Tentative Daily Schedule
CHEM 125
Fall 2012

Atomic Structure and Periodic Trends

Thursday, Aug 30th, Day 2

• Resources:
  o Online Text, Structure & Reactivity available at: http://employees.csbsju.edu/cschaller/srobi.htm, Part I
  o Workbook – Students purchase the PRINT copy at the following URL (B&W 27$ or Color $76): http://academicpub.sharedbook.com/serve/ac/acapub/student_product_page.html?slug=1337623397.67 Students will get complementary digital version in color.
  o Moodle (Chem Tutor) our section is CHEM125 06A https://moodle.csbsju.edu/login/index.php
  o Connect http://connect.mcgraw-hill.com/class/apeterson_125evenfall2012
  o Laminated Periodic Tables (from instructor)
  o 6:30-8:00 pm Tuesday Night Faculty Tutorial, O’Connells
  o Student Tutors, Times to Be Announced

In class: Structure of Atoms
• First-Day Overview of Class Structure
  o Syllabus
  o Hand out laminated periodic tables
  o Groupwork and Pedagogical Theory (powerpoints on sharepoint)
  o Assign Groups
  o Group Guideline Worksheet (on sharepoint)
  o Short Problem Solving Assessments Schedule
• Atomic Structure and Isotopes
  o Workbook: 5-8, 10
Monday, September 3rd, Day 4
Preparation: Structure of Atoms
• Read:
  o Chemical Structure & Properties: Ch 2 Atoms and Periodic Table, 2.1-2.5
    Ch 3 Electronic Structure of Atoms, 3.8-3.10
  o Structure & Reactivity: AT1-5
• Moodle:
  o Chem Tutor: 3.4, 3.5, 3.6, 3.7, 3.8
• Suggested Practice Problems:
  o Chemical Structure & Properties: Ch 2 Atoms and Periodic Table, 2.1, 2.2, 2.10, 2.11, 2.15, 2.17, 2.32, 2.34, 2.39
• NB: The answers to the odd problems are listed in the back of each chapter!
  o Summaries of Atomic Structure, Workbook p 9 and 11
  o Mass Spectrometry, Workbook, 13-15
• Homework due:
  o Group Assignment: Summary of Atomic Structure, Workbook: 9-11
    Develop Participation Guidelines
  o Connect: How to Complete and Submit Assignments
    How to use Chemistry Answer Palette
    Atomic Structure

In class: Structure of Atoms
• Atomic Orbitals
  o Workbook: 16-17
• Electronic Configurations
  o Workbook: 18-21

6:30-8:00 pm Faculty Tutorial, O’Connells
Wednesday, September 5th, Day 6

**Preparation:**
- **Read:**
  - *Chemical Structure & Properties:* Ch 4 Periodic Trends, 4.3-4.6
- **Moodle:**
  - *Chem Tutor:* 3.10, 4.1, 4.2, 4.3
- **Suggested Practice Problems:**
  - Primer on Coulomb’s Law, *Workbook*, 440-441
- **Homework due:**
  - Individual Passport to Class: Core Charge, *Workbook*, 24
  - Connect: Electron Configuration
    - Ch 2 Learn Smart
    - Ch 3 Learn Smart

**In class:** Properties of Atoms
- Periodic Trends (Core Charge, Atomic Radii, EN)
  - *Workbook*: 24-30

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**Metallic Structure and Properties**

Friday, September 7th, Day 2

**Preparation:**
- **Read:**
  - *Chemical Structure & Properties:* Ch 12 Crystal Structure, 12.3-12.5
  - *Structure & Reactivity:* ME1-3
- **Moodle:**
  - *Chem Tutor: 4.4*
- **Suggested Practice Problems:**
  - *Chemical Structure & Properties:* Ch 4 Periodic Trends, 4.4, 4.10, 4.15, 4.22, 4.31, 4.32, 4.33, 4.41, 4.43, 4.45, 4.51, 4.64, 4.65, 4.69, 4.71, 479, 4.89, 4.91, 4.105, 4.107, 4.121
  - Summary of Periodic Trends, *Workbook*, 31
- **Homework due:**
  - Connect: Periodic Trends
    - Ch 4 Learn Smart

