

- Course: CHEM.5140 Advanced Analytical Chemistry
- Instructor: Dr. David K. Ryan
Olney 520
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http://faculty.uml.edu/David_Ryan
- Book: Principles of Instrumental Analysis, 6th Edition, 2007
(not required) by Skoog, Holler and Crouch
- Topics: Electrochemistry (Potentiometry, Voltammetry)
Molecular Spectroscopy (UV-vis, Fluorescence, Luminescence)
- Exams: Three exams to be given outside of class time, no cumulative final exam.
Last hour exam will be given the week after last class at 8:00 AM in Olney 518.
No excuse for missing exam. Cellphones cannot be used as calculators.
- Quizzes: Occasional unannounced quizzes at the end of class.
- Grading: Exams makeup 75% of total grade (25% each)
Quizzes 5% (discretionary)
Student Projects makeup the remaining 20%
- Projects: Each student must complete a project consisting of either a 10 minute class presentation or a research paper.
Projects should build on fundamentals presented in class, but, should give additional information on advanced techniques or important applications.
Project topics must be approved in advance.
A minimum of 10 literature sources must be used (e.g. journals such as Analytical Chemistry, Applied Spectroscopy, Analytica Chimica Acta, and others; books and book chapters).
A reference list must be submitted for either type of project.
All projects must be completed by the last class (The earlier the better!)
Sample Topics: Cryogenic Fourier Transform Spectroscopy
(don't use these) Non-Dispersive Infrared Analyzers
Coherent Anti Stokes Raman Spectroscopy
Optical Multichannel Analyzers
Potentiometric Stripping Analysis
- Additional Material: Handouts will be posted on the website occasionally for extra reading and to enhance the discussion of certain topics.