Physics 380: Thermal and Statistical Physics
Gustavus Adolphus College Fall 2019

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Course website: http://physics.gac.edu/~petricka/courses/P380/380fall2019.html

Textbook:
An Introduction to Thermal Physics, by Daniel V. Schroeder (Addison Wesley, 2000)

Course Policies and Evaluation

1. Class Meetings: The class will meet, on MWF 10:30-11:20. Students are expected to have read assigned materials before coming to class.

2. Homework: Problems sets will be assigned approximately every week. Written homework sets should be neat and organized. Legibility and thorough explanations of answers are required. You are encouraged to discuss and work problems with each other, and with the instructor, but all help must be cited clearly.

3. Late Homework: Homework is due at the beginning of class on the date assigned. Late homework will be accepted at the discretion of the instructor with loss of points. No homework will be accepted after the problems have been returned to the class.

4. Attendance: Students are expected to attend all classes during the scheduled hours. Students are responsible for informing themselves of material and assignments covered during absences. Students must advise the instructor in writing during the first week of class of any scheduled athletic, music, or other college activities that will require their absence during the semester. Such written notice does not imply a waiver of course requirements or an agreement to reschedule exams.

5. Exams: There will be three one-hour exams, and a two-hour written final exam. Quizzes will be given at the discretion of the professor. There will be no separate mid-term exam.

6. Missed Exams: Students are expected to arrange in writing with the instructor well in advance to take an exam at other than the announced time. Requests to reschedule exams for non-emergency personal reasons will be declined. Permission to make up a missed exam after the fact will be at the discretion of the instructor and should not be assumed.

7. Academic Honesty: You will abide by the academic honesty policy printed in the Academic Bulletin, and abide by decisions of the joint student/faculty Honor Board. **The use of the internet for any homework, unless specifically stated otherwise, is not allowed, and will result in a zero for the entire assignment as a minimum penalty up to a maximum penalty of zero for the entire course.**

8. Incompletes: A grade of incomplete will only be given for work not completed due to circumstances beyond the control of the student (college policy).

9. Disability: Gustavus Adolphus College is committed to ensuring the full participation of all students in its programs. If you have a documented disability (or you think you may have a disability of any nature) and, as a result, need reasonable academic accommodation to participate in class, take tests or benefit from the College's services, then you should speak with the Disability Services Coordinator, for a confidential discussion of your needs and appropriate plans. Course requirements cannot be waived, but reasonable accommodations may be provided based on disability documentation and course outcomes. Accommodations cannot be made retroactively; therefore, to maximize your academic success at Gustavus, please contact Disability Services as early as possible. Disability Services (https://gustavus.edu/advising/disability/) is located in the Advising and Counseling Center.

10. Evaluation: Hour exams 40%, Homework 30%, Final Exam 30%. Final course grades will be assigned using the following scale as a guide:

94-100 A	82-86 B	70-74 C	58-62 D
90-94 A-	78-82 B-	66-70 C-	0-58 F
86-90 B+	74-78 C+	62-66 D+	

Assignment of the final letter grades will also take into account other factors including the instructor's subjective evaluation of the student's attendance, initiative, evidence of improvement, and the quality of independent work.

Exam Dates
Exam 1: October 7
Exam 2: October 28
Exam 3: November 22

Yellow indicates HW due

Prof. Jessie Petricka

Wk/Mo	Monday	Wednesday	Friday
1 / Sept		4 Intro S: 1.1-1.2	6 Equipartition S: 1.3-1.5
2 / Sept	9 Enthalpy S: 1.5-1.7	11 Binomial Distribution G&T: 3.5	13 Probability Distributions G&T 3.6
3 / Sept	16 Central Limit Theorem G&T 3.7-3.9	18 Einstein Model S: 2.1-2.3	20 Large Systems S: 2.4
4 / Sept	23 Ideal Gas S: 2.5	25 Nobel Conference	27 Ideal Gas S: 2.5
5 / Oct	30 Entropy S: 2.6	2 Temperature S: 3.1	4 Entropy and Heat S: 3.2
6 / Oct	7 Exam 1 Chapters 1-2 + G&T	9 Paramagnetism S: 3.3	11 Pressure S: 3.4
7 / Oct	14 Chemical Potential S: 3.6	16 Heat Engines S: 4.1	18 Refrigerators S: 4.2-4.4
8 / Oct	21 Fall Break	23 Free Energy 1 S: 5.1	25 Free Energy 2 S: 5.2
9 / Oct / Nov	28 Exam 2 Chapters 3-4	30 Phase Transformations S: 5.3	1 Catch up day
10 / Nov	4 Boltzmann Statistics S: 6.1	6 Average Values S: 6.2	8 Equipartition S: 6.3
11 / Nov	11 Maxwell Distribution S: 6.4	13 Partition Function S: 6.5-6.7	15 Gibbs Factor S: 7.1
12 / Nov	18 Fermi Gas 2 S: 7.3	20 Quantum Statistics S: 7.2	22 Exam 3 Chapters 5-6
13 / Nov	25 Fermi Gas S: 7.3	27 Thanksgiving	29 Thanksgiving
14 / Dec	2 Blackbody radiation S: 7.4	4 Debye Model S: 7.5	6 BEC S: 7.6
15 / Dec	9 TBD	11 Review	13 Reading day