

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 5: Longitudinal Wave Properties (Halliday 17.1-17.3)

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.

What two properties of a medium does longitudinal mechanical wave speed depend upon?

Why do some people find the displacement from equilibrium of the medium of longitudinal waves confusing?

Explain why medium displacement from equilibrium and excess pressure are 90° out of phase for longitudinal waves.

Draw a labeled picture to illustrate how two sound waves produced in-phase can nevertheless produce destructive interference when they combine after traveling differing distances.