

Course Information

PHYS 320 Thermodynamics and Statistical Physics (3 credit hours)

Fall 2016. Faraday 238, Tuesday Thursday 3:30-4:45

Recitation section, Friday 2:30 – 3:15

Course website on blackboard

Instructor Information

Professor: Laurence Lurio (753-6470) (llurio@niu.edu)

Office location: La Tourette 202 (back of physics office)

Office Hours: Thursday 2:00 – 3:00.

Course Description: Concept and measurement of temperature. Study of the first and second laws of thermodynamics, entropy, and the statistical theory of simple systems. PRQ: PHYS 283, MATH 232.

Textbook: Classical and Statistical Thermodynamics, A. H. Carter

Intended Learning Outcomes:

- 1) Students should be able to represent the properties of materials using thermodynamic variables.
- 2) Students should be able to apply the laws of thermodynamics to derive relationships between these thermodynamics variables.
- 3) Students should be able to apply thermodynamics to the analysis of applications in physics engineering, chemistry and biology.

Student Assessment:

Student grades will be based on class participation (5%), quizzes (10% each) a midterm (15%) and the final exam (20%).

Grade Curves: The grade curve will not be determined until the end of the semester. However, ranges for final grades will be within the bounds listed below. Thus a grade of 80% might be curved to any grade between A and B-. A grade of 87% will never be curved below a B+, and a grade of 74% will never be curved above a B+. A grade below 45% will not be passing under any circumstances and a grade of 65% will always be at least a D. Approximate grade curves will be provided after each exam.

Grade	Max	Min
A	93%	80%
A-	90%	75%
B+	87%	70%
B	83%	65%
B-	80%	60%
C+	77%	55%
C	70%	50%
D	65%	45%

Academic Integrity: Students are expected to hand in their own work for homework and on exams. Students found cheating on exams will receive a grade of F for that exam and be reported to the office

of Community Standards and Student Conduct. Students found cheating on the final exam will receive a grade of F for the course.

Students with disabilities:

If you need an accommodation for this class, please contact the Disability Resource Center as soon as possible. The DRC coordinates accommodations for students with disabilities. It is located on the 4th floor of the Health Services Building, and can be reached at 815-753-1303 (V) or drc@niu.edu. Also, please contact me privately as soon as possible so we can discuss your accommodations. The sooner you let us know your needs, the sooner we can assist you in achieving your learning goals in this course.

Month	Date	Topic	Chapter	
August	23	Nature of Thermodynamics		1
	25			1
	30	Equations of State		2
September	1			2
	6		Quiz	
	8	First law of thermodynamics		3
	13			3
	15			4
	20			4
	22		Quiz	
	27			5
October	29			5
	4	Second law of thermodynamics		6
	6			6
	11		Midterm	
	13			7
	18			7
	20	Thermodynamic Potentials		8
	25	Thanksgiving		
November	27			8
	1		Quiz	
	3			9
	8			9
	10			10
	15			10
	17		Quiz	
	22			11
December	24			11
	29			12
	1			12
	6	Final Exam	4:00 - 5:50 pm	