

3306 physics lectures, Spring 2026

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https://www.physics.smu.edu/saptarnab/PH3306_Spring_2026/

Based on Simon Dalley's lectures delivered in spring 2025



WARM UP 8: The 1st law and heat transfer (Halliday 18.5-18.6)

Write your answers in the space following the warm-up question if you can. Write as if you are explaining to a fellow student. If you need more space, you are probably over-thinking things.

Why does a thermodynamic process have to be slow in order to calculate the work done?

In terms of the behavior of an extended object or system, what is the difference between the 1st law of thermodynamics and conservation of mechanical energy?

Using a piston and heat reservoir, describe an example of a thermodynamic process which is cyclic.

In one sentence each, microscopically explain what is happening for “conduction”, “convection”, and “radiation”.