PHY1106: Waves and Oscillators	Dr. Pete Vukusic

Lecture 14.

Lecture objectives.

- To understand the mechanism by which energy is transported as a wave passes through a medium.
- To understand the concept of energy density of a wave
- To derive a relationship between rate of energy propagation, energy density and phase velocity

Post-lecture tasks.

- A wave on a stretched string $y = a\cos(wt + kx)$ is produced by a generator with frequency 4 Hz and it propagates with a phase velocity of 12 ms^{-1}. Its amplitude is a =0.15 m.
- Find the velocity of the point at x = 0.6m on the string at t = 10 s.
- Find the average energy transfer rate along the string if its tension is T = 12 N.