

UMCS Thermodynamics and Statistical Physics

Instructor Information:

Instructor: Dr hab. Nicholas Sedlmayr

Office: 306

Email: sedlmayr@umcs.pl

Course Web Page: See [this](#) page.

Course Content: The topics of this course will include:

- Statistics and distributions
- Liouville's theorem
- Conserved quantities - the significance of energy
- Micro-canonical/Canonical/Grand canonical ensembles
- Entropy
- Partition functions and free energies
- Equilibria
- Maxwell distribution
- Ideal gas
- Thermodynamic quantities
- Zeroth law of thermodynamics
- First law of thermodynamics
- Second law of thermodynamics
- Cycles, engines, and irreversibility

Grading: The course grade will be based on participation in the classes and a final exam.

Objectives: