Chemistry 636 – Instrumental Analysis Laboratory  
Spring 2016

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Class Format

This course will be conducted in a case study format. The class will be divided into working groups and assigned to solve a problem requiring instrumental analysis. Each group will act as the Analytical Department of a larger entity, such as a corporation, government agency, or consulting firm. The Group Leaders will serve as the Directors of Analytical Chemistry for each group. The groups will work with their Director to solve a problem assigned to them. They will have weekly meetings to discuss progress and make plans. In addition, the groups will make several written and oral reports to their management team, which consists of the group leaders and instructor.

Tentative Timeline: Interim Presentation Dates Subject to Change

Week of Jan 26: Introduction to the course / Lab tour / Students fill out job applications and are interviewed by group leaders. (Students will be hired into a company based on interviews and informed of their assignment during the next lab session.)

Week of Feb 2: Analytical “Boot Camp” Students will be given the whirlwind refresher tour of analytical separations and analysis. Library search strategies will be discussed, and teams will decide on a strategy for literature searching on their problem – initial searching to be completed before the next lab period.

Weeks of Feb 9 and Feb 16: Groups will do background research on their problem and prepare a plan of study.


**Starting February 9:** Each Group will hold a formal meeting at least once a week to discuss progress from the previous week and plans for the upcoming lab session. The meeting will be lead by one student from the group, and everyone will take turns being group leader. Management will attend the meetings, but will not lead the meetings. Students need to identify the relevant instrumentation for their project, starting the week of Feb 16th, so they can begin their training.

**Feb 16th through Feb 26th:** Students need to acquire training on relevant instruments. Students are responsible for coordinating training sessions with Travis Witte.

**Feb 23 and 24 – Finalizing plans.** A written “Plan of Study” report from each group is due to management by 5 PM on March 4. You will also give an oral report on your planned detection method during the Chem 635 class on March 3.

**March 1 to April 6:** Work on problem.

**Progress report due April 8, 5PM.** Presentation, to be presented during the Chem 635 class on April 7. Continue working on problem during lab time.

**April 11 through May 6:** Complete work and wrap up project.

**Last week:** Attendance at the 13th International Symposium on Instrumental Analysis Laboratory” on May 2 is required. Each group will give an oral presentation and poster. Individual evaluations by each group member will be collected. Lab clean-up. Final written report is due May 6.

**Grading:**

Grades will be a combination of individual and group performance with approx. 50% weight allocated for each. Grades for each oral and written assignment will be assigned by H. Desaire, in consultation with the TAs. Grades for lab skills and individual contributions to each assignment will be assigned by the project leaders, in consultation with T. Witte and H. Desaire.

Lab skills and individual contributions to each assignment: 45%
- Each member of the team will receive the same grades on the following, unless a gross imbalance in the workload occurs.
  - Presentation on March 3: 5%
  - Plan of study, due March 4: 10%
  - Presentation on April 7: 5%
  - Written Progress report April 8: 10%
  - Presentation and poster at Colloquium (May 2): 10%
  - Final written report (May 6): 15%
More information about the requirements for each assignment will be provided prior to the assignment due dates. Written assignments are due at 5 PM on the day they are assigned. They should be emailed to hdesaire@ku.edu and to your TA.

Professional Ethics

As this course is intended to prepare you to function as a professional scientist, proper professional conduct is expected. In this regard your attention is called to the definition of academic misconduct as described in the University Senate regulations:

Academic misconduct by a student shall include, but not be limited to, disruption of classes, giving or receiving of unauthorized aid on examinations or in the preparation of notebooks, themes, reports, or other assignments, or knowingly misrepresenting the source of any academic work.

Disabilities

Any student in this course who has a disability that may prevent him/her from fully demonstrating his/her abilities should contact the Instructor personally as soon as possible so that accommodations necessary to ensure full participation and facilitate the educational opportunity can be established.

KU Core: Chem 636-Instrumental Methods Lab fulfills Goal 6, Learning Outcome 1.