**In class:** Structure of Metals
- Short Problem Solving Assessments #1: Atomic Structure and Properties
- Metal Packing (play-doh or metal packing kit)
- Unit Cells
  - *Workbook*: 36-42
Tuesday, Sept 11th, Day 4
Preparation:
• Homework due:
  o Group Extra Credit: Packing Efficiency, *Workbook*: 45-47

In class: Structure of Metals
• Finish unit cells
  o *Workbook*: 43-44
• Sea of Electrons, Alloys  (OR alternate Group activity on Sharepoint)
  o *Workbook*: 49-56

6:30-8:00 pm Faculty Tutorial, O’Connells

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Ionic Solids and Properties

Thursday, September 13th, Day 6
Preparation:
• Read:
  o *Structure & Reactivity*: IC1-4
• Moodle:
  o *Chem Tutor*: 4.5
• Suggested Practice Problems:
  o Packing Summary, *Workbook*, 48
  o *Connect*: Visualization of Unit Cells
    Unit Cell Powerpoint
• Homework due:
  o *Passport to Class*: Ionic Compounds, *Workbook*: 61-63
  o *Connect*: Metal Packing
    Metallurgy LearnSmart

In class: Structure of Ionic Solids
• Ionic Lattice, Interstitial Holes, Coordination Number and Geometry
  o *Workbook*: 64-65
• Practice Problems
  o *Workbook*: 66-70
Monday, September 17\textsuperscript{th}, Day 2

**Preparation:**
- **Read:**
  - *Chemical Structure & Properties:* Ch 5 Ionic & Covalent Compounds, 5.3
- **Moodle:**
  - *Chem Tutor:* 4.5, 4.6, 4.8
- **Suggested Practice Problems:**
  - *Chemical Structure & Properties:* Ch 12 Crystal Structure, 12.44, 12.48, 12.51, 12.54, 12.55, 12.58, 12.59
  - Ionic Packing Summary: *Workbook,* 74
  - Practice Packing Problems: *Workbook,* 66-71
- **Homework due:**
  - *Group Assignment: Predicting Packing,* *Workbook:* 72-73

**In class:** Properties of Ionic Solids
- Lattice Energies, Melting Points, Solubilities, Applications
  - *Workbook:* 75-81
- **Short Problem Solving Assessments #2:** Unit Cells for Solids

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6:30-8:00 pm Faculty Tutorial, O’Connells

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**Molecular Compounds: Bonding and Geometry**

Wednesday, September 19\textsuperscript{th}, Day 4

**Preparation:**
- **Read:**
  - *Chemical Structure & Properties:*
    - Ch 5 Ionic and Covalent Compounds, 5.1, 5.2, 5.5
    - Ch 6 Representing Molecules, 6.1-6.4
  - *Structure & Reactivity:* IM1-5
- **Moodle:**
  - *Chem Tutor:* 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.8, 5.9
- **Suggested Practice Problems:**
  - *Chemical Structure & Properties:* Ch 5 Ionic Compounds, 5.10-5.13
  - Summary, *Workbook,* 92
- **Homework due:**
  - *Group Assignment:,* *Workbook,* #3 86-87
  - *Connect:* Ionic Solids

**In class:** Structures of Molecular Compounds
- **Short Problem Solving Assessments #3:** Cumulative Problem
- Lewis Structures
- Perspective Drawings, Geometries, Charges
  - *Workbook:* 100-103
  - Model Kits
Friday, September 21st, Day 6
Preparation: Structures of Molecular Compounds
• Read:
  o Chemical Structure & Properties: Ch 7 Molecular Geometry, 7.1-7.3
• Moodle:
  o Chem Tutor: 5.8, 5.9
• Suggested Practice Problems
  o Lewis Structure Practice: Workbook, 104-107
• Homework due:
  o Group Assignment: Workbook, 104-105

In class: Structures of Molecular Compounds
• Finish Lewis Structures
  o Workbook: 100-103

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Molecular Compounds: Isomers, Stereochemistry, Conformers

Tuesday, September 25th, Day 2
Preparation: Structures of Molecular Compounds
• Read:
  o Chemical Structure & Properties:
    Ch 6 Representing Molecules, 6.5-6.6
    Ch 5 Ionic and Covalent Compounds, 5.4, 5.6
    Ch 4 Alkanes, 4.4, 4.5, 4.6
  o Structure & Reactivity: IM6, IM8, IM9
• Moodle:
  o Chem Tutor: 5.7, 4.9, 4.10, 5.10
• Suggested Practice Problems:
  o Chemical Structure & Properties: Ch 6 Representing Molecules, 6.22 - 6.31
• Homework due:
  o Connect: Using ChemDraw (7 subunits)
    Lewis Structures and Geometries

