

# Chemistry 353 Abbreviated Syllabus

**Instructor** David Harvey

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**Class Meetings** MW from 1:40 – 2:40

**Course Goals** Chem 353 provides an introduction to instrumental methods of analysis with a focus on selected methods in the areas of spectroscopy and electrochemistry, as well as an additional area determined in consultation with the class (past topics include surface analysis and kinetic methods of analysis; other possibilities include mass spectrometry and microfluidics). As we move through the semester we will:

- examine common instrumental designs and explore how they produce a useful analytical signal
- consider how noise affect the analytically useful signal
- explore the relationship between an instrument's signal, the sample's matrix, and/or the analyte's concentration
- review, where appropriate, the quantitative and the qualitative application of instrumental methods
- learn how to characterize an analytical method's advantages and disadvantages
- become familiar with the primary literature in analytical chemistry

**Course Website** Many useful materials, including a detailed schedule, copies of course materials, and answer keys to worksheets, suggested problems, and exams, are available at the course's web site. The link to the site is

<http://bit.ly/2uD5xEW>

**Course Evaluation** Your evaluation in this course is based on three exams—each is a final exam completed outside of the normal class—and any or all of the following, depending upon how the spirit moves us during the term: problem sets, mini-experiments, data analysis projects, short papers, oral presentations, participation in discussion, or other as yet undreamt of assignments.

**Official Syllabus** A more detailed, official syllabus is available on the course's website. You are responsible for reading and understanding the syllabus.