

## EE-3032 – Signals & Systems

Dr. Durant – 12/2/2019

Wk/Day	Topics	Reading (Ulaby & Yagle)
1/1 (M)	Course intro	
1/2 (T)	Types of signals, signal transformations	1.1-1.2
1/3 (W)	Symmetry and periodicity	1.3
1/4 (F)	Review / example / homework session	
2/1	Common signals: nonperiodic waveforms	1.4
2/2	Signal power and energy	1.5
2/3	Review / example / homework session	
2/4	Linearity and time-invariance	2.1
3/1	Impulse and step responses of an LTI system	2.2
3/2	Convolution integral	2.3
3/3	Review / example / homework session	
3/4	Graphical convolution	2.4
4/1	Convolution properties	2.5
4/2	Convolution examples, causality and stability	2.6
4/3	Review / example / homework session	
4/4	LTI sinusoidal response (aka frequency response)	2.7, 5.1
5/1	Fourier series analysis	5.2-5.3
5/2	Computation of Fourier series coefficients	5.4.1, 5.4.3
5/3	Review / example / homework session	
5/4	"	
6/1	Two-sided line spectra, symmetry considerations	5.4.3 – 5.4.6
6/2	System analysis with Fourier series	5.5
6/3	Review / example / homework session	
6/4	Parseval's theorem for periodic waveforms	5.6
7/1	Fourier transform	5.7
7/2	Fourier transform properties	5.8
7/3	Review / example / homework session	
7/4	"	
8/1	Parseval's theorem for Fourier transforms	5.9
8/2	Multiplication and convolution	5.12, 6.12
8/3	Review / example / homework session	
8/4	"	
9/1	Types of filters	6.2
9/2	Sampling theorem	6.13 (up to 6.13.5)
9/3	Review / example / homework session	
9/4	Aliasing and reconstruction	6.13.6 – 6.13.11
10/1	Instructor evaluation; Flex date (maybe zero-order hold)	
10/2	Flex date (maybe intro to comm.)	
10/3	Review / example / homework session	
10/4	Final exam review	

See website for homework. 15-minute quizzes given most Fridays.