SC356 Spring 2022 - Tentative MTWF schedule, dates/topics subject to change at instructor's discretion

WEEK	DATE	Day	Chapter	Reading (Weller)	Topics
Week 1	11-Jan	T (M)	1	1.1	Admin, waves
	12-Jan	W	1	1.1, 1.2	Structure of hydrogenic atoms, orbitals
	13-Jan	R	1	1.3	Nodes, radial and angular variation of AOs
Week 2	17-Jan	M			Martin Luther King Day - NO CLASSES
	18-Jan	T	1	1.4	Penetration and shielding
	19-Jan	W	1	1.5	Electron configurations
	20-Jan	R	1	1.6-1.7	Classification of elements, atomic properties
Week 3	24-Jan	M	2	2.1-2.2	Lewis structures, no-bond resonance
	25-Jan	T	2	2.3	VSEPR
	26-Jan	W	2	2.3-2.8	VB Theory, MO theory, homonuclear diatomics
	27-Jan	R	2	2.7, 2.8	MO theory, homonuclear diatomics
Week 4	31-Jan	M	2	2.9	Heteronuclear diatomics
	01-Feb	T	2	2.10	Bond properties
	02-Feb	W	3	3.1	Molecular symmetry
	03-Feb	R	3	3.1, 3.2	Molecular symmetry, point groups, symmetry exercises
Week 5	07-Feb	M	3	3.1, 3.2	Molecular symmetry, point groups, symmetry exercises
	08-Feb	T	3	3.3-3.4	Chirality and polarity
	09-Feb	W			**Exam 1 - Chapters 1-2**
	10-Feb	R	3	3	Applications of symmetry, symmetry exercises
Week 6	14-Feb	M	3	3.3	Symmetry of molecular orbitals, symmetry exercises
	15-Feb	T	3	3.6, 3.7	Symmetry of molecular orbitals (wrap-up)
	16-Feb	W	3	3.7, 3.11a	Construction of molecular orbitals, molecular orbitals of polyatomic molecules
	17-Feb	R	3	3	Symmetry of molecular orbitals
Week 7	21-Feb	M			Washington's Birthday - NO CLASSES
	22-Feb	T	4	4.1, 4.2	Structures of solids
	23-Feb	W	4	4.1, 4.2, 4.8	Properties of metallics, alloys and interstitials
	24-Feb	R	4	4.9	Ionic structures (NaCl vs. NiAs, wurtzite vs. zinc blende)
Week 8	28-Feb	M	4	4	ICE model kits activity
	01-Mar	T	4	4.18	Electronic structures of solids
	02-Mar	W	4	4.19-4.20	Band gap, semiconductors
	03-Mar	R	4	4	Chapter 4 literature discussion
Week 9	07-Mar	M	5	5.1	Review of acidity, Bronsted acids/bases
	08-Mar	T	5	5.1	Review of acidity, Bronsted acids/bases
	09-Mar	W			**Exam 2 - Chapters 3-5**
	10-Mar	R	5	5.2, 5.6, 5.7	Lewis acids, aqua acids
	14-Mar - 18-Mar	2022			SPRING BREAK
Week 10	21-Mar	M	5	5.10	HSAB theory
	22-Mar	T	7	7.1	Coordination compounds - representative ligands
	23-Mar	W	5		Chapter 5 Literature Discussion
	25-Mar	R	7	7.2	Coordination compounds - nomenclature, electron-counting
Week 11	28-Mar	M	7	7.3. 7.4	Coordination compounds - low and intermediate coordination numbers
	29-Mar	T	7	7.3-7.8	Coordination compounds - geometries
	30-Mar	W	7	7.9-7.11	Isomerism and chirality of coordination compounds
	01-Apr	R	20	20.1(a)	Crystal field theory - octahedral complexes
Week 12	04-Apr	M	20	20.1(b), (c)	CFT - Ligand field stabilization energies, magnetic measurements
	05-Apr	T	20	20.1(e), (f)	CFT - tetrahedral and square planar complexes
	06-Apr	W	20	20.1(g)	CFT - Jahn-Teller effect
	08-Apr	R	20	20.2(a)	Ligand field theory - sigma bonding
Week 13	11-Apr	M	20	20.2(b)	Ligand field theory - pi bonding
	12-Apr	T	21	21.1	Ligand substitution - rates
	13-Apr	W	21	21.2	Ligand substitution - mechanisms
	15-Apr	R	21	21.3, 21.4	Ligand substitution - nucleophilicity
Week 14	18-Apr	M	21	21.4	Ligand substitution - shape of the transition state
	19-Apr	T	22	22.1-22.2	d-Metal organometallic chemistry: stable electron configurations
	20-Apr	W			**Exam 3 - Chapters 6, 7, 20**
	22-Apr	R	22	22.21-22.25	d-Metal organometallics: reactions
Week 15	25-Apr	M			Overview of inorganic chemistry special topics
	26-Apr	T		Selected journal articles	TBD - Literature Review
	27-Apr	W		Selected journal articles	TBD - Literature Review
	29-Apr	R		Selected journal articles	TBD - Literature Review
Week 16	02-May	M		Selected journal articles	TBD - Literature Review
	03-May	T		Selected journal articles	TBD - Literature Review
	04-May	W			Admin / Final Exam Review