

**Course meeting times/location:**

MWF 8:30-9:30 am, Guion A203

**Instructor:**

Abraham L. Yousef, Ph.D.

[ayousef@sbcc.edu](mailto:ayousef@sbcc.edu)

Guion 223, x6197

**Office Hours:**

TBA

**Course Description:**

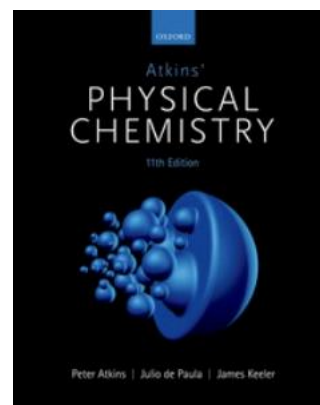
We will explore the fundamentals of thermodynamics as they relate to physical and chemical changes and learn how to apply kinetics to different types of chemical reactions.

**Required Materials**

*Physical Chemistry* 11th Edition, Peter Atkins, Julio de Paula and James Keeler, Oxford University Press, 2018.

spiral notebook for homework journal

graphing calculator is strongly recommended

**List of Topics**

- gases and kinetic molecular theory
- internal energy, work and heat capacity
- enthalpy and entropy
- physical transformations and phase diagrams
- colligative properties
- integrated rate laws and half lives
- steady-state approximation
- photochemistry

**Grading**

homework journal	10%
take-home exams (3)	66%
final exam	24%

**homework journal**

Assigned exercises and problems from the end of each chapter (focus). Due dates are listed on the detailed course schedule. Answers to the exercises are also available on the Canvas site. I will make detailed, worked-out solutions available after each homework assignment due date. Note: this is primarily an effort grade; I'm mainly looking to see that you've attempted all the assigned problems.

**take-home exams**

Three take-home exams will be given throughout the term (specific dates are on the detailed course schedule). Each exam will be open-book and open-note, but you must work individually on each test.

**final exam**

The final exam will be cumulative, and is also open-note, open-book.

**Attendance**

Please make every effort to attend class, as we will spend a significant amount of time working through problems and applying concepts. If you have to miss a class, I'd appreciate it if you let me know in advance. Since we are a small class, I don't mind providing copies of lecture notes upon request.

**Learning Difficulties**

If you have a learning disability or any other special need or concern, please discuss this with me at the beginning of the semester.

**Academic Integrity**

All students are expected to adhere to the guidelines set forth in the SBC honor code, as outlined in the student handbook.

**General Advice**

Physical chemistry is math intensive and can get a bit tedious at times. Attention to detail is key to being successful; be mindful of units and try to solve problems algebraically first (with variables), only substituting numerical values into a single, final formula - this will help you avoid rounding and other numerical errors.