

*Tentative Outline of First Half* (Jamison)**I. Organic Structure Determination (8 Lectures)****A. Molecular Formula and Index of Hydrogen Deficiency**

- Elemental Analysis (EA), Mass Spectrometry (MS)

**B. Functional Groups**

- MS Fragmentation, Infrared Spectroscopy (IR),  $^{13}\text{C}$  Nuclear Magnetic Resonance (NMR)

**C. Connectivity**

- $^1\text{H}$  NMR

**II. Amines – Chemistry of Nitrogen-Containing Compounds (2 Lectures)****III. Molecular Orbital (MO) Theory and Pericyclic Reactions (8 Lectures)***Tentative Schedule of Lecture Topics* (Jamison)

1	Wed.	September 4	Molecular Formula and Index of Hydrogen Deficiency (EA and MS)
2	Fri.	September 6	Functional Groups (MS Fragmentation Patterns)
3	Mon.	September 9	Functional Groups (IR)
4	Wed.	September 11	Functional Groups ( $^{13}\text{C}$ NMR)
5	Fri.	September 13	Connectivity ( $^1\text{H}$ NMR)
6	Mon.	September 16	Connectivity ( $^1\text{H}$ NMR)
7	Wed.	September 18	Organic Structure Elucidation (In-Class Examples)
8	Fri.	September 20	<i>Holiday</i> – No Lecture
	Mon.	September 23	Organic Structure Elucidation (In-Class Examples)
	Wed.	September 25	<b>Exam 1</b>
9	Fri.	September 27	Amines
10	Mon.	September 30	Amines
11	Wed.	October 2	Conjugated Systems and Molecular Orbital Theory
12	Fri.	October 4	Pericyclic Reactions – Electrocyclic Processes
13	Mon.	October 7	Pericyclic Reactions – Cycloadditions
14	Wed.	October 9	Pericyclic Reactions – Cycloadditions
15	Fri.	October 11	Synthesis Using Pericyclic Reactions I
	Mon.	October 14	<i>Holiday</i> – No Lecture
16	Wed.	October 16	Pericyclic Reactions – Sigmatropic Rearrangements
17	Fri.	October 18	Pericyclic Reactions – Sigmatropic Rearrangements
18	Mon.	October 21	Synthesis Using Pericyclic Reactions II
	Wed.	October 23	<b>Exam 2</b>

*Tentative Problem Set Schedule* (Jamison)

	<u>Posted on 5.13 Website</u>	<u>Due</u>
PS1	Friday, September 6	Friday, September 13
PS2	Friday, September 13	Friday, September 20*
PS3	Friday, October 4	Friday, October 11
PS4	Friday, October 11	Friday, October 18

\* Because Friday, September 20, is a Student Holiday (no lecture), we will accept PSet 2 without penalty until Monday, September 23, 11:30 AM.