

COURSE DESCRIPTIONS (CHEM 335: Physical Chemistry I)

Description:

4 credits (Four hours of lecture per week).

Laws and principles of chemical thermodynamics and kinetics.

Prerequisites:

Chemistry 248, 326, 326; Mathematics 222; Physics 250 or instructor consent.

COURSE OBJECTIVES

Course Learning Outcomes

Students will learn the foundational principles of classical chemical thermodynamics and kinetics and apply them to both theoretical and practical problems. In many cases, students will learn the origins of the equations that were presented in General Chemistry.

Living and Learning During COVID-19.

Face Coverings:

- At all UW-Stevens Point campus locations, the wearing of face coverings is mandatory in all buildings, including classrooms, laboratories, studios, and other instructional spaces. Any student with a condition that impacts their use of a face covering should contact the [Disability and Assistive Technology Center](#) to discuss accommodations in classes. Please note that unless everyone is wearing a face covering, in-person classes cannot take place. This is university policy and not up to the discretion of individual instructors. Failure to adhere to this requirement could result in formal withdrawal from the course.

Other Guidance:

- Please monitor your own health each day using [this screening tool](#). If you are not feeling well or believe you have been exposed to COVID-19, do not come to class; email your instructor and contact Student Health Service (715-346-4646).
 - As with any type of absence, students are expected to communicate their need to be absent and complete the course requirements as outlined in the syllabus.
- Maintain a minimum of 6 feet of physical distance from others whenever possible.
- Do not congregate in groups before or after class; stagger your arrival and departure from the classroom, lab, or meeting room.
- Wash your hands or use appropriate hand sanitizer regularly and avoid touching your face.
- Please maintain these same healthy practices outside the classroom.

METHODOLOGY: The class is composed of three lectures (Mon., Tue., Wed.) and one group session (Fri.) per week. Mondays, Tuesdays, and Wednesdays will primarily focus on traditional lecture-based learning, while the group sessions held on Friday will rely on student group problem solving.

Attendance: Attendance for all lectures, discussions and laboratories is expected as outlined in the UWSP Undergraduate Catalog. See the section about Attendance under Academic Policies.

Due to the difficult nature and fast pace of this course, attendance is mandatory. Because of the small class size, I will not officially take attendance, as any absence will be easily spotted. If you must miss a class due to unavoidable circumstances, make sure to get lecture notes from a classmate—you will be held responsible for any missed material. Absences will be factored into your final grade in cases of borderline scores.

Canvas: Course information will be posted daily on Canvas. It is your responsibility to visit the site daily. You can log into Canvas at: <https://www.uwsp.edu/canvas/Pages/default.aspx>

Exams: There will be three hourly exams will be given on Tuesday, October 11, Wednesday, November 9, and Wednesday, November 30. These exams are worth 150 points each, for a total of 450 points.

Final Exam **The cumulative final is on Friday, December 16 in Chemistry Biology Building 261, 8:00-10:00 AM.** The final exam is worth 200 points.

Homework: Mandatory homework is assigned for each chapter and is due approximately one week after it is assigned. There are a total of 10 assignments for a total of 200 points. The assignment and due dates are given in the course outline section of the syllabus, as well as Canvas. It is essential to do the homework in order to succeed in this class. Exams are heavily based on homework. You may work together on the homework, but each student is responsible for understanding each problem. Copying another's homework is not "group work" - it is plagiarism. If asked, you are responsible for justifying that your work is your own. I will not credit anything that I perceive to be copied work.

Group work: Fridays are reserved for group work, where students work in small groups to complete assignments. There are 10 of these assignments (15 points each) for a total of 150 points.

Attendance: Attendance for all lectures, discussions and laboratories is expected as outlined in the UWSP Undergraduate Catalog. See the section about Attendance under Academic Policies.

Due to the difficult nature and fast pace of this course, attendance is mandatory. Because of the small class size, I will not officially take attendance, as any absence will be easily spotted. If you must miss a class due to unavoidable circumstances, make sure to get lecture notes from a classmate—you will be held responsible for any missed material. Absences will be factored into your final grade in cases of borderline scores.

Make-up policy: There will be **NO** unexcused make-ups of homework or exams. Any excused makeups must be performed within 48 hours of the original date.

