

Course description: The first part of the course will focus on a classical treatment of thermodynamics from the perspective of physics. The second part of the course will examine thermodynamics from the modern statistical mechanics viewpoint. Topics will include the fundamental laws of thermodynamics, entropy, ideal gasses, the Boltzmann distribution, the partition function and applications to real systems.

Text: Keith Stowe, *An Introduction to Thermodynamics and Statistical Mechanics*, Second Edition, Cambridge University Press, New York, 2007.

Instructor: Dr. Ted Clarke
tclarke2@cbu.edu

Office: Cooper-Wilson 115. Office hours will be announced in class.

Course content:

Small Systems, Energy and the First Law, States and the Second Law

Chapters 1 - 8 Mid-Term Exam

Constraints, Classical Statistics, Quantum Statistics

Chapters 9 – 24 Final Exam

Grading:

Mid-Term	25%
Final	25%
Homework	50%

0-59 F	60-69 D	70-79 C	80-89 B	90-100 A
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No make-up exams will be given without a verifiable medical excuse. Late homework will be accepted with an appropriate penalty. **I reserve the right to modify this syllabus as the course develops.**