

**DRAFT**

## CHEM 524: Instrumental Analysis (Intermediate Analytical Chemistry)

### *Syllabus (Fall 2018)*

Objective: To study the theory and practice of modern instrumental methods of chemical analysis, primarily covering the major techniques in optical spectroscopy, mass spectrometry, electrochemistry, and separations.

Instructor:

Dr. J. Aldstadt Office: CHEM 112 aldstadt @ uwm.edu Office Hours: *to be determined*

Class Schedule:

Lecture: TR 12:30-1:45 pm CHEM 170

Pre-requisite: Quantitative Analysis, CHEM 221, minimum grade of "C" (*waivers will not be granted*).

Required Course Materials:

Textbook: Skoog, Holler, & Crouch, *Principles of Instrumental Analysis*, 7<sup>th</sup> Edition, published by Cengage (academic.cengage.com), 2017 (ISBN-10: 1305577213).

Recommended Course Materials:

(a) a textbook on Quantitative Analysis; (b) a textbook on introductory Physical Chemistry.

You will also need a scientific electronic calculator for quizzes and exams (N.B. you cannot use a smart phone, tablet, or other such device).

### POLICIES

Department of Chemistry. You are expected to fully understand the policies posted on the bulletin boards across from CHEM 195 and adjacent to CHEM 164.

Academic Dishonesty. Academic dishonesty in any form will not be tolerated. Cheating will result in a course grade of "F"; referral to the University Judiciaries may also occur. These policies are discussed in detail in UWS Chapter 14 ([www4.uwm.edu/acad\\_aff/policy/academicmisconduct.cfm](http://www4.uwm.edu/acad_aff/policy/academicmisconduct.cfm)).

Per Academic & Administrative Policies (S52), I do not allow my lectures to be recorded electronically.

## COURSE STRUCTURE

The course grade will be determined from the following elements:

	<u>Undergraduate</u>	<u>Graduate</u>
Mid-Term I	125 pts.	125 pts.
Mid-Term II	125 pts.	125 pts.
Quizzes	100 pts.	100 pts.
Exploratory Writing	100 pts.	100 pts.
Term Paper	150 pts.	300 pts.
Final Exam	150 pts.	150 pts.

Problem Sets from Skoog, Holler, & Crouch will be assigned on a weekly basis; problem sets will not be graded. The weekly Quiz will be based on the recent lectures, readings, and assigned problems. Exploratory Writing will consist of short, informal assignments that are completed during lecture; these will be assigned on an approximately weekly basis. The Term Paper is a formal writing assignment which, in final form, will be due no later than 6:00 pm on December 4<sup>th</sup>. The Mid-Term Exams will be given during the lecture periods. The Final Exam will be given as scheduled by the Registrar. *There will not be alternative times to take these exams.*

Make-Up Work. There are no “make-up” exams or quizzes. For a valid absence (e.g., University athletics, music, job interview, etc.), Dr. Aldstadt must be contacted at least 48 hours prior to the absence. For medical absences, a written letter signed by a physician is required. If an exam or quiz is missed for reasons not approved by Dr. Aldstadt beforehand, a grade of zero will be given.

### *Some advice...*

This course covers a great deal of material in a relatively short period of time. The amount of reading, writing, and problem solving is significant. Readings and problems in the text will be assigned prior to the lecture on a particular topic. Read the assigned sections, attempt the assigned problems, and take notes on concepts for which you are having trouble. Studying the material in this manner will eliminate the need for “cramming” before exams – an impossible task given the amount of material that will be covered. Note: Do not expect all of the assigned material to be discussed in lecture – I devote lecture time to the more difficult concepts.