Grading: Your final grade will be based on the following point system:

Hourly exams:	3×150 points	=	450 points	(45%)
Final exam:	1×200 points	=	200 points	(20%)
Homework:	10×20 points	=	200 points	(20%)
<u>Group work:</u>	10×15 points	=	150 points	(15%)
Total:	$450+200+200+150$ points	=	1000 points	(100%)

You will be graded on the following scale:

% Total Points	Grade	% Total Points	Grade
$\geq 90\%$	A	$\geq 63\%$	C
$\geq 88\%$	A-	$\geq 61\%$	C-
$\geq 86\%$	B+	$\geq 59\%$	D+
$\geq 77\%$	B	$\geq 50\%$	D
$\geq 75\%$	B-	$< 50\%$	F
$\geq 73\%$	C+		

Study Tips for Physical Chemistry.

- Lectures will primarily follow the text. Read the assigned sections before lecture and again shortly after, using your lecture notes as a supplement. Repeating the information helps the facts and concepts sink and remain in your brain.
- Try to work problems from the text as soon as possible after lecture. This will help you discern where your understanding may be lacking and will help reiterate the important concepts.
- I cannot overemphasize the importance of peer groups!! Form a group of students from class and plan to meet outside of class at least once a week to discuss problems and material. Your peers may have picked up on something in lecture that you missed, they may be able to explain something in terms that you will understand better than I may be able to do, and you will be reviewing the material which will again help you to remember it come test time.
- This course covers some difficult material and necessarily maintains a rapid pace. Expect to spend at least 12 hours per week outside class for study, and homework. If you cannot commit to this level of study, I recommend you reduce your other commitments or withdraw from the course.
- Do the homework, re-do the homework, and do practice problems. "Practice makes perfect."

Academic Honesty/Plagiarism Policy:

You are encouraged to study together, work problems and exercises with others in the class, and to seek help in understanding the material. However, unless specifically instructed otherwise, all work to be graded should be your own work, and not copied from any other person. Any instances of plagiarism or cheating will be dealt with in accordance with the UWSP Chapter 14 rules on Academic Misconduct. Any violations will result in a zero for that assignment/exam. A second violation results in an F for a final grade in the class.

Accommodation of Persons with Disabilities:

The Americans with Disabilities Act (ADA) is a federal law requiring educational institutions to provide reasonable accommodations for students with disabilities. If you have a disability and require classroom or exam accommodation, please register with the Disabilities Services office and then contact me within the first two weeks of the semester. In order to receive accommodations, you must have documentation of your disability on file with the Office of Disability Services. In addition, you must provide me with an Accommodations Request Form (available on their website). You must have me sign the form and return it to the Office of Disability Services.

University Policy on Absence to Observe Religious Holidays

It is UW System policy to reasonably accommodate your sincerely held religious beliefs with respect to all exams and other academic requirements. You will be permitted to make up an exam or other academic requirement at another time or by an alternative method, without any prejudicial effect, if:

- There is a scheduling conflict between your sincerely held religious beliefs and taking the exam or meeting the academic requirements; and
- You have notified me within the first three weeks of the beginning of classes of the specific days or dates that you will request relief from an examination or academic requirement.
- I will accept the sincerity of your religious beliefs at face value and keep your request confidential.
- I will schedule a make-up exam or requirement before or after the regularly scheduled exam or requirement.
- You may file any complaints regarding compliance with this policy in the Equity and Affirmative Action Office.

Tentative Course Outline
(Subject to change)

