

SPECIAL TOPICS IN CHEMISTRY 395-425 – SPRING 2021

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LECTURE/DISCUSSION: Mo/We/Fr 8:10 AM-9:00 AM ONLINE CHEM 395-001-3863;
CHEM 425-001-3864

OFFICE HOURS: Monday & Wednesday 9:00 AM-10:00 AM (right after lecture)
or e-mail me to schedule an appointment

REQUIRED RESOURCES

This is an **online-only synchronous course**, and a *desktop or laptop computer with working camera and high-speed Internet access* is required. Wired (ethernet cable) internet is preferred, but WI-FI is acceptable if the connection is reliable. If you do not have a desktop/laptop computer or Internet service, you need to contact the [Information Commons extended loan equipment program](#) within the first few days of the start of the course and arrange for these resources. The Instructor is not responsible for coordinating these resources for students.

Required Text: Selected Journal articles;

Recommended Text: *Principles of Fluorescence Spectroscopy*. Joseph R. Lakowicz, 3rd edition;
Molecular Devices and Machines. Concepts and Perspectives for the Nanoworld.
Vincenzo Balzani, Alberto Credi, Margherita Venturi, 2nd edition

Additional Resources *Photochemistry and Photophysics. Concepts, Research, Applications*. Vincenzo Balzani,
Paola Ceroni, Alberto Juris
Modern Molecular Photochemistry. Nicholas J. Turro

Course Website sakai.luc.edu

COURSE DESCRIPTION

This course will introduce students to recent advances in the design, synthesis, and applications of nanoscale synthetic molecular sensors and biosensors. Special emphasis will be placed on the photophysics of these systems.

Outcome: Critically analyze the design, performance and applicability of the proposed sensors.

COURSE OBJECTIVES

At the end of the semester every student will be asked to complete an evaluation of this course via online program for instructor and course evaluation. The evaluation criteria for this course are as follows:

1. Gaining a basic understanding of the subject (e.g. factual knowledge, methods, principles, generalizations, theories)
2. Developing knowledge and understanding of diverse perspectives, global awareness, or other cultures
3. Learning to apply course material (to improve thinking, problem solving and decisions)
4. Gaining a broader understanding and appreciation of intellectual/cultural activity (music, science, literature, etc.)
5. Learning to analyze and critically evaluate ideas, arguments, and points of view

EXAMS AND GRADING

The final letter grades will be given based on the points scored in the course.

Presentation	50%
Leading the discussion/answering questions	25%
Participation in other discussions	25%

Final Grades

A guideline for grades is shown below.

A	=	94-100%	C+	=	71-74%
A-	=	88-93%	C	=	64-70%
B+	=	85-87%	C-	=	60-63%
B	=	79-84%	D	=	50-59%
B-	=	75-78%	F	=	0-49%

SYLLABUS

The current syllabus is posted on Sakai and is subject to change (dated at the top) during the semester. You are responsible for all changes announced whether or not you are in attendance.

DISCUSSION

Every class will be held in lecture/discussion format and will be devote to reading and analyzing scientific papers, and discussing theoretical background. Students are encouraged to raise/answer questions.

HOMEWORK

Students are expected to read the assigned scientific papers before the class.

SAKAI MATERIALS

All handouts provided in class will be mirrored on Sakai.

INTELLECTUAL PROPERTY

All lectures, videos, notes, PowerPoints and other instructional materials in this course are the intellectual property of the Instructor, and are so marked on Sakai and elsewhere. As a result, they may not be distributed or shared in any manner, either on paper or in virtual form, without written permission. In lecture and discussion, no photographs or recordings of any kind are allowed without the expressed written permission of the instructor.

DISABILITIES

CAS has accommodations for students with disabilities (SSWD), including a testing center in the Sullivan Center. For more information see <http://www.luc.edu/sswd/>.

COURSE REPEAT RULE

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 personally meet and obtain a signature from either 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.

ABSENCE POLICY

As stated above, there are no early nor make-up exams in this course. Normally, if you miss an exam you will receive a score of zero on that exam.

There are five exceptions to this rule, which apply only in very limited circumstances, as per University Regulations.

- (a) Absence due to medical emergency. This exemption will be granted only under the most extraordinary circumstances. The student must be able to demonstrate beyond doubt that it was a medical emergency. The student must supply the instructor with a doctor's verification of the emergency. If a student has a medical emergency, they must see a doctor immediately or go to a hospital emergency room that day. Colds, headaches, sore-throats, etc. do not constitute medical emergencies.
- (b) Death of a member in the immediate family, with appropriate documentation.
- (c) Court appearance that cannot be rescheduled, with appropriate documentation.
- (d) Absence while representing Loyola University in an official capacity (academic, athletic, etc.) with appropriate documentation.
- (e) Religious obligation requiring the student to miss class, with appropriate documentation.

If you must miss an exam for one of the reasons specified in University regulations, please let me know as soon as practical, and submit supporting and verifiable documentation. In such cases your final exam will be weighted more to compensate for the missed exam. It is in your interest to not miss an exam for any reason. For appropriate final exam scheduling issues, students must e-mail a petition to Lester Manzano, Assistant Dean for Student Academic Affairs, CAS Dean's Office (Imanzan@luc.edu).

Other exams or a heavy workload during your exam day are not valid reasons for missing your exam. Missing, stolen, or lost textbooks or class notes are not a sufficient reason to delay taking the exam at the scheduled time. Vacation travel plans or a desire to end your semester early are not valid reasons for missing an exam.

WELLNESS

If there are events in your personal life that directly affects your performance in this course and others, please consult me or contact the Wellness Center (<http://www.luc.edu/wellness/>) or the Dean of Students Office (<http://www.luc.edu/dos/>). These resources are included in your tuition and may be an invaluable resource during the completion of your degree.

DROPPING AND WITHDRAWAL

January 25: Last day to withdraw without a "W" grade

February 1: Last day to withdraw with a 100% Bursar credit

February 15: Last day to withdraw with a 50% Bursar credit

February 22: Last day to withdraw with a 20% Bursar credit

March 29: Last day to withdraw with a "W" grade, thereafter a "WF" will be assigned

week	Monday	Tuesday	Wednesday	Thursday	Friday
1			Lecture 1/20		Lecture 1/22
2	Lecture 1/25		Lecture 1/27		Lecture 1/29
3	Lecture 2/1		Lecture 2/3		Lecture 2/5
4	Lecture 2/8		Lecture 2/10	First Break	
5	Lecture 2/15		Lecture 2/17		Lecture 2/19
6	Lecture 2/22		Lecture 2/24		Lecture 2/26
7	Lecture 3/1		Lecture 3/3		Lecture 3/5
8	Second Break				Lecture 3/12
9	Lecture 3/15		Lecture 3/17		Lecture 3/19
10	Lecture 3/22		Lecture 3/24		Lecture 3/26
11	Lecture 3/29		Lecture 3/31	Easter	
12	Easter		Lecture 4/7		Lecture 4/9
13	Lecture 4/12		Lecture 4/14		Lecture 4/16
14	Lecture 4/19		Lecture 4/21		Lecture 4/23
15	Lecture 4/26		Lecture 4/28		Lecture 4/30