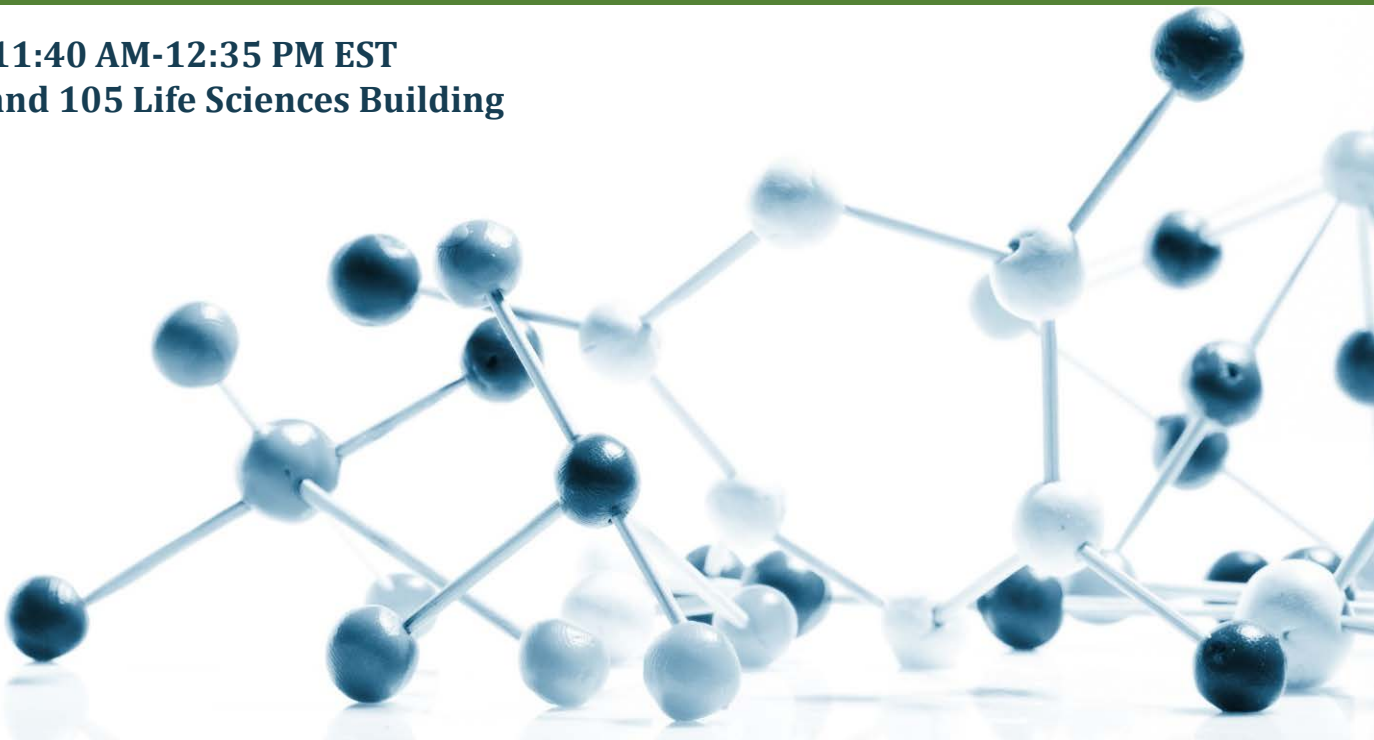


CHE 346

Physical Chemistry I

Fall 2020

M, W, F 11:40 AM-12:35 PM EST
Online and 105 Life Sciences Building



Course Objectives

- Introduction to Chemical Thermodynamics: work, heat, temperature, free energy, and thermochemistry.
- Equation of states, real and ideal gases, liquids and mixtures.
- Chemical kinetics and chemical equilibrium.
- Phase transformation and properties of different phases.

Instructor information

Professor Ari Chakraborty
Email: archakra@syr.edu
Office hours: Tuesdays and Thursdays 1-2 pm EST
(Online only), and by appointment

TA information

M. Dinh, N. Spanedda, S. Betts, A. Beaton
Office hours: TBA

Required Text book and Resources:

1. **Physical Chemistry: Thermodynamics, Statistical Thermodynamics, and Kinetics, 4th Edition by Thomas Engel and Philip Reid**
2. **Mastering Chemistry for the above textbook. Can be purchased directly from Blackboard.**



Notes

- We will use Mastering Chemistry for reading assignments, homeworks, and quizzes and these will be done online. More details on Mastering Chem will be provided in a separate document.
- Mastering Chemistry will give you access to the ebook version of the textbook so you don't have to buy the ebook separately.
- Electronic access to Mastering Chemistry is required. You should only consider buying the physical copy of the textbook (in addition to Mastering Chem.) only if you prefer reading from hardcopy.

