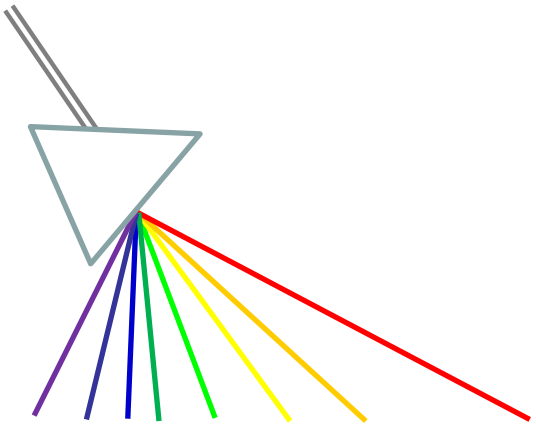


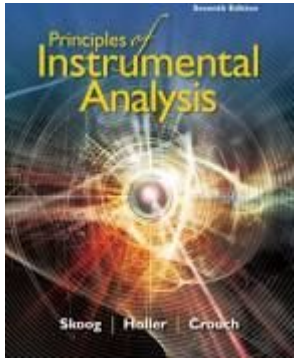
Instrumental Analysis

(CHMA 311)

Joseph P. Hornak, Ph.D.

Course Overview

Review the following slides

The Course	A 3 cr hr lecture course designed to teach instrumental methods of chemical analysis. A great course for those who like to know *How* and *Why* stuff works.
Instructor	Dr. Joseph Hornak Carlson 76-2132 585 475-2904 jphsch@rit.edu
Class Location	Eastman (1) 2000
Evaluation	30% Final Exam 20% Mid Term Exam 50% Assignments } All are single chance evaluations.
Office Hours	Fixed MWF 10:00-11:00 -and- Open, but an appointment is suggested.
Web Site	http://mycourses.rit.edu/ (Don't use the MyCourses file viewer, download files to view.)
Text	*Principles of Instrumental Analysis,* 7th Edition by Douglas A. Skoog, F. James Holler, Stanley R. Crouch Cengage Learning, Boston, MA, 2018 (Any earlier edition will contain the same information.) 
Assignments	Exercises (MyCourses Quiz), Excel Assignments, Active Learning Projects All have strict due dates and consequences for missing them, mainly you receive no credit for the assignment. Early exercise and Excel submissions are accepted. Life happens so I offer the following. If you ever played Monopoly you are familiar with the concept of a *Get Out of Jail Free* card. Everyone gets one in this class. Use it wisely. (Cards do not apply to Exams.)

Lecture Specifics

Category	Topic	Readings*	Exercise
Syllabus	01-Course Overview		Library
Introduction	02-Introduction	Ch. 1(A-D)	Intro
Foundation	03-Signals and Noise	Ch. 5(A-C)	Noise
	04-Electromagnetic Radiation	Ch. 6 not Inelastic Scatt.	ILM
Optical Methods	05-Components of Optical Instruments	Chs. 7(A-H), 13(D1-2)	Comp
	06-Absorption Spectrometry	Chs. 13	Abs Spec
	07-UV-Vis Molecular Abs Spectrometry	Chs. 14(A-E)	UV
	08-Fluorescence Spectrometry	Ch. 15	FL
	09-Atomic Absorption Spectrometry	Chs. 8, 9(A1,B1-2,D)	AA
	10-Infrared Spectrometry	Chs. 16, 17(A), 7(I)	IR
NMR	11-Nuclear Magnetic Resonance	Ch. 19(A-G)	NMR
Mass Spec.	12-Mass Spectrometry	Chs. 11(A-B), 20	MS
Chromatography	13-Gas Chromatography	Chs. 26, 27	GC

* If chapter sections are not specified, please read the entire chapter.

Assignments

- Exercises – multiple choice questions found under the MyCourses Quiz tab
  - A great way to practice for the exams.
  - Open notes and open book
  - Limited time window, one attempt, and due dates/times. Please plan ahead.
  - Early submissions are not penalized.
  - Answers are provided after submission due date.

- Excel Assignments – longer answer problems requiring Excel
  - Open notes and open book
  - One attempt. Due dates/times. Early submissions are not penalized.
  - Answers are provided after submission due date.

- Active Learning Projects – in class group or individual discovery problems
  - Bring your computer
  - Designed to enhance your understanding of a topic.

Exams

- One midterm exam and one final exam
- Both are closed book, closed notes exams.
- Exams are synchronous and timed.
- Equations and constants are provided.
- Calculators not connected to the internet are permitted
- Headphones not permitted (unless DSO approval)

Electronic Devices Related Information

- The use of Wi-Fi & cellular networks in the lecture is not allowed
- It is known that writing notes enhances learning
- Please step out if you have to answer an important call or text