

Syllabus: **Statistical Thermodynamics** 統計熱力學

Lecturer: Sheng D. Chao (趙聖德)

Location: IAM (應力所 教室)

Time: TBA

Outlines

0. Review of mechanics and thermodynamics

1. The canonical ensemble and fluctuations

2. Classical and quantum statistics

3. Ideal gases and non-ideal gases

4. Chemical kinetics and equilibrium

5. Liquid state theory

6. Crystals

7. Distribution function formalism

8. Time correlation function formalism

Text book:

D. A. McQuarrie, [Statistical Mechanics \(University Science Books, 2000\)](#)

D. A. McQuarrie and J. D. Simon, Physical Chemistry (University Science Books, 1997)

Grading:

30% homework , 30% midterm (exam), and 40% final (exam)