

## Lecture 30, Friday, March 11, 2022

- Average signal power
  - Parseval's theorem says that

$$P = \frac{1}{T} \int_T |f(t)|^2 dt = \sum_{n=-\infty}^{\infty} |F_n|^2 = \frac{c_0^2}{4} + \sum_{n=1}^{\infty} \frac{c_n^2}{2}$$

where  $F_n$  are the exponential Fourier series coefficients and  $c_n$  are the compact Fourier series coefficients

- The magnitude squared of a coefficient indicates the contribution from that frequency to the total power.