

PTYS-510B — Spring 2019

Chemistry of the Solar System

Wednesday & Friday 11am – 12.15pm

Space Sciences 312

Instructor: Dr. Ilaria Pascucci (ilariapascucci.com)

Course Description and Format

This course will focus on the gas chemistry in planetary and astrophysical environments. Topics that will be covered include: quantum mechanics, atomic and molecular structure, spectroscopy, gas phase equilibrium, and kinetics. The class consists of lectures, homework assignments, and a final exam. This is a small class and should be highly interactive.

Pre-requisites: Instructional level is aimed at beginning graduate students with an adequate background comparable to that obtained from advanced undergraduate courses in physics and chemistry.

Grades will be based on homework (60%) and one final exam (40%). Extra points will be given based on participation. This course uses absolute grading. If your final percentage falls within the following ranges, you are guaranteed at least the corresponding letter grade

A:87.5-100%; B: 75-87.5%; C: 62.5-75%; D: 50-62.5%; E<50%

Homework

Homework assignments will be announced in class and will be posted on the d2l website after the class. Homework are typically graded on a 10-point scale. Late homework that are turned in the day after the due date will receive a 25% penalty while homework submitted later will receive a 50% penalty. Any homework submitted later than the first class after the due date will not be accepted. You are encouraged to work together but the work that you submit **MUST** be your own.

Exams

There will be a final exam covering material discussed in class and in the homework assignments.

Makeup Exams

Makeup exams are only allowed for the following reasons and must be taken within 2 weeks of the exam date:

1. University approved activity (dean's approval required);
2. Religious holidays (you must provide information on the holiday);
3. Medical emergency, for which you can provide a doctor's note;
4. Jury duty.

Suggested textbooks:

There are no required textbooks for the class. We will mostly follow the classic textbook entitled "Physical Chemistry" by Atkins (Oxford University Press). A copy is available in the LPL library. All lecture notes will be posted on the d2l website.

Students with Disabilities

If you anticipate barriers related to the format or requirements of this course, please meet with me so that we can discuss ways to ensure your full participation in the course. If you determine that disability-related accommodations are necessary, please register with Disability Resources (621-3268; drc.arizona.edu) and notify me of your eligibility for reasonable accommodations. We can then plan how best to coordinate your accommodations.

Academic Integrity

It is strongly recommended that all students read the University of Arizona's Code of Academic Integrity. Details can be found at <http://deanofstudents.arizona.edu/codeofacademicintegrity>. All students in this course are expected to abide by this code, which will be strictly enforced. Primary things you need to be aware of are:

- ***Cheating is not tolerated in any form.*** If a student is caught cheating on an exam, the penalty will be failure in the course. ***A letter will be sent to the Dean of Students describing the incident.*** If you are aware that someone else is cheating, it is your obligation to inform the instructor.

- ***Collaboration among students is encouraged BUT you must always write the final version of an assignment yourself, and use your own words to describe what you have concluded. If we receive verbatim answers from more than one person we will divide the credit received among all those with identical answers.*** This holds for math as well as text.

- It is fine to make use of reference books or web sites. But if you do so ***make sure to put in quotes what is taken verbatim from a different source***, otherwise make sure to rewrite things in your own words, and ***list the source of your information***. Plagiarism is strictly prohibited. If you are uncertain as to what constitutes plagiarism see:

<http://deanofstudents.arizona.edu/codeofacademicintegrity>.

Note that we will be using the software Turnitin within d2l to automatically check all assignments for plagiarism.

Threatening Behavior:

Check <https://policy.arizona.edu/education-and-student-affairs/threatening-behavior-students>

Late Arrival – Early Departure: Late arrivals and early departures can be very disruptive for the class. They can be accepted as an exception, but if for whatever reason a student needs to do so on a regular basis, he/she should contact the instructor ahead of time, and try to sit near the exit doors.

Cell Phones and Laptops: The use of cell phones is not allowed inside the class and it is strongly suggested that they are turned off before getting to class. If you accidentally forget to turn your cell phone off, I expect that if the cell phone rings you will turn it off immediately. **Talking on the phone during class is not allowed.** Failing to observe this rule will be considered poor class participation and affect the overall grade. Phone usage is strictly forbidden during exams.

No Food/Drinks: The Lunar & Planetary Laboratory does not allow food and drinks other than bottled water in the classroom, Space Science Room 312. Also, if you find a problem with a seat or its writing table, please let us know, so that the problem can be addressed as soon as possible.

Study Room: Space Science Room 330 is dedicated for general use by students and TAs. The room is open to students Monday through Friday from 8:00am through 5:00pm. The Planetary Sciences Department is not responsible for any file left by students in the computers of SS-330. There may be times when the room will be used for a laboratory-type class, and will be unavailable for a limited amount of time.