15

I will use the course Canvas page to communicate with you. Please check this page for announcements I have made and files I have uploaded.

Lectures and interactive learning – During our class meetings, I will deliver lectures, and because an upper-level graduate class should be interactive, I will regularly call on students to be part of the discussion. I would also like to hear about your research and what electrochemical methods you are using or would like to use.

Course plan - Electrochemistry is challenging because you must learn from many different fields of science and engineering, including thermodynamics, kinetics, transport theory, instrumentation, and electronics. My job as the teacher is to sift through this enormous database and give you the right information in the right order, to allow you to understand and use electrochemical methods. I will give you this basic science and engineering background information during the first part of the semester. We will then turn to our study of the methods, which will include cyclic voltammetry, coulometry, amperometry, and, depending on student interest and time, AC impedance and rotating disc methods.

General statement of objectives - In broadest terms, the objective of this course is to teach you how to use electrochemical methods to solve problems in scientific and engineering research and development.

Text – *Electrochemical Methods* by Bard and Faulkner (either the first or second edition). A PDF of this text can be obtained online. The material to be covered comes from Chapters 1 through 6, 12 and 13, and, depending on student interest and time, Chapters 9 and 10. Read these chapters.

Grading – There will be a midterm and a final exam, each worth 40% of the grade. These will be take-home exams with dates announced as the time approaches. The remaining 20% of your grade will come from your class participation efforts.

Office Hours – Wednesdays at 2:00 PM in my office, CLB 218.