

**Intro to Thermodynamics
Syllabus
Summer HSSP 2019**

Staff

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Course objectives

The intention of this course is to educate students about various principles of thermodynamics. The course will cover basic topics such as the laws of thermodynamics, work, and energy, and will expand into different applications for these concepts. Students will be able to use these principles to answer biological and chemical questions, including predicting if reactions will occur and if drugs will bind to their targets.

Website

Class documents will be posted in the link below. If you are unable to view them, please let me know.

https://esp.mit.edu/learn/HSSP/2019_Summer/Classes/S13085/index.html

Lectures

Lectures are held on Saturdays, 10:05 - 11:25 in room 5-234. (If you have trouble navigating campus, <http://whereis.mit.edu/> is helpful.)

- Since lectures are essential for understanding, attendance is required. Please email me if you have extenuating circumstances and cannot attend.
- Most lectures will have associated notes and slides that will be posted to the class website the day before lecture.

Weekly Schedule

The following is a brief overview of the topics that we will cover during the course. More detailed notes and agendas will be posted for review before the specific class.

- Week 1 - Introduction and the Basics
- Week 2 - Expansion, Enthalpy, Entropy
- Week 3 - The Laws of Thermodynamics, Calorimetry, Phases

- Week 4 - Statistical Mechanics
- Week 5 - Binding and Forces
- Week 6 - Liquids and Solutions
- Week 7 - Applications

Grades and Assignments

No assignments or coursework are graded. Assignments in this class include:

- In-class problems
- Optional supplemental problems

In-Class Problems

At the end of every lecture, students will complete a few problems to review material learned that week. Solutions will be discussed and posted to the class website.

Optional Supplemental Problems

After every lecture, problems to further practice concepts covered week will be posted to the website, along with their solutions. These problems are STRICTLY OPTIONAL and will NOT be discussed in class unless specifically requested.