Course policies

Food and Drink in the Classroom: Eating and drinking is not allowed during the COVID-19 pandemic.

Online Etiquette: Students participating remotely in hybrid class sessions are participating on an equal basis as the students who are in the classroom. It is reasonable to expect online students to have their webcam on and to call on them as you would call on students who are in the room. Online students should dress and behave as they would in a face-to-face class. In both hybrid and fully online classes, students should use the “raise hand” function to ask questions and refrain from interrupting the class.

Intellectual Property: Original class materials (handouts, assignments, tests, etc.) and recordings of class sessions are the intellectual property of the course instructor. You may download these materials for your use in this class. However, you may not provide these materials to other parties (e.g., web sites, social media, other students) without permission. Doing so is a violation of intellectual property law and of the student code of conduct.

Academic Integrity :Syracuse University’s Academic Integrity Policy reflects the high value that we, as a university community, place on honesty in academic work. The policy defines our expectations for academic honesty and holds students accountable for the integrity of all work they submit. Students should understand that it is their responsibility to learn about course-specific expectations, as well as about university-wide academic integrity expectations. The policy governs appropriate citation and use of sources, the integrity of work submitted in exams and assignments, and the veracity of signatures on attendance sheets and other verification of participation in class activities. The policy also prohibits students from submitting the same work in more than one class without receiving written authorization in advance from both instructors. Under the policy, students found in violation are subject to grade sanctions determined by the course instructor and non-grade sanctions determined by the School or College where the course is offered as described in the Violation and Sanction Classification Rubric. Syracuse University students are required to read an online summary of the University’s academic integrity expectations and provide an electronic signature agreeing to abide by them twice a year during pre-term check- in on MySlice.

Detailed information about academic integrity is located at: <https://class.syr.edu/academic-integrity/>

Attendance: Students who miss class due to excused absence should work with the instructor or problem session TA to make up any missed work or tests. Documented medical excuses should be presented to the instructor. For a full statement of the university attendance policy see <http://coursecatalog.syr.edu/content.php?catoid=3&navoid=270#Attendance in Classes>

Accommodations: If you believe that you need accommodations for a disability, please contact the Office of Disability Services (ODS), <http://disabilityservices.syr.edu>, located in Room 309 of 804 University Avenue, or call (315) 443-4498 or TDD: (315) 443-1371 for an appointment to discuss your needs and the process for requesting accommodations. Since accommodations may require early planning and generally are not provided retroactively, please contact ODS as soon as possible.

Religious Observances: SU’s religious observances policy, recognizes the diversity of faiths represented among the campus community and protects the rights of students, faculty, and staff to observe religious holy days according to their tradition. Under the policy, students are provided an opportunity to make up any examination, study, or work requirements that may be missed due to a religious observance provided they notify their instructors before the end of the second week of classes. For fall and spring semesters, an online notification process is available through MySlice/Student Services/Enrollment/My Religious Observances from the first day of class until the end of the second week of class. Link: http://supolicies.syr.edu/emp_ben/religious_observance.htm

Detailed information about SU policies is located at: <https://policies.syr.edu/>

Evaluation and Grading

Assignments	20%	Weekly online assignments using Mastering Chemistry
Quizzes	20%	Topical online quizzes using Mastering Chemistry
Mid-term exam	30%	Online exam will be held during the normal lecture hours. Specific date will be announced later.
Final Exam	30%	Thursday, December 3rd, 3:00 pm – 5:00 pm EST, Online only. This date is subject to change.

Approximate letter grade assignment based on historic data:

Score Grade

95-100	A
90-94	A-
87-89	B+
84-86	B
80-83	B-
77-79	C+
74-76	C
70-73	C-
67-69	D+
64-66	D
60-63	D-
0-65	F

Score calculation

- Score will be calculated from the weighted average using the weights shown above and then rounded-up to the nearest largest integer.
- For example: 86.5 -> 87, 89.2 -> 90, 94.1 -> 95

Prerequisites

Students should possess the following knowledge and skills:

- Knowledge of general chemistry (CHE 116 or 119 or equivalent)
- Knowledge of differential and integral calculus (MAT 286 or MAT 296)
- Please contact the instructor if you have any questions about your preparedness for this course

COVID specific policies

- In you don't prefer coming to the in-person lectures, you are welcome to the attend the lectures online.
- A face mask is required to enter the lecture hall. You will not be able to attend the lecture without a face mask.
- All students are required to wear the face mask properly adhering to the guidelines by SU and CDC (details on the next page).
- Maintain proper social distancing guidelines, be respectful for personal space of others, and follow posted policies.
- Time your arrival to the classroom and avoid crowding near the entrance doors.
- After you arrive, start filling up the classroom back-to-front.
- Do not come for in-person lectures if you are not registered for the course. Instead, contact the instructor and get permission to view the lectures online.
- To maintain proper social distancing all the enrolled students will be organized into three groups (A, B, C) and each group will be allowed for in-person lectures on one of the three days (Monday, Wednesday, Friday). The remaining groups will be viewing the lectures online. The groups are assigned based on SUID and are listed below. You can also find your group id in blackboard under grade center.

