ECE 2050 Schedule Autumn 2023				
1	W	8-23	1–1.2	Course overview, brief introduction to signals & systems
2	F	8-25	notes	Complex number review, Euler identities
3	M	8-28	notes	Sinusoidal time functions with trig identities vs the Euler approach
4	W	8-30	notes, 1.2–1.3	Combining sinusoids of the same frequency with phasors, concept of spectrum & sinusoids
5	F	9-1	1.4	sampled sinusoids & ambiguity (aliasing) of frequencies **(HW 1 due)**
	M	9-4		**Holiday: Labor Day (no classes)**
6	W	9-6	2–2.1	Discrete time signals, special functions
7	F	9-8	notes	Manipulations of dependent & independent variables of signals **(HW 2 due)**
8	M	9-11	2.2–2.3	Systems: description & properties, LTI system impulse response & convolution
9	W	9-13	2.2–2.3	FIR vs IIR systems from $h[n]$, discrete time convolution
10	F	9-15	2.3–2.4	Discrete time convolution of finite duration signals, difference equations **(HW 3 due)**
11	M	9-18	2.4–2.5	Difference eqns: FIR vs IIR, causal vs noncausal, recursion form, flow diagrams
12	W	9-20		Midterm 1 review
	F	9-22		**Midterm 1**
Labs Begin				
13	M	9-25	2.4	LTI Difference equations, zero-input and zero-state solutions
14	W	9-27	2.5	Flow diagrams & difference equations for discrete time LTI systems
15	F	9-29	notes	Discrete time LTI system examples **(HW 4 due)**
16	M	10-2	3–3.1, 3.6	z-transform definitions & properties, ROC
17	W	10-4	3.1, 3.6 3.2	One-sided vs two-sided z-transform, change in time shift properties ZT of some useful discrete time functions
18	F	10-6	3.3–3.4	ZT of LTI difference eqns & rational z-transforms, PFX **(HW 5 due)**
19	M	10-9	3.4	Examples of LTI systems & rational z-transforms, PFX
20	W	10-11	3.5	Poles & zeros & system stability, transient and steady-state responses **(HW 6 due)**
	F	10-13		**Autumn Break (no classes)**
21	M	10-16	notes	(Zero-state) flow diagrams in the z-domain.
22	W	10-18	3.5, 3.4	Steady-state ac (sinusoidal) response & flow diagrams, long division as inverse ZT
23	F	10-20	notes	Examples of LTI in z-domain**(HW 7 due)**
24	M	10-23	4.1, notes	Fourier series of periodic continuous time signals
25	W	10-25		Midterm 2 review
	F	10-27		**Midterm 2**
26	M	10-30	notes	Fourier series and time shift theorem, derivative theorem
27	W	11-1	4.1, notes	Extension of FS for nonperiodic signals (Fourier transform); Dirac impulse functions
28	F	11-3	4.1–4.2	FT vs FS for periodic continuous time signals, begin DTF **(HW 8 due)**
29	M	11-6	notes, 4.2	Dirichlet kernel & examples of DTFT
30	W	11-8	notes, 4.2, 5.1	Inverse DTFT of rect() spectrum, Relationship between z-transform & DTFT
	Th	11-9		**(HW 9 due)**
	F	11-10		**Holiday: Veterans' Day (no classes)**
31	M	11-13	notes, 10-10.2	FIR filters based on the ideal reshaping filters
32	W	11-15	notes, 10-10.2	FIR filters based on the ideal reshaping filters.
33	F	11-17	notes, 4.2	Duality between continuous time FS and DTFT; Fourier series of discrete time periodic signals **(HW 10 due)**
34	M	11-20	7–7.1	Discrete Fourier transform and inverse DFT, uncertainty principle, Mod N counting
	W	11-22		**Thanksgiving Break (no classes)**
	F	11-24		**Thanksgiving Break (no classes)**
35	M	11-27	7.1–7.3	Changing sample spacings and N, Mod N counting, filtering with DFT and IDFT
36	W	11-29	7.1.3	DFT and IDFT as linear algebra formalism
37	F	12-1	notes, 7.2	Circular convolution, DFT & IDFT; using circular convolution for linear convolution **(HW 11 due)**
38	M	12-4		TBD
39	W	12-6		Review for Final Exam
	Th	12-14	**FINAL EXAM: Thursday Dec 14: 2:00-3:45 pm**	