Inorganic Chemistry Laboratory       CHE-443
Spring - 2011

Instructor
Professor Andrei Jitianu –PhD

Office Hours: Tuesday & Wednesday 11:30-12:30
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Course Description
CHE-443 – Inorganic Chemistry
One Laboratory of 4 hours are offered per week - Monday 12:30-4:20
4 hours / 1 credit
Inorganic synthesis and characterization of compounds by instrumental and other modern techniques.

Prerequisites CHE-234 and CHE-235
Corequisites: CHE 344 and CHE-442.

Place of course in degree program
This laboratory is a degree program requirement for Chemistry and Biochemistry program.

Academic or Learning Objectives
Student Learning Outcomes: After completing this Laboratory students should be able to:
- to prepare simple inorganic compound which have various applications; to know to write the chemical equation of the prepared compounds; to know the structure of the prepared compounds
- to understand the principle that govern the synthesis of coordinative compounds.
- to understand the principle that govern the electronic spectra and to correlate those with the UV-VIS spectra of the coordinative compounds.
- to know how to survey the literature using scientific search engines
- To know how to put together a scientific report in a journal paper format and how to make a scientific presentation.

Required Readings
No textbook is required for this class. Advanced Inorganic Laboratory –handouts will be provide before each lab

Laboratory Reports: - Laboratory reports are due one week after completion. One point (out of the maximum of one hundred) will be deducted for each day (or part thereof) that the report is late. The reports will be not accepted anymore after two weeks from the date when those were supposed to be turned in.
- The lab reports should
  o have a journal paper format
  o describe the experiments and contain all the chemical equations of
    the reactions done in the lab,
  o answer to the “Questions to be considered”
  o answer to all questions which will be given by the instructor before
    each laboratory.

**Course Requirements and Grading**

Laboratory work and reports 50%:
Quiz 10 %;
Literature report 25%
Literature report presentation 15%

No passing grade a student will obtain if:
- miss more than one experiment;
- not check out;
- not turn in the Literature report
- not present Presentation based on Literature Report

**No make-up laboratories will be given. This is in accordance with the chemistry department’s policy.**

**Attendance Policy**
The attendance to the laboratory is compulsory. A student cannot miss more than ONE
laboratory. For the case of missing more than one laboratories the student will not receive
a passing grade. **No make-up laboratories will be given. This is in accordance with
the chemistry department’s policy.**

**Accommodating Disabilities**
Lehman College is committed to providing access to all programs and curricula to all
students. Students with disabilities who may need classroom accommodations are
encouraged to register with the Office of Student Disability Services. For more
information, please contact the Office of Student Disability Services, Shuster Hall, Room
238, phone number, 718-960-8441.

**Classroom Policy:**

**Food policy:** Food and drinks are not allowed in the classroom.

**Cell Phone Policy.** Cell phones are disruptive, even in vibrate mode. Make sure
your cell phones are in silent mode before class starts. Text-messaging during class is
also highly disruptive (besides absolutely rude) and is forbidden. If a cell phone rings
during class, lecture will be stopped, until the student will shut down the device and the
following penalties are applicable

5 pts penalty if your cell phone rings while I am in class; 10 pts penalty if you
continue the disturbance (e.g., by letting it ring again); 15 pts penalty for 1st
ring on 2nd occasion;
**Electronic devices Policy** No electronic devices can be used or kept accessible during examinations; this includes, but is not limited to i-Phones, cell-phones, beepers, iPods, MP3 players, tape-recorders, PDAs, **bluetooth** and other computing or music devices. Only **basic** calculators will be allowed.

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**Academic Integrity**

While honest scholarship is time-consuming and often requires hard work, it is also the primary process by which students learn to think for themselves. Faculty members must teach respect for methods of inquiry within the various disciplines and make assignments that will encourage honest scholarship; students in turn must uphold a standard of honesty within the College, thereby affirming the value and integrity of their Lehman degree. The following definitions and procedures govern cases involving undergraduate student work.

The most common forms of academic dishonesty are cheating and plagiarism. Cheating is the use or attempt to use unauthorized material, information, notes, study aids, devices, or communication during an academic exercise (for example, using unauthorized books, papers, or notes during an examination; or procuring, distributing, or using unauthorized copies of examinations). Plagiarism means the failure to give credit for the source of another's words or ideas, including but not limited to books, articles, interviews, and multimedia and electronic sites, or—as in the use of borrowed or purchased papers—passing off another person's work as one's own. (Section 213-b of the New York State Education Law prohibits the sale of term papers, essays, and research reports to students enrolled in a college.) Common forms of cheating and plagiarism are highlighted in this Bulletin.

Academic dishonesty is a serious violation of the accepted values of the College. When questions of a breach of academic integrity arise, instructors will inform the students of their suspicions and provide the student with a Faculty Report Form for Incidents of Suspected Academic Dishonesty. The instructor must remember that a student's failure to respond to charges of academic dishonesty is not in and of itself an indication of guilt. The report will include an explanation of the incident, the instructor's intended academic sanction, and an indication whether or not the instructor is recommending that the College undertake disciplinary proceedings pursuant to Article 15 of the Board of Trustees Bylaws.

