

San José State University
Science/Chemistry
Chemistry 270, Advanced Chemistry, Section 02, Fall 2019

Course and Contact Information

Instructor:	Dr. Gilles Muller
Office Location:	DH 412A
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Email:	gilles.muller@sjsu.edu (<i>preferred means of contact</i>)
Office Hours:	W, 16:00-17:00 (<i>other times by appointment</i>)
Class Days/Time:	W, 18:00-19:40
Classroom:	DH 415
Prerequisites:	Satisfactory background in upper division chemistry and instructor content

eCampus Course Page

Course materials such as pdf articles, handouts, and updates to this syllabus may be obtained by logging into Canvas from the [MySJSU](http://my.sjsu.edu/) homepage at <http://my.sjsu.edu/>. You are responsible for regularly checking with the messaging system in Canvas to learn any updates or changes in the schedule.

Course Description

Lectures, discussions and reading assignments in special fields of chemistry. Topics selected primarily from luminescence spectroscopy with significant discussion on the principles and applications.

Course Goals and Learning Objectives

Program Learning Outcomes (PLO)

[PLO's](#) for the MS or MA degree in Chemistry may be found at the following URL:
http://www.sjsu.edu/chemistry/Academic_Programs/Graduate_Programs/Graduate_Program_Learning_Objectives.html

Course Learning Outcomes (CLO)

(1) To become familiar with the luminescence spectroscopy used in research and industry for spectral characterization of metal-containing and organic compounds; (2) To appreciate the role of lanthanide(III) luminescence as a probe of spectroscopic properties of metal-containing systems; (3) to read and critique multiple journal articles from the scientific literature; (4) to

improve written and verbal communication skills as applied to topics in luminescence spectroscopy.

Suggested Textbook

There is no official textbook for the course. Suggested books and journal articles through the course of the semester will be considered. Relevant materials will be posted on Canvas.

Other Readings (not required, these may provide further clarification of various topics)

“Principles of Fluorescence Spectroscopy”, third edition, J. R. Lakowicz, 2006, 1999, 1983
Springer Science+Business Media, LLC, 233 Spring Street, New York, NY 10013, USA [ISBN-10: 0-387-31278-1 and ISBN-13: 978-0387-31278-1]

Primary literature will be essential for the topic in this course. You should have a student library account with the King Library that allows you access the [library electronic databases](#) (<https://libguides.sjsu.edu/az.php>) such as [SciFinder](#) (<https://scifinder.cas.org/>). If you plan to access the library services from off-campus, you may need to obtain a password and/or proxy to do so. Check the Library website for information.

Library Liaison

The Chemistry Library Liaison is Yen Tran (yen.tran@sjsu.edu)

There will be a mandatory meeting with Ms. Tran @ 18:00 in MLK Rm 217 on Wednesday, Aug 24, 2019.

Course Requirements

General

“Success in this course is based on the expectation that students will spend, for each unit of credit, a minimum of 45 hours over the length of the course (normally three hours per unit per week) for instruction, preparation/studying, or course related activities, including but not limited to internships, labs, and clinical practica. Other course structures will have equivalent workload expectations as described in the syllabus.” More details about student workload can be found in [University Policy S16-9](#) at <http://www.sjsu.edu/senate/docs/S16-9.pdf>.

NOTE that [University Policy S16-9](#) at <http://www.sjsu.edu/senate/docs/S16-9.pdf> states that *“Students should attend all meetings of their classes, not only because they are responsible for material discussed therein, but because active participation is frequently essential to insure maximum benefit for all members of the class. Attendance per se shall not be used as a criterion for grading.”*

Miscellaneous Assignments

Miscellaneous homework assignments include a 10-point quiz on plagiarism, intermediate steps in term paper preparation, and three peer evaluations of oral presentations.

Term Paper

Term papers will review a specific topic from luminescence spectroscopy, as selected by the student and approved by the instructor. Topics that differ from the class material are highly encouraged, but not required. Details for writing the term paper will be discussed in class. Writing expectations and grading criteria will be issued to each student in the form of a table near the beginning of the semester. See the course schedule for deadlines in preparation of the term paper.

Oral Presentation

The oral presentations will elaborate on the methods and results of a single journal article published within the last 5 years. The article should be referenced in the term paper and approved by the instructor. The length of the oral presentation should be 15-20 minutes with 5 minutes for questions and class discussion. Each presentation will be critiqued by one or more classmates in addition to the instructor.

Exam

This course is focused on developing the capacity to read and critically evaluate the literature and, in general to hone your critical thinking as a scientist. As such, there will be no exams. The term paper will represent the culminating activity for this course.

Grading Policy and Criteria

Letter grades will follow a traditional curve, the top 3% earning a plus grade and the bottom 3% earning a minus grade within each decade: 93.0-100% (A), 90.0-92.9% (A-), 87.0-89.9% (B+), 83.0-86.9% (B), 80.0-82.9% (B-), etc. The instructor reserves the right to lower the grading curve at the end of the semester if he deems it to be appropriate.