In class: Structures of Molecular Compounds
• Line Drawing and Isomers
  o Workbook: 108-110
  o Model Kits
• Nomenclature and Functional Groups (on your own)
  o Workbook: 111-116
• Bond Strengths, Workbook, 117
• Short Problem Solving Assessments #4: Lewis Structures

6:30-8:00 pm Faculty Tutorial, O’Connells
Thursday, September 27th, Day 4
Preparation:
• Read:
  o Chemical Structure & Properties: Ch 5 Stereochemistry, 5.1-5.6
  o Structure & Reactivity: SC1-7
• Suggested Practice Problems:
  o Chemical Structure & Properties: Ch 6 Representing Molecules, 6.32 - 6.44, 6.53, 6.60, 6.68, 6.70, 6.71
  o Summary of Molecular Structure: Workbook: 106
• Moodle:
  o Chem Tutor: 9.1, 9.2, 9.5
• Homework due:
  o Individual Nomenclature Homework, Workbook: 112-116

In class: Shapes of Molecular Compounds
  • Stereochemistry (R/S and enantiomers)
  o Workbook: 128-131
  o Model Kits

Monday, October 1st, Day 6
Preparation:
• Read:
  o Chemical Structure & Properties: Ch 5 Stereochemistry, 5.7-5.9
  o Structure & Reactivity: SC10, SC19, SC20
• Suggested Practice Problems:
  o Chemical Structure & Properties: Ch 5 Stereochemistry, 5.35-5.45
  o Connect: Nomenclature of Organic Compounds (optional)
• Homework due:
  o Passport: R/S Assignment, Workbook: 132 (first two bullet points)
  http://www.chemeddl.org/resources/stereochem/priorities34.htm
  Also available on Connect

In class: Structures of Molecular Compounds
  • Short Problem Solving Assessments #5: Nomenclature/Functional Grp
  • Stereochemistry (Diastereomers and R/S)
  o Workbook: 132-133
  o Model Kits
Wednesday, October 3rd, Day 2
Preparation:
  • Read:
    o *Chemical Structure & Properties*: Ch 4 Alkanes, 4.9-4.10
    o *Structure & Reactivity*: CA1-5
  • Moodle:
    o *Chem Tutor*: 8.1
  • Suggested Practice Problems:
    o *Chemical Structure & Properties*: Ch 5 Stereochemistry, 5.52-5.59
  • Homework due:
    o **Group Assignment**: *Workbook*: R/S designations on 130
    o **Connect**: Ch 5 Learn Smart
      Ch 6 Learn Smart

In class: Structures of Molecular Compounds
  • Stereochemistry (Meso)
    o *Workbook*: 134
  • Practice Stereochemistry
    o *Workbook*: 135-138
    o Model Kits

NO Faculty Tutorial, O’Connells

Fall Break

Tuesday, October 9th, Day 4
Preparation:
  • Read:
    o *Chemical Structure & Properties*: Ch 4 Alkanes, 4.11-4.12
    o *Structure & Reactivity*: CA6, CA7
  • Moodle:
    o *Chem Tutor*: 8.2, 8.3
  • Suggested Practice Problems:
    o *Chemical Structure & Properties*: Ch 4 Alkanes, 4.47-4.52
    o Isomeric Relationships: *Workbook*, 135-136
  • Homework due:
    o **Connect**: Stereochemistry

In class: Structures of Molecular Compounds
  • **Short Problem Solving Assessments #6**: Stereoisomers
  • Conformational Analysis of Acyclic Molecules
    o *Workbook* 143-144
    o Model Kits
  • Cyclic Conformations, Ring Flips
    o *Workbook* 147-149
Thursday, October 11\textsuperscript{th}, Day 6

\textbf{Preparation:}
\begin{itemize}
  \item \textbf{Read:}
    \begin{itemize}
      \item \textit{Chemical Structure & Properties}: Ch 4 Alkanes, 4.13
      \item \textit{Structure & Reactivity}: CA8, CA9, CA10
    \end{itemize}
  \item \textbf{Suggested Practice Problems:}
    \begin{itemize}
      \item \textit{Chemical Structure & Properties}: Ch 4 Alkanes, 4.56-4.62
    \end{itemize}
  \item \textbf{Homework due:}
    \begin{itemize}
      \item \textbf{Group Assignment:} Acyclic Conformation \textit{Workbook} 145 -146
    \end{itemize}
\end{itemize}

\textbf{In class:} Structures of Molecular Compounds
\begin{itemize}
  \item Drawing Cyclic Compounds
    \begin{itemize}
      \item \textit{Workbook}: 150-156
    \end{itemize}
\end{itemize}

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Monday, October 15\textsuperscript{th}, Day 2

\textbf{Preparation:}
\begin{itemize}
  \item \textbf{Read:}
    \begin{itemize}
      \item \textit{Chemical Structure & Properties}: Ch 5 Stereochemistry, 5.10-5.13
      \item \textit{Structure & Reactivity}: C11, C12, C13
    \end{itemize}
  \item \textbf{Suggested Practice Problems:}
    \begin{itemize}
      \item \textit{Workbook}: 126-138
      \item \textit{Chemical Structure & Properties}: Ch 4 Alkanes, 4.63-4.67
      \item Cyclic Conformation Summary, \textit{Workbook}: 160
    \end{itemize}
  \item \textbf{Homework due:}
    \begin{itemize}
      \item \textbf{Group Assignment:} Chairs, \textit{Workbook} 159
    \end{itemize}
\end{itemize}

\textbf{In class:} Structures of Molecular Compounds
\begin{itemize}
  \item Application Problems of Stereochemistry and Conformation
    \begin{itemize}
      \item \textit{Workbook}: 161-168
    \end{itemize}
\end{itemize}

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6:30-8:00 pm Faculty Tutorial, O'Connells
Properties of Molecular Compounds: Intermolecular Forces

Wednesday, October 17th, Day 4

Preparation:
- Read:
  - Chemical Structure & Properties: Ch 12 Intermolecular Forces, 12.1, 12.6
  - Structure & Reactivity: SP1-11
- Moodle:
  - Chem Tutor: 6.1, 6.2, 6.3, 6.4, 6.5
- Suggested Practice Problems:
  - Chemical Structure & Properties: None
- Homework due:
  - Connect: Conformational Analysis
  - Passport to Class: Dipoles Workbook, 173-176

In class: Properties of Molecular Compounds
- Short Problem Solving Assessments #7: Conformational Analysis
- Introduction to Intermolecular Forces
  - Packing, Phase Changes, Melting Points, Workbook 178-184

Friday, October 19th, Day 6

Preparation:
- Read:
  - Chemical Structure & Properties: Ch 12 Intermolecular Forces, 12.2
  - Ch 13 Properties of Solutions 13.1, 13.2, 13.4
- Suggested Practice Problems:
  - Chemical Structure & Properties: Ch 12 Intermolecular Forces, 12.1-12.7
  - IMF, Workbook, 178-179
- Homework due:
  - Group Assignment: IMF, Workbook 185 can use 180 as template

In class: Properties of Molecular Compounds
- Intermolecular Forces
- Solubilities, Boiling Points, Vapor Pressure, Viscosity, Surface Tension
  - Workbook 186-193
Tuesday, October 23rd, Day 2
Preparation:

- Suggested Practice Problems:
  - Summary of IMF, *Workbook*, 194
  - *Chemical Structure & Properties*: Ch 12 Intermolecular Forces, 12.15-12.23, 12.88-12.91

- Homework due:
  - **Group Assignment**: IMF Applications, Petroleum Wax in Pipelines, *Workbook 197-199 Problem 4*
  - **Connect**: Ch 12 Learn Smart

**In class:** Properties of Molecular Compounds

- Applications of Intermolecular Forces
  - *Workbook*, 195-196; 202-203

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6:30-8:00 pm Faculty Tutorial, O’Connells

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**Structure and Properties of Biomolecules: Intermolecular Forces**

Thursday, October 25th, Day 4
Preparation:

- Read:
  - *Chemical Structure & Properties*: Ch 19 Lipids
  - Ch 20 Carbohydrates
  - *Structure & Reactivity*: IM10, SC8-11, SP12

- Suggested Practice Problems:

- Homework due:
  - **Group Assignment**: IMF Applications, *Workbook 204-206*
  - **Passport**: Carbohydrates, *Workbook*: 211, 212, 215