Academic sanctions may include but are not limited to the following:

1. **a grade of F for the course.**

Disciplinary procedures are governed by Article 15 of the Board of Trustees Bylaws. In the event the student is found guilty of academic dishonesty by a Faculty-Student Disciplinary Committee, penalties that may be imposed include but are not limited to: 1) suspension from the College or 2) expulsion from the College. Although the Office of the Vice President for Student Affairs will be guided by the recommendation of the instructor, it reserves the right to seek disciplinary sanctions under the disciplinary procedures.

Should the instructor become convinced that the suspicions are unfounded, no further action will be taken and the Faculty Report Form will be destroyed. If the suspicions are founded and if both the student and the instructor are willing, they may agree upon a resolution. Subsequently the instructor will present the completed Faculty Report Form, including the charges and resolution, to the department chair who must forward the appropriate copies of the form to the Office of Academic Standards and Evaluation, and the Office of the Vice President for Student Affairs. If no agreement is reached, the instructor must allow a student to complete all coursework until the following appeal process has been completed.

- The first step in the appeals process is for the instructor to file the Faculty Report Form with the chair. If the term is completed, the instructor may assign a grade that reflects the intended sanction.
but must also provide a final grade that does not include the intended sanction if the charges are not upheld.

- If the charges are for cheating, then the chair will submit the charges to the Office of the Vice President for Student Affairs. If the charges are for plagiarism, the chair will appoint a committee of three Lehman College faculty members, which will adjudicate the matter within three weeks by majority vote. If the chair is the instructor in question, the senior member of the department Personnel and Budget Committee will act for the chair. The committee will provide written notification of its decision to the chair, who will forward this recommendation and the Faculty Report Form to the Office of the Vice President for Student Affairs.

- The Office of the Vice President for Student Affairs will review the recommendations of the instructor and the committee for possible disciplinary sanctions and provide a written notification of its decision to the department chair, the student, the instructor, and the Office of Academic Standards and Evaluation. Either the instructor or the student has the right, within three weeks of receipt of notification, to appeal the department decision in writing to the Committee on Admissions, Evaluation, and Academic Standards, which will act as adjudicator of last resort. Should any part of the three-week period fall outside the regular semester, the first three weeks of the next regular semester shall apply.

The Office of Academic Standards and Evaluation will keep all records of such proceedings on file until the student's graduation, at which time they will be destroyed.

As a result of a second upheld charge of academic dishonesty, disciplinary procedures will be pursued by the Office of the Vice President for Student Affairs as governed by the procedures under Article 15 of the Board of Trustees' Bylaws.

**The following definitions and examples are adapted from the CUNY Policy on Academic Integrity.**

**Cheating** is the unauthorized use or attempted use of material, information, notes, study aids, devices, or communication during an academic exercise. Examples of cheating include, but are not limited to the following:

- Copying from another student during an examination or allowing another student to copy your work.
- Unauthorized collaboration on a take-home assignment or examination.
- Using illegal notes during a closed-book examination.
- Taking an examination for another student, or asking or allowing another student to take an examination for you.
- Changing a graded exam and returning it for more credit.
- Submitting substantial portions of the same paper for more than one course without informing each instructor.
- Preparing answers or writing notes in a blue book (exam booklet) before an examination.
- Allowing others to research and write assigned papers or do assigned projects, including the use of commercial term paper services.
- Giving assistance to acts of academic misconduct or dishonesty.
- Fabricating data (all or in part).
- Submitting someone else's work as your own.
- Unauthorized use during an examination of any electronic devices, such as cell phones, palm pilots, computers, or other technologies to send or retrieve information.

**Plagiarism** is the act of presenting another person's ideas, research, or writings as your own. Examples of plagiarism include, but are not limited to the following:

- Copying another person's actual words without the use of quotation marks and citations.
- Presenting another person's ideas or theories in your own words without acknowledging the source.
- Using information that is not common knowledge without acknowledging the source.
- Failing to acknowledge collaborators on assignments.
- Purchasing or downloading term papers online.
- Paraphrasing or copying information from the Internet without citing the source.
- "Cutting and pasting" from various sources without proper attribution.

**Course topics**
The following topics will be covered:

*Synthesis of simple inorganic compounds; Synthesis of the coordinative compounds; Characterization of the Inorganic compounds. UV-Vis spectroscopy*

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<th>Experiment</th>
<th>Date</th>
<th>Lab</th>
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<tr>
<td>1.</td>
<td>01/31/11</td>
<td>Check-in</td>
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| 2.         | 07/02/11 | **Dry Laboratory;**  
Surf the literature using the SciFinder Scholar; American Chemical Society Literature survey. Research topic for a literature report and presentation |
| 3.         | 02/28/11 | **Preparation of Sodium Peroxoborat** |
| 4.         | 03/07/11 | **Synthesis of 12-Tungstophosphoric Acid – Keggin Ions** |
| 5.         | 03/14/11 | **Copper Compounds**  
Preparation of Potassium Trichlorocuprate (II); Preparation of Tris(thiourea)copper (I) |
| 6.         | 03/21/11 | **Ethylene diamine Complexes of Cobalt and Nickel** |
| 7.         | 03/28/11 | **Absorption spectra of Transition Metal Complexes** |
| 8.         | 04/04/11 | **Check out and Quiz** |
| 9.         | 05/02/11 | **Literature report is due** |
| 10.        | 05/09/11 | **Powerpoint presentations for each student**  
10 minute for presentation and 5 minutes for questions and answers |

Please Note: This schedule is subject to minor change so that course material can be best presented. **All reading assignments are to be completed before class.**