Week	Day	Date	Lecture	Due
1	Mon	5-Sep	Labor Day: No Class	----
	Tue	6- Sep	Syllabus/§1.1-1.3	----
	Wed	7- Sep	§1.4-1.5	----
	Fri	9- Sep	Ch. 1 Group	
2	Mon	12- Sep	§1.6	----
	Tue	13- Sep	§1.7-1.8	----
	Wed	14- Sep	§1.9	----
	Fri	16- Sep	Ch. 1 Group	Group #1
3	Mon	19- Sep	§2.1-2.2	HW #1
	Tue	20- Sep	§2.3-2.4	----
	Wed	21- Sep	§2.5-2.6	----
	Fri	23- Sep	Ch. 2 Group	----
4	Mon	26- Sep	§2.7-2.8	----
	Tue	27- Sep	§2.8	----
	Wed	28- Sep	§2.9-2.11	----
	Fri	30- Sep	Ch. 2 Group	Group #2
5	Mon	3- Oct	§3.1-3.5	HW #2
	Tue	4- Oct	§3.5-3.6	----
	Wed	5- Oct	§3.7, §4.2-4.3	----
	Fri	7-Oct	Ch. 3 Group	Group #3
6	Mon	10- Oct	§4.3-4.4	HW #3
	Tue	11- Oct	Exam 1 (Ch. 1-3)	----
	Wed	12- Oct	§4.4-4.6	----
	Fri	14- Oct	Ch. 4 Group	----
7	Mon	17- Oct	§4.6-4.7	----
	Tue	18- Oct	§4.8-5.3	----
	Wed	19- Oct	§5.3	----
	Fri	21- Oct	Ch. 4/5 Group	Group #4
8	Mon	24- Oct	§5.4-5.5	HW #4
	Tue	25- Oct	§5.6	----
	Wed	26- Oct	§6.1-6.2	----
	Fri	28- Oct	Ch. 5/6 Group	Group #5
9	Mon	31- Oct	§6.3-6.4	HW #5
	Tue	1-Nov	§6.5-6.6	----
	Wed	2- Nov	§6.7-6.8	----
	Fri	4- Nov	Ch. 6 Group	Group #6
10	Mon	7- Nov	§7.1-7.3	HW #6
	Tue	8- Nov	§7.8-7.9	----
	Wed	9- Nov	Exam 2 Ch. 4-6	----
	Fri	11- Nov	Ch. 7 Group	Group #7
11	Mon	14- Nov	§7.5-7.7	----
	Tue	15- Nov	§7.8-7.9	----
	Wed	16- Nov	§8.1-8.3	----
	Fri	18- Nov	Ch. 8 Group	Group #8
12	Mon	21- Nov	§8.4-8.5	HW #7
	Tue	22- Nov	§8.6-8.7	----
	Wed	23- Nov	§8.8	----
	Fri	25- Nov	Thanksgiving: No Class	----

13	Mon	28- Nov	§19.1-19.2	HW #8
	Tue	29- Nov	§19.3-19.4	----
	Wed	30- Nov	Exam #3 (Ch. 7-8)	----
	Fri	2-Dec	Ch. 19 Group	Ch. 19 Group
14	Mon	5- Dec	§19.4-19.5	----
	Tue	6- Dec	§20.1-20.2	HW #9 (Ch. 19)
	Wed	7- Dec	§20.3-20.5	----
	Fri	9- Dec	Ch. 20 Group	Ch. 20 Group
15	Mon	12- Dec	§20.6-20.7	----
	Tue	13- Dec	§20.8-20.9	----
	Wed	14- Dec	§20.10	HW #10 (Ch. 20)
	Fri	16- Dec	FINAL EXAM	

Please note, the last day to drop without a grade is Thurs., Sep. 15, and the last day to drop with a "W" is Fri., Nov. 11.

Homework Due Dates

Due Date		Homework	Chapter
Mon	19-Sep	1	1
Mon	3-Oct	2	2
Mon	10-Oct	3	3
Mon	24-Oct	4	4
Mon	31-Oct	5	5
Mon	7-Nov	6	6
Mon	21-Nov	7	7
Mon	28-Nov	8	8
Mon	5-Dec	9	19
Wed	14-Dec	10	20

Group Due Dates

Due Date		Group Assignment	Chapter
Fri	16- Sep	1	1
Fri	30- Sep	2	2
Fri	7-Oct	3	3
Fri	21- Oct	4	4
Fri	28- Oct	5	5
Fri	4- Nov	6	6
Fri	11- Nov	7	7
Fri	18- Nov	8	8
Fri	2-Dec	9	19
Fri	9- Dec	10	20

Exam Dates

Date	Exam
Tue 11-Oct	Exam 1 (Ch. 1-3)
Wed 9-Nov	Exam 2 (Ch. 4-6)
Wed 30-Nov	Exam 3 (Ch. 7-8)
Fri 16-Dec	Cumulative Final Exam