**In class:** Properties of Biomolecules

- **Short Problem Solving Assessments #8**: Simple IMF
- Applications of Intermolecular Forces
- Lipids
  - *Workbook* 216-217
- Amino Acids
  - *Workbook* 219-220
Monday, October 29th, Day 6

Preparation:
- **Read:**
  - *Chemical Structure & Properties:* Ch 21 Amino Acids, Proteins
  - Ch 22 Nucleic Acids
  - *Structure & Reactivity:* SC12-13, SP13-14
- **Suggested Practice Problems:**
  - *Chemical Structure & Properties:*
    - Ch 19 Lipids, 19.33-19.40, 19.86, 19.87, 19.91
    - Ch 20 Carbohydrates, 20.79, 20.80,
- **Homework due:**
  - *Connect:* Intermolecular Forces

In class: Structure and Properties of Biomolecules
- **Proteins**
  - *Workbook* 221-227
- **DNA**
  - *Workbook* 243-246
- **Histones**
  - *Workbook* 248-250

6:30-8:00 pm Faculty Tutorial, O'Connells

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Structure and Properties of Network Solids: Intermolecular Forces

Wednesday, October 31st, Day 2

Preparation:
- **Suggested Practice Problems:**
  - *Chemical Structure & Properties:*
    - Ch 22 Nucleic Acids, 22.25-22.46
  - Biomolecule Summary, *Workbook*, 251
- **Homework due:**
  - *Group Assignment:* Hydropathy and Crossing a Membrane, Connect & Workbook: 236-242
  - *Connect:* Biomolecules

In class: Structure and Properties of Network Solids
- **Short Problem Solving Assessments #9: Biomolecules**
- Applications of Intermolecular Forces
- Network Solids
  - *Workbook* 256-264
Structure and Properties of Coordination Compounds

Friday, November 2\textsuperscript{nd}, Day 4

\textbf{Preparation:}
  \begin{itemize}
    \item Read:
      \begin{itemize}
        \item \textit{Chemical Structure & Properties}: Ch 22 Coordination Chemistry 22.1
        \item \textit{Structure & Reactivity}: SC17, SC18
      \end{itemize}
    \item Homework due:
      \begin{itemize}
        \item \textbf{Group Assignment: Network Solid Applications, Workbook, 260-268}
        \item \textbf{Connect: Stereochemistry of Biomolecules}
      \end{itemize}
  \end{itemize}

\textbf{In class: Structure and Properties of Network Solids}
  \begin{itemize}
    \item \textbf{Short Problem Solving Assessments #10: IMF in action (cumulative)}
    \item Coordination Compounds
    \item Geometries, Lewis Structures and Metal Binding
      \begin{itemize}
        \item \textit{Workbook: 269-273}
      \end{itemize}
  \end{itemize}

Tuesday, November 6\textsuperscript{th}, Day 6

\textbf{Preparation:}
  \begin{itemize}
    \item Read:
      \begin{itemize}
        \item \textit{Chemical Structure & Properties}: Ch 22 Coordination Chemistry 22.2
        \item \textit{Structure & Reactivity (Part III)}: CC1-CC3, CC5
      \end{itemize}
    \item Moodle:
      \begin{itemize}
        \item \textit{Chem Tutor}: 9.3, 9.4
      \end{itemize}
    \item Suggested Practice Problems:
      \begin{itemize}
        \item \textit{Chemical Structure & Properties}: Ch 22 Coordination Chemistry 22.1-22.9, 22.11, 22.17
      \end{itemize}
    \item Homework due:
      \begin{itemize}
        \item \textbf{Passport: Workbook 269-273}
      \end{itemize}
  \end{itemize}

\textbf{In class:}
  \begin{itemize}
    \item Electron Counting in Coordination Compounds
      \begin{itemize}
        \item \textit{Workbook: 274-276}
      \end{itemize}
  \end{itemize}

\textbf{6:30-8:00 pm Faculty Tutorial, O’Connells}
Thursday, November 8th, Day 2

Preparation:
• Read:
  o Structure & Reactivity: CC1-CC3, CC5
• Suggested Practice Problems:
• Homework due:
  o Connect: Coordination Compounds LearnSmart

In class:
• Isomers of Square Planar and Octahedral Compounds
  o Workbook: 277-280
  o Model Kits
• Applications
  o Workbook: 286-294