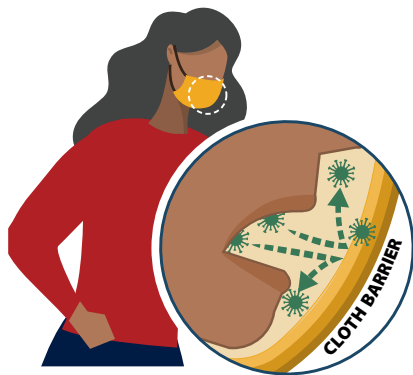
Group ID	SUID Range	In-person lecture	Online lecture
A	2027**** to 3598***	Monday	M,W,F
B	4041**** to 6212****	Wednesday	M,W,F
C	6268**** to 9965****	Friday	M,W,F

How to Safely Wear and Take Off a Cloth Face Covering

Accessible: <https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/diy-cloth-face-coverings.html>

WEAR YOUR FACE COVERING CORRECTLY

- Wash your hands before putting on your face covering
- Put it over your nose and mouth and secure it under your chin
- Try to fit it snugly against the sides of your face
- Make sure you can breathe easily
- Do not place a mask on a child younger than 2



USE THE FACE COVERING TO PROTECT OTHERS

- Wear a face covering to protect others in case you're infected but don't have symptoms
- Keep the covering on your face the entire time you're in public
- Don't put the covering around your neck or up on your forehead
- Don't touch the face covering, and, if you do, clean your hands

FOLLOW EVERYDAY HEALTH HABITS

- Stay at least 6 feet away from others
- Avoid contact with people who are sick
- Wash your hands often, with soap and water, for at least 20 seconds each time
- Use hand sanitizer if soap and water are not available



TAKE OFF YOUR CLOTH FACE COVERING CAREFULLY, WHEN YOU'RE HOME

- Untie the strings behind your head or stretch the ear loops
- Handle only by the ear loops or ties
- Fold outside corners together
- Place covering in the washing machine
- Wash your hands with soap and water



Cloth face coverings are not surgical masks or N-95 respirators, both of which should be saved for health care workers and other medical first responders.

For instructions on making a cloth face covering, see:

[cdc.gov/coronavirus](https://www.cdc.gov/coronavirus)

FALL 2020

Academic Deadline or Event	Dates
Registration for new graduate students	Monday, August 3
Schedule adjustment for returning undergraduate students	Monday, August 3 - Friday, August 14
Opening Weekend new undergraduate registration	Saturday, August 22 & Sunday, August 23
First day of classes/Extended Campus Classes	Monday, August 24
Late registration and schedule adjustment	Monday, August 24 - Monday, August 31
Add deadline	Monday, August 31
September 5 (Saturday) <i>Wednesday</i> classes meet on normal schedule	Saturday, September 5
Labor Day (<i>Normal instructional day, Monday classes meet</i>)	Monday, September 7
Early-semester progress report	Monday, September 7 - Friday, September 11
Grading option deadline to elect audit	Monday, September 7
Academic/Financial deadline to drop class	Monday, September 14
Midterm	Monday, October 5
Mid-semester progress report	Thursday, October 8 - Sunday, October 18
Grading option deadline to elect or rescind pass/fail	Monday, October 19
October 25 (Sunday) <i>Thursday</i> classes meet on normal schedule	Sunday, October 25
Registration for Spring 2021	Wednesday, November 4 - Tuesday, January 26
Registration for Winterlude	Wednesday, November 4 - Tuesday, December 22
November 8 (Sunday) <i>Friday</i> classes meet on normal schedule	Sunday, November 8
Withdrawal deadline	Wednesday, November 18
Last day of classes	Tuesday, November 24
Thanksgiving Break (no residential classes, University offices open Monday through Wednesday)	Wednesday, November 25 - Sunday, November 29
Reading days	Monday, November 30 - Wednesday, December 2; Saturday, December 5 - Sunday, December 6
Final examinations	Thursday, December 3 - Friday, December 4; Monday, December 7 - Wednesday, December 9
Last day of the semester	Wednesday, December 9
Final grades due from faculty	Monday, December 21
Winterlude begins	Monday, December 21
Winterlude add deadline	Tuesday, December 22
Degree Award Date	Tuesday, December 22
Winterlude Academic/Financial drop deadline	Monday, December 28