Faculty of Arts and Sciences - Department of Chemistry

CHM427H1 S
Statistical Mechanics
Winter 2024 Syllabus

Course Meetings

CHM427H1 S

Section	Day & Time	Delivery Mode & Location
LEC0101	Thursday, 4:00 PM - 6:00 PM	In Person: SS 1080

Refer to ACORN for the most up-to-date information about the location of the course meetings.

Course Contacts

Instructor: Dvira Segal
Email: dvira.segal@utoronto.ca
Phone: 4169460559
Office Hours and Location: Every Tues 1:30 pm to 2:30 pm in LM 420D
Additional Notes: Email: Please include course code in your subject line.

Course Overview

Ensemble theory in statistical mechanics. Applications, including imperfect gases and liquid theories. Introduction to non-equilibrium problems.

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Course Learning Outcomes

Knowledge of the foundations of statistical mechanics and its application to gas phase and liquid phase; familiarity with computer molecular dynamics simulations; understanding the integration of statistical mechanics with classical thermodynamics and quantum mechanics; communication of scientific ideas and results; basic scientific programming.

Prerequisites: CHM326H1, CHM328H1
Corequisites: None
Exclusions: None
Recommended Preparation: None
Credit Value: 0.5

Course Materials

Suggested textbook: Tuckerman, Statistical Mechanics: Theory and Molecular Simulation, Oxford

The instructor will provide course notes.

Marking Scheme

Assessment	Percent	Details	Due Date
HW1	15%		2024-01-25
HW2	15%		2024-02-08
HW3	15%		2024-02-29
HW4	15%		2024-03-21
HW5	10%		2024-04-04
Class presentation	10%		2024-04-04
In-Person Final Exam	20%		Final Exam Period

These are **tentative** dates, to be modified according to teaching pace. Please follow announcements in class and on the portal.

Late Assessment Submissions Policy

2 points per day are taken for late submission. Please contact me ahead of time if you require accommodations.