Bonding in Molecular Compounds: Molecular Orbital Theory

Monday, November 12th, Day 4

Preparation:
• Read:
  o Chemical Structure & Properties: Ch 3 Quantum Theory 3.8
    Ch 7 MO Theory 7.6
  o Structure & Reactivity: MO1-6
• Moodle:
  o Chem Tutor: 7.1
• Suggested Practice Problems:
  o Chemical Structure & Properties: Ch 22 Coordination Chemistry 22.18-22.21, 22.23, 22.25
  o Coordination Summary, Workbook, 285
• Homework due:
  o Connect: Coordination Compounds

In class:
• Short Problem Solving Assessments #11: Coordination Chemistry
• Orbitals as Waves
• Constructive/Destructive Interference
• Sigma/Pi bonds
  o Workbook: 299-305

6:30-8:00 pm Faculty Tutorial, O’Connells
Wednesday, November 14th, Day 6
Preparation:
• Read:
  o *Chemical Structure & Properties*: Ch 7 MO Theory 7.4, 7.5
  o *Structure & Reactivity*: MO7, MO9
• Moodle:
  o *Chem Tutor*: 7.2, 7.3, 7.4
• Suggested Practice Problems:
  o *Chemical Structure & Properties*: Ch 3 Quantum Theory 3.75-3.78
    Ch 7 MO Theory 7.40, 7.41, 7.50-7.53,
  o Orbitals Summary, *Workbook*, 306
• Homework due:
  o **Passport**: Orbitals as Waves Summary, *Workbook*, 306

In class:
• Molecular Orbitals in Diatomics
  o *Workbook*: 307-310
• Simple Hybridized AO
  o *Workbook*: 317-319

Friday, November 16th, Day 2
Preparation:
• Read:
  o *Chemical Structure & Properties*: Ch 16 Conjugation and Resonance
  o *Structure & Reactivity*: MO14, MO15
• Suggested Practice Problems:
  o *Chemical Structure & Properties*: Ch 7 MO Theory 7.43, 7.45, 7.47, 7.55,
    7.59, 7.61
  o Diatomics Practice, *Workbook*, 311-312
• Homework due:
  o **Passport**: Hybridization, *Workbook*, 319
  o **Connect**: Ch 7 (molecular orbitals) Learn Smart
  o **Group Assignment**: Diatomics, *Workbook*, 311-312

In class:
• Conjugation and Resonance
  o *Workbook*: 320-324
Tuesday, November 20\textsuperscript{th}, Day 4

\textbf{Preparation:}
- \textbullet{} \textbf{Read:}
  - \textit{Chemical Structure & Properties:}
    - Ch 17 Benzene and Aromatic Compounds
    - Ch 21 Band Theory
  - \textit{Structure & Reactivity:} MO16, MO17
- \textbullet{} \textbf{Suggested Practice Problems:}
  - \textit{Chemical Structure & Properties:} Ch 7 MO Theory 7.68
  - Ch 16 Conjugation 16.31, 16.32, 16.34
- \textbullet{} \textbf{Homework due:}
  - \textit{Connect:} Molecular Orbitals
  - \textit{Group Assignment:} Polyunsaturated Fatty Acid Oxidation, \textit{Workbook, 334-337}

\textbf{In class:}
- \textbf{Short Problem Solving Assessments #12: MO Problems}
- Conjugation and Resonance
  - \textit{Workbook:} 325-327
- Properties of Conjugated Compounds
  - \textit{Workbook:} 328-330

\textbf{NO Faculty Tutorial, O'Connells}

\textbf{Thanksgiving Break}

Tuesday, November 27\textsuperscript{th}, Day 6

\textbf{Preparation:}
- \textbullet{} \textbf{Read:}
  - \textit{Chemical Structure & Properties:}
    - Ch 17 Benzene and Aromatic Compounds
    - Ch 21 Band Theory
  - \textit{Structure & Reactivity:} MO16, MO17
- \textbullet{} \textbf{Suggested Practice Problems:}
  - \textit{Chemical Structure & Properties:} Ch 7 MO Theory 7.68
    - Ch 16 Conjugation 16.31, 16.32, 16.34
  - Conjugation Summary, \textit{Workbook, 331}
- \textbullet{} \textbf{Homework due:}