Miscellaneous	40 points (10 points for each assignment)
Peer evaluation	30 points (10 points for each evaluation)
Oral presentation	70 points
<u>Term Paper</u>	<u>110 points</u>
Total	250 points

Plagiarism of any sort will not be tolerated. Students who do not submit their own work will receive a zero, and continuing to do so will result in a failing grade in the course.

Safe and Respectful Community

I hope that the classroom will serve as an environment that will promote learning and the development of new ideas, as well as be a safe and respectful community. Behavior that interferes with the normal academic function in the lab is unacceptable. Students exhibiting this behavior will be asked to leave the class and will not be given the opportunity to make up the time. Students exhibiting this behavior will be asked to leave the class and will not be given the opportunity to make up the time. The university has a [brochure on student conduct](http://www.sjsu.edu/studentconduct/docs/ENGLISH%20Brochure.pdf) that you can view at <http://www.sjsu.edu/studentconduct/docs/ENGLISH%20Brochure.pdf>. Examples of such behavior include:

- a) Persistent interruptions or using disrespectful adjectives in response to the comments of others.
- b) The use of obscene or profane language.
- c) Yelling at classmates and/or faculty.
- d) Persistent and disruptive late arrival to or early departure from class without permission.
- e) Physical threats, harassing/bullying behavior, or personal insults (even when stated in a joking manner).
- f) Use of personal electronic devices such as pagers, cell phones, PDAs in class, unless it is part of the instructional activity.

Attendance Policy

Beyond the initial day of class, roll will not be taken. However, attendance of the lectures is mandatory. If you miss a lecture, you are still responsible for all the material discussed in lecture (some of which may not be in the text). Note we will cover a significant amount of material during each class meeting. If you miss class meetings, it will be difficult to catch up due to the volume. A tentative course outline is found at the end of this syllabus.

Be on time to class period and stay the entire time from 18:00 to 19:40 as a courtesy to the instructor and your colleagues. Cell phones and other devices should be turned off for class, unless they are being used to take notes. Please engage with the instructor and your colleagues as this way you will gain the most from it.

Email Policy

I receive a lot of emails, so to be sure that I see your email, all Chem 270 emails should have [Chem 270] in the subject line. I will do my best to respond to class-related emails within 1 business day of receiving them, however, keep in mind that this may not always be possible, especially during high volume times (around exams). Office hours are the best way to get timely answers to more complicated questions.

Assignment Deadlines

All assignments are required to be submitted on or before the assigned deadline. No assignments will be accepted after the deadline, and will result in a zero grade for that assignment.

Make-up Sessions Policy

There will be no makeup sessions for missed classes and/or oral presentations. A missed of your scheduled oral presentation and/or peer reviews will result in a zero grade for that assignment.

University Policies (Required)

Per [University Policy S16-9](http://www.sjsu.edu/senate/docs/S16-9.pdf) (<http://www.sjsu.edu/senate/docs/S16-9.pdf>), relevant information to all courses, such as academic integrity, accommodations, dropping and adding, consent for recording of class, etc. is available on Office of Graduate and Undergraduate Programs' [Syllabus Information web page](#) at <http://www.sjsu.edu/gup/syllabusinfo/>.

Tentative Course Schedule, Chem 270*(check Canvas for updates and pdf files)*

Week	Date	Topics, Readings, Assignments, Deadlines
1	Aug 21	Overview of Course; Writing Center resources; start review of concepts in ultraviolet and visible spectroscopy
2	Aug 28	Library Resources – Yen Tran (meet in MLK Rm 217)
3	Sept 4	<i>Review of concepts in ultraviolet and visible spectroscopy</i> <i>Plagiarism quiz taken by 17:00 on Sept 4</i>
4	Sept 11	<i>Review of concepts in luminescence spectroscopy</i>
5	Sept 18	<i>Review of concepts in luminescence spectroscopy</i>
6	Sept 25	<i>Review of concepts in luminescence spectroscopy</i> <i>paper topic due</i>
7	Oct 2	Writing Center Creating Easy-to-Read Sentences and Paragraphs – Amy Russo
8	Oct 9	Selected article discussion #1 <i>key references for term paper due</i>
9	Oct 16	Selected article discussion #2 <i>outline for term paper due</i>
10	Oct 23	Selected article discussion #3
11	Oct 30	Selected article discussion #4
12	Nov 6	Writing Center Oral Presentation Tips – Amy Russo
13	Nov 13	Oral presentations 1-4; peer reviews
14	Nov 20	Oral presentations 5-8; peer reviews
15	Nov 27	Non-instructional holiday (no classes held) <i>early term paper bonus</i>
16	Dec 4	Oral presentations 9-12; peer reviews
Final	Dec 11	Term paper in lieu of Final Exam due on Dec 11 by 17:00