

**Advanced Inorganic Chemistry**  
**Chemistry 341**  
**Spring 2019**

**Description:** Chemistry 341 is designed to be your final preparative lab before starting a career in chemistry. Thus, the course finishes your undergraduate education in chemistry by demonstrating many modern techniques and illustrating principles learned in your inorganic course (Chemistry 340). In addition, the course seeks to prepare you for entry into the laboratory environment, be it academic or industrial. As such, an emphasis will be placed on your preparation of a quality notebook and final reports in addition to your successful completion of the experiments.

**Instructor:** Wei-Tsung Lee, office FH 402 A, telephone (773)508-3205

**Time and Location:** Friday, 1:40–5:30 pm, FH 204

**Office Hours:** Tuesday, Wednesday, and Thursday 4:00–5:00 pm (*Wei-Tsung Lee*)  
Friday 9:00–11:00 am (*Adriana Lugosan*)

**Textbook:** None other than a bound laboratory notebook

**Grading:** Your grade is determined primarily by your written reports with a minor portion resulting from other aspects (notebooks, safety, etc.). The breakdown can be seen below.

Grading Scale:

Lab Reports and Results	7 × 100 pts	700
Notebooks	4 × 10 pts	40
Safety	45 pts	45
Cleanup and Checkout	15 pts	<u>15</u>
Total		800

*Letter Grade:*

A: 100-87%, A-: 87-84%, B+: 84-81%, B: 81-77%, B-: 77-74%, C+: 74-71%, C: 71-67%, C-: 67-64%, D+: 64-61%, D: 61-57%, D-: 57-54%, F < 54%

Lab Reports – These formal reports are to be turned in by **8:15 am** the dates listed on schedule on the next page. Details of the lab report requirements can be found in three handouts given out the first day of class (*Pike p34-35, JACS, Lab Reports*).

Notebooks – Notebooks are collected at the end of the class period listed in the schedule below. They will be graded for completeness/accuracy (4 pts), format (3 pts), and neatness (3 pts).

Completeness includes your prelab which is checked at the start of the lab. When evaluating neatness, two random sentences will be chosen from your notebook. If every

letter of that sentence is not clear, points will be deducted. Your notebook should follow the rules outlined in the handout (Pike p31-34).

**Safety** – Lab safety is paramount. It is important to me and it will be important to your future bosses. Hopefully it is important to you. Any time you are in the lab you should be wearing lab glasses or goggles. Good chemical hygiene should be employed. At no time should you be touching chemicals without gloves. At no time should gloves (dirty or not!) be touching anything outside the lab or your cell phone! Cell phone use is not allowed in lab though you may leave the lab if it is urgent. Computers should be segregated from experiments. Other unsafe practices are not allowed. 5 points are deducted per instance.

**Cleanup** – For one or two class periods this semester (schedule at the bottom of the page), you are responsible for ensuring that the laboratory benches and common areas are clean and encouraging your classmates to cleanup after themselves. Drawers must also be kept clean.

**Course Repeat Rule:** Effective with the Fall 2017 semester, students are allowed only THREE attempts to pass Chemistry courses with a C– or better grade. The three attempts include withdrawals (W). After the second attempt, the student must secure approval for a third attempt. Students must come to the Chemistry Department, fill out a permission to register form or print it from the Department of Chemistry & Biochemistry website: <http://www.luc.edu/chemistry/forms/> and obtain a signature from the Undergraduate Program Director, Assistant Chairperson, or Chairperson in Chemistry. A copy of this form is then taken to your Academic Advisor in Sullivan to secure final permission for the attempt.

**Students Accommodations:** If you have any special needs, please let me know in the first week of classes. The university provides services for students with disabilities. Any student who would like to use any of these university services should contact the Services for Students with Disabilities (SSWD), Sullivan Center, (773)508-3700. Further information is available at <http://www.luc.edu/sswd/>.

**Academic Integrity:** All students in this course are expected to have read and to abide by the demanding standard of personal honesty, drafted by the College of Arts & Sciences, which can be viewed at:

<http://www.luc.edu/cas/advising/academicintegritystatement/>

A basic mission of a university is to search for and to communicate the truth as it is honestly perceived. A genuine learning community cannot exist unless this demanding standard is a fundamental tenet of the intellectual life of the community. Students of Loyola University Chicago are expected to know, to respect, and to practice this standard of personal honesty. Academic dishonesty can take several forms, including, but not limited to cheating, plagiarism, copying another student's work, and submitting false documents.

Any instance of dishonesty will be reported to The Chair of The Department of Chemistry & Biochemistry who will decide what the next steps may be.

**Loyola University Absence Policy for Students in Co-Curricular Activities:** Students missing classes while representing Loyola University Chicago in an official capacity (e.g.

intercollegiate athletics, debate team, model government organization) shall be allowed by the faculty member of record to make up any assignments and to receive notes or other written information distributed in the missed classes. Students should discuss with faculty the potential consequences of missing lectures and the ways in which they can be remedied. Students must provide their instructors with proper documentation (develop standard form on web) describing the reason for and date of the absence.

This documentation must be signed by an appropriate faculty or staff member, and it must be provided as far in advance of the absence as possible. It is the responsibility of the student to make up any assignments. If the student misses an examination, the instructor is required to give the student the opportunity to take the examination at another time. (<https://www.luc.edu/athletheadvising/attendance.shtml>)

**Approximate schedule:**

1/18	Intro, Notebook & Safety, Check-in, Lab#1	1	
1/25	IR Spectra, Report drafting	2	
1/31		-	<b>Report 1 due</b>
2/1	Report 1 Debrief/Setup Lab #2	3	
2/8	Lab #2: <i>trans</i> -[Co(en) <sub>2</sub> Cl <sub>2</sub> ]Cl	4	NB due
2/15	<i>cis</i> -[Co(en) <sub>2</sub> Cl <sub>2</sub> ]Cl, UV/vis, practice literature	5	
2/22	Lab #3: M(acac) <sub>3</sub> (one partner Mn, one Cr)	6	Report 2, NB due
3/1	Magnetic Susceptibility / Infrared Spectroscopy	7	
3/8	Spring Break	-	
3/15	Lab #4: Crystal Field UV-Visible Spectra	8	Report 3 due
3/22	Lab #5 NMR: Styrene Hydrosilylation Kinetics	9	Report 4 due, NB due
3/29	NMR: Kinetics, Product Analysis	10	
4/5	Lab #6 Superconductor	11	Report 5 due
4/12	Lab #7 Au Nanoparticle + TEM, UV-vis	12	Report 6 due, NB due
4/19	Makeup Lab	-	Report 7 due
4/26	Cleanup/Senior Survey	-	