

## Homework #12

**Problem 3 - 20.2.4:**

Since the function is symmetric we calculate the cosine Fourier transform

$$g_c(\omega) = \sqrt{\frac{2}{\pi}} h \int_0^{1/a} (1 - ax) \cos(\omega x) dx = \sqrt{\frac{2}{\pi}} \frac{ha}{\omega^2} \left(1 - \cos\left(\frac{\omega}{a}\right)\right). \quad (1)$$