

Chemistry 324 activities include lectures, discussions of research papers, molecular modeling sessions, and problem-solving conferences. Activity topics and due dates are listed below. Special topics (weeks 12-13) will be determined late in the semester. Possible options are: more standard activities (lecture, Spartan), individual student-teacher conferences regarding the final project, student evaluations of instruction

Assigned work

- Reading assigned papers (8)
- Completing assigned homework (8)
- Taking take-home exams (2)
- Performing a final project (1). The project will be described by a written report and the project/report will be the basis for an oral exam. The oral exams will take place during Finals Week.

Locations

- Lecture, Discussion, and Conference will be held in Rm. 301.
- Spartan sessions will be held in the chemistry computer lab, Rm. 203.

Week	Day	Date	Lesson Plan	Notes
1	M	1/28	Diels-Alder: overview & thermochemistry <i>Distribute paper 1</i> <i>Distribute homework 1</i>	Lecture
	W	1/30	Discuss paper 1	Discussion
	F	2/1	Diels-Alder: using molecular models to predