

**Syllabus**  
**UNIV 102-023 Loyola Seminar – Intro to Chemistry Research**  
 Spring 2018, Loyola University Chicago

<b>Instructors:</b>	Prof. Miguel Ballicora Prof. Hee Yeon Cho Prof. Wei-Tsung Lee	Prof. Daniel Becker Prof. Jacob Cizek Prof. Dali Liu	Prof. Paul Chiarelli Prof. Daniel Killelea Prof. Agnes Pecak
<b>Guest Lecturers:</b>	Prof. Daniel Graham (1/24), Prof. Ken Olsen (2/7)		
<b>Office:</b>	Prof. Hee Yeon Cho: Flanner Hall 209 ( <i>Coordinator</i> )	Prof. Linda Brazdil: Cudahy Science 420 ( <i>FYRE Program Director</i> )	
<b>Phone:</b>	773-508-3255	773-508-3103	
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<b>Office Hours:</b>	M/W 3:40–4:40 pm in Flanner Hall 209	Tu 11:30–12:30 pm, W 1:30–3:00 pm, or By Appointment in Cudahy Science 314	
<b>Class Time:</b>	Wednesday 10:25–11:15 am		
<b>Class Location:</b>	Sullivan Center – Room 290		

**Course Description**

This course is designed to prepare students for conducting research in chemistry and to develop a community of scientists among students. In addition to a series of lectures on research, opportunities to visit chemistry and biochemistry laboratories at Loyola will be provided. Near the end of the semester, students can select areas of interest to them for their three-week summer research.

**Prerequisite**

Selection as a FYRE (First-Year Research Experience) scholar.

**Course Objectives**

This course aims to help the student in the following areas:

- *Essential Components of the Course (IDEA Objectives).*
  - Learn to apply course material to improve thinking, problem solving and decision-making.
  - Gain broader understanding and appreciation of the intellectual/cultural activity of science.
  - Acquire an interest in learning more by asking questions and seeking answers.
- *Connection to the “Hungers” of Loyola University’s Transformative Education.* Within the spirit of Jesuit education traditions and practices, this course seeks to assist each student in fostering hungers associated with the University’s model of transformative education (<http://www.luc.edu/transformatived/>). The study of research in chemistry can also assist in development of the specific hungers below:
  - A Hunger for Integrated Knowledge – by building an understanding of a variety of chemical concepts and applying them to problems in many contexts.
  - A Hunger for a Moral Compass – by examining the variables, benefits, and detriments that exist at the interface of applied science, technology, environment, and society.
  - A Hunger for a Global Paradigm – by examining the variables, benefits, and detriments that exist at the interface of applied science, technology, environment, and society.

**Academic Honesty**

Academic honesty is an expression of interpersonal justice, responsibility and care, applicable to Loyola University faculty, students, and staff, which demands that the pursuit of knowledge in the university community be carried out with sincerity and integrity. The School of Education's Policy on Academic Integrity can be found at: [http://www.luc.edu/education/academics\\_policies\\_integrity.shtml](http://www.luc.edu/education/academics_policies_integrity.shtml).

The definitions of cheating, plagiarism, fabrication, and falsification are given at this site will be used in determining whether a student has violated academic integrity. Additionally, a clear and thorough discussion of plagiarism, including examples, can be found on the English Department's website at: <http://www.luc.edu/english/writing.shtml#source>.

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, that can be viewed at: [http://www.luc.edu/cas/pdfs/CAS\\_Academic\\_Integrity\\_Statement\\_December\\_07.pdf](http://www.luc.edu/cas/pdfs/CAS_Academic_Integrity_Statement_December_07.pdf).

Anything you submit that is incorporated as part of your grade in this course (*e.g.* quiz, examination, homework, paper, presentation) must represent your own work. Any student found to have cheated on, plagiarized, fabricated, or falsified any portion of a test or assignment will receive a zero on that test or assignment and this grade cannot be dropped. The student has the right to appeal the instructor's decision. If the student does so, the Academic Grievance Procedure described at [http://www.luc.edu/academics/catalog/undergrad/reg\\_academicgrievance.shtml](http://www.luc.edu/academics/catalog/undergrad/reg_academicgrievance.shtml) will be followed. If a student is found to have cheated on, plagiarized, fabricated, or falsified any portion of a test or assignment for a second time in this class, they will receive an F for the class. In all cases of academic dishonesty, the instructor will report the incident to the Office of the CAS Dean. Depending on the seriousness of the incident, additional sanctions may be imposed.

**Accessibility**

Students who have disabilities that they believe entitle them to accommodations under the Americans with Disabilities Act should register with the Services for Students with Disabilities (SSWD) office. To request accommodations, students must schedule an appointment with an SSWD coordinator. Students should contact SSWD at least four weeks before their first semester or term at Loyola. Returning students should schedule an appointment within the first two weeks of the semester or term. The University policy on accommodations and participation in courses is available at: <http://www.luc.edu/sswd/>.

**Harassment (Bias Reporting)**

It is unacceptable and a violation of university policy to harass, discriminate against or abuse any person because of his or her race, color, national origin, gender, sexual orientation, disability, religion, age or any other characteristic protected by applicable law. Such behavior threatens to destroy the environment of tolerance and mutual respect that must prevail for this university to fulfill its educational and health care mission. For this reason, every incident of harassment, discrimination or abuse undermines the aspirations and attacks the ideals of our community. The university qualifies these incidents as incidents of bias.

In order to uphold our mission of being Chicago's Jesuit Catholic University that is a diverse community seeking God in all things and working to expand knowledge in the service of humanity through learning, justice and faith, any incident(s) of bias must be reported and appropriately addressed. Therefore, the Bias Response (BR) Team was created to assist members of the Loyola University Chicago community in bringing incidents of bias to the attention of the university. If you believe you are subject to such bias, you should notify the Bias Response Team at this link: <http://webapps.luc.edu/biasreporting/>.

**Grading Policy**

Course Grade:

(1) 7 Assignments	850	85%
(2) Attendance	150	15%
Total	1000	100%

#	Assignments	Due Dates ( <i>by 10:25 am</i> )	Points
1	Faculty website assignment	January 24, 2018	100
2	Online safety course	February 7, 2018	300
3	Summary of faculty research A	February 21, 2018	100
4	Research metrics search	February 28, 2018	100
5	Summary of faculty research B	March 14, 2018	100
6	List of top three choices	April 11, 2018	50
7	Retracted publication write-up	April 18, 2018	100

(1) Assignments (850 points) will be graded as described below:

- *Paper copies* of all assignments are to be turned in at the beginning of class (10:25 am) of the due dates. The online safety training (Assignment #2) will be completed online.
- All hand-in assignments should be *typed*, except for #6. Any hand-written assignments will *not* be accepted.
- Late assignments will be accepted up to 24 hours after the due at a deduction of *50 points*.
- Assignments will be graded with full points given for well-written and topical summaries. Typically, 15 points is deducted from a given assignment for significant language or topical problems.

(2) Attendance points (150 points) will be assigned as described below:

- Any absence that is not approved by Dr. Cho will result in a deduction of *50 points*.
- Tardiness will result in a deduction of some attendance points (10–40 points).
- Multiple absences could result in your not being permitted to participate in the summer research.

Grading Scale:

A = 92–100%	C = 72–75.5%
A– = 89–91.5%	C– = 69–71.5%
B+ = 86–88.5%	D+ = 66–68.5%
B = 82–85.5%	D = 62–65.5%
B– = 79–81.5%	D– = 51–61.5%
C+ = 76–78.5%	F = 0–50.5%

**Norms of Course Proceedings**

Class time is designed to engage students in activities that advance their understanding of chemistry and chemical research. Electronic media (*e.g.* laptops and tablets) should be used only as to enhance the activity of the class. Cell phones should be turned off during class time.

Email messages and other electronic communication among students in the course should be respectful, appropriate, and professional. Only emails from your Loyola account will be accepted, and the instructor will only send emails to your Loyola University account.

### Schedule for Spring 2018

<b>Date (Wed)</b>	<b>Topics</b>	<b>Assign Due</b>	<b>Faculty</b>	<b>Location</b>
1/17	Course introduction & Faculty website discussion		Dr. Cho	Sullivan 290
1/24	Lab safety	#1	Dr. Graham	Sullivan 290
1/31	How to read a scientific paper & Why science is important to the community		Dr. Ballicora	Sullivan 290
2/7	Main branches of chemistry and biochemistry	#2	Dr. Olsen	Sullivan 290
2/14	Introduction to research groups (I) ➤ Ballicora, Becker, Killelea & Liu		Dr. Liu	Sullivan 290
2/21	Research metrics: publications, awards, and funding	#3	Dr. Killelea	Sullivan 290
2/28	Introduction to research groups (II) ➤ Chiarelli, Cho, Ciszek & Lee	#4	Dr. Lee	Sullivan 290
3/7	<b>Spring Break</b>			
3/14	How to prepare for graduate schools in science	#5	Dr. Becker	Sullivan 290
3/21	Research in chemistry and biochemistry at Loyola – Lab visits (I)*		Dr. Ballicora Dr. Becker Dr. Lee Dr. Liu	Flanner Hall 405, 217, 402, 422
3/28	Research in chemistry and biochemistry at Loyola – Lab visits (II)*		Dr. Chiarelli Dr. Cho Dr. Ciszek Dr. Killelea	Flanner Hall 102, 209, 122, 019
4/4	How to select a research group & Debrief of research groups		Dr. Chiarelli	Sullivan 290
4/11	Ethics in research	#6	Dr. Ciszek	Sullivan 290
4/18	Q&A with a graduate student	#7	Dr. Pecak & TBA	Sullivan 290
4/25	Meeting with your faculty advisor to prepare for summer research**		All	Flanner Hall

\* Detailed schedules for lab visits will be announced after spring break.

\*\* FYRE summer research in each research lab will be conducted for three weeks from 5/14 (Monday) until 6/1 (Friday).

#### Changes to Syllabus

There may be changes to the syllabus during the semester. You are responsible for all syllabus changes that are made in class whether you attend or not.