\textbf{In class:}
- Aromaticity
  - \textit{Workbook:} 343-348

\textbf{6:30-8:00 pm Faculty Tutorial, O'Connells}

Thursday, November 29\textsuperscript{th}, Day 2
Thursday, November 29th, Day 2

Preparation:
- Read:
  - *Chemical Structure & Properties*: Ch 17 Benzene and Aromatic Compounds
  - *Structure & Reactivity*: MO16, MO17
- Suggested Practice Problems:
  - *Chemical Structure & Properties*: Ch 7 MO Theory 7.69-7.72
    Ch 17 Aromaticity 17.32-17.40, 17.52, 17.53,
  - Conjugation Summary, *Workbook*, 349
- Homework due:
  - *Group Assignment*: Aromaticity Applications 349-357
  - *Connect*: Conjugation and Aromaticity

In class:
- Application Problems
  - *Workbook*: 349-357

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**Acids and Bases**

Monday, December 3, Day 4

Preparation:
- Read:
  - *Chemical Structure & Properties*: Ch 2 Acids and Bases, 2.1-2.3, 2.8
  - *Structure & Reactivity*: AB1-5
- Moodle:
  - *Chem Tutor*: 10.1, 10.2
- Suggested Practice Problems:
  - *Chemical Structure & Properties*: None
- Homework due:
  - *Group Assignment*: Band Theory (362-372)
  - Passport: Lewis Acid/Base, *Workbook*, 377

In class:
- **Short Problem Solving Assessments #13**: MO, Conjugation and Aromaticity
- Lewis Acids & Bases and Arrows
  - *Workbook* 377-380

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LAST 6:30-8:00 pm Faculty Tutorial, O’Connells
Wednesday December 5th, Day 6

Preparation:
- Read:
  - *Chemical Structure & Properties*: Ch 2 Acids and Bases, 2.5
  - *Structure & Reactivity*: AB6-13
- Suggested Practice Problems:
  - *Chemical Structure & Properties*: Ch 2 Acids and Bases, 2.34, 2.35, 2.62, 2.63
- Homework due:

In class:
- Bronsted Acid/Base and Arrows
  - *Workbook* 381-386

Friday, December 8th, Day 2

Preparation:
- Read:
  - *Chemical Structure & Properties*: Ch 2 Acids and Bases, 2.4
  - Ch 9 Chemical Reactions, 9.3
  - *Structure & Reactivity*: AB14
- Moodle:
  - *Chem Tutor*: 10.3
- Suggested Practice Problems:
  - *Chemical Structure & Properties*:
    - Ch 2 Acids and Bases, 2.36, 2.49-2.59
    - Ch 9 Chemical Reactions, 9.26-9.25
- Homework due:
  - *Passport to Class*: Base Strengths, *Workbook*,
  - *Connect*: Acid-Base Intro

In class:
- *Short Problem Solving Assessments #14*: Acids, Bases and Arrows
  - Which Proton? How Easily?
    - *Workbook* 387-389
- Application Problems
  - *Workbook* 391-396
Tuesday, December 11th, Day 4
Preparation:
• Read:
  o *Chemical Structure & Properties*: Ch 9 Chemical Reactions, 9.1, 9.2
  o *Structure & Reactivity*: AB16, AB17, AB15, AB18
• Moodle:
  o *Chem Tutor*: 10.4
• Suggested Practice Problems:
  o *Chemical Structure & Properties*: Ch 2 Acids and Bases, 2.38, 2.39, 2.64-2.67, 2.43-2.48

In class:
• Short Problem Solving Assessments #14: Acids, Bases and Arrows
• Qualitative Understanding of pKa
  o *Workbook* 397-398
• Introduction to Equilibria
  o *Workbook* 399
• Leveling Effect
  o *Workbook* 400-402
• Acid-Base Extractions
  o Problems, *Workbook* 405-409

Thursday, December 13th, Day 6
Preparation:
• Read:
  o *Chemical Structure & Properties*: Ch 9 Chemical Reactions, 9.2
  o *Structure & Reactivity*:
• Suggested Practice Problems:
• Homework due:
  o *Connect*: Acid-Base II
  o *Connect*: Ch 16 Learn Smart

In class:
• Short Problem Solving Assessments #15: Cumulative Application
• Applications of Acid-Base Chemistry
  o Electrophoresis, *Workbook*, 410-412
  o Methane Monooxygenase, *Workbook* 417-423
  o Amide Cumulative Problem *Workbook* 424-431

Friday, December 14th, Study Day

Final Exam: Tuesday, December 18th 6-8 pm (Ardolf 104)