ECS455: Formula Sheet?

- Closed book. Closed note.
- There is a sheet available in the HW box.
- Each one of you can fill in any text/formula that you want.
  - Max. 40 symbols (or characters).
  - Have to fit inside your own box.
- No figure/diagram

ECS455 Formula Sheet

ID3	Limit: 40 symbols (or characters) per person.
012	
020	
030	
097	
123	
138	
161	
164	
171	
172	
220	
253	
272	
339	
363	

387	
388	
401	
427	
477	
479	
483	
486	
577	
658	
709	
867	
892	
950	

ECS455: Formula Sheet?

- Deadline: 5PM, Monday Mar 4
- Scanned copy will be posted later that day.
- Copies of this sheet will be provided in the exam.
- These formulas are provided:

$$2\cos^2 x = 1 + \cos(2x)$$

$$2\sin^2 x = 1 - \cos(2x)$$

$$G(f) = \int_{-\infty}^{\infty} g(t) e^{-j2\pi ft} dt$$

$$\cos(2\pi f_c t + \theta) \overset{\mathcal{F}}{\rightleftharpoons} \frac{1}{2}\delta(f - f_c)e^{j\theta} + \frac{1}{2}\delta(f + f_c)e^{-j\theta}$$

$$g(t - t_0) \overset{\mathcal{F}}{\rightleftharpoons} e^{-j2\pi ft_0} G(f)$$

$$e^{j2\pi f_0 t} g(t) \overset{\mathcal{F}}{\rightleftharpoons} G(f - f_0)$$

$$g(t)\cos(2\pi f_c t) \overset{\mathcal{F}}{\rightleftharpoons} \frac{1}{2}G(f - f_c) + \frac{1}{2}G(f + f_c)$$

$$\text{DFT} : X[k] = \sum_{n=0}^{N-1} x[n] \exp\left(-jnk\frac{2\pi}{N}\right)$$

$$\text{IDFT} : x[n] = \frac{1}{N}\sum_{k=0}^{N-1} X[k] \exp\left(jnk\frac{2\pi}{N}\right)$$