

**CHE 481 – CHEMISTRY SEMINARS
FALL 2005**

Instructor: Abdennaceur Karoui
Office Room: 309 Roberts Science Building
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Office Hours:
Monday 1:00 pm – 2:00 pm
Tuesday 8:00 am – 9:00 am

Reference: Principles of Instrumental Analysis
Douglas A Skoog, F James Hooter, Timothy A. Niemen, 5th Edition, Saunders
College Publishing, 1998

Objective:

The main objective of this course is to develop the skill of students in the art of both oral and written presentation of scholarly research work as it pertains to the chemical sciences. In furtherance of this objective, students will be introduced to the basis of various analytical techniques used in the investigation of a wide range of research problems.

Outline:

- Use of research libraries as source for scientific literature and review journal articles,
- Principles and Applications of various spectroscopic analytical techniques,
- Spectroscopic techniques that will be taught are:
 - Infrared Absorption and Fourier Transform IR Spectroscopy (FTIR),
 - UV-Visible Spectroscopy,
 - Spectroscopic Ellipsometry,
 - Secondary Ion Mass Spectroscopy (SIMS),
 - Electron Energy Loss Spectroscopy (EELS).
- Additionally they will learn about:
 - X-ray Diffraction (XRD) and related techniques,
 - Electron Paramagnetic Resonance (EPR),

Assignment:

- Write a small report on the use of research libraries and the scientific reporting,
- A written review and an oral presentation of a journal article,
- Write a paper and give an oral presentation on any of the analytical techniques given in the above list.

Requirement:

Active participation in class discussions is imperative.

Evaluation:

- Reports: 60%
- Presentation 20%
- Attendance / Class 20%