

Chemistry 4212
Instrumental Analysis
Fall 2008

Course schedule:

Lecture: MWF, 12:00 PM; ChemSci 106 (selected lectures will be in the VEICLE Lab (19-708)

Laboratory: Section 1: TR, 9 – 12 ChemSci 408

Section 2: TR, 3 – 6 ChemSci 408

Lecturer: D. J. Chesney, office 19-404C; phone 370-7405; email djchesne@mtu.edu

Office hours: By arrangement (email works well)

4212 Web Page: <http://chemistry.mtu.edu/~djchesne/classes/ch4212/>

Text: *Principles of Instrumental Analysis*, 6th Edition, Skoog, Holler and Crouch

Prerequisite: Chemistry 2212. A firm grounding in statistics and acid-base equilibria is assumed and will be essential for success in this course. You should review the appropriate material from CH 2212.

Resource materials: Exams from a previous edition of this course will be available on the course web site. These are intended to indicate the level and type of question your lecturer is likely to use, but no guarantee is made that exams this term will be in any way identical.

The laboratory portion of the course consists of experiments described in the lab handouts.

Lecture tests:

	Date	Coverage
Exam 1 (100 pts)	Friday, Oct 3	Material through Sept 26
Exam 2 (100 pts)	Friday, Oct 31	Material through Oct 24
Exam 3 (100 pts)	Friday, Nov 21	Material through Nov 14
Final: (200 pts)	Week of Dec 15	Comprehensive

Point distribution:

Lecture	600 pts
Laboratory	600 pts

Grading:

≥ 90%	A
≥ 80%	B
≥ 70%	C
≥ 60%	D
<60%	F

Homework: No homework will be collected, but all the “Questions and Problems” at the end of each chapter are expected to have been mastered. An effort will be made to provide answers not given in the back of the text (no guarantees).

Assigned Problems/Pop Quizzes: There will be 100 points worth of problems or quizzes emphasizing (but not necessarily exclusive to) material not covered by the text.

Final Exam: The **comprehensive final exam** will be given at the time determined by the scheduling office during finals week.

Course Schedule: It's a plan, not a contract.

Week	Topic	Chapter (S,H&C)
Sept 1	Basic Instrumentation Electronics	2
Sept 8	Basic Instrumentation Electronics	2
Sept 15	Operational Amplifiers	3
Sept 22	Signals and Noise	5
Sept. 29	Intro to Chromatography	26
Oct 6	Gas Chromatography	27
Oct 13	High-Performance Liquid Chromatography	28
Oct 20	Intro to Spectrometric Methods	6
Oct 27	Components of Optical Instruments	7A-H
Nov 3	Atomic Spectroscopy	8, 9
Nov 10	Atomic Spectroscopy	10
Nov 17	Molecular Spectroscopy (UV-VIS, Luminescence)	13, 14, 15
Nov 24	Thanksgiving Break	
Dec 1	Molecular Spectroscopy (IR, FTIR)	16, 17, 7I
Dec 8	Molecular Spectroscopy (Mass Spectra)	20, 11

Class Schedule And Absence Policy

The hour exams in this class are scheduled during class hours in an attempt to minimize scheduling conflicts. An **unexcused** absence is an automatic zero for any exam that is missed. An **excused** absence may be granted by the Office of Student Affairs **only**. If you know that you will have an official university excused absence on a day that an exam is scheduled (university athletic event or religious holiday), you are required to make arrangements as early as possible **in advance of the exam date**. Other examples of excused absences granted in the past are serious illness or a death in the family. Excused absences are not given to travel home or to attend a social event. Plan to take your exams at the scheduled times.

University Policies

Academic regulations and procedures are governed by University policy. Academic dishonesty cases will be handled in accordance the University's policies.

If you have a disability that could affect your performance in this class or that requires an accommodation under the Americans with Disabilities Act, please see me as soon as possible so that we can make appropriate arrangements. The Affirmative Action Office has asked that you be made aware of the following:

Michigan Tech complies with all federal and state laws and regulations regarding discrimination, including the Americans with Disabilities Act of 1990. If you have a disability and need a reasonable accommodation for equal access to education or services at Michigan Tech, please call the Dean of Students Office, at 487-2212. For other concerns about discrimination, you may contact your advisor, department head or the Affirmative Action Office, at 487-3310

Academic Integrity: http://www.studentaffairs.mtu.edu/dean/judicial/policies/academic_integrity.html

Affirmative Action: <http://www.admin.mtu.edu/aa/>

Disability Services: http://www.admin.mtu.edu/urel/studenthandbook/student_services.html#disability

Equal Opportunity Statement: <http://www.admin.mtu.edu/admin/boc/policy/ch3/ch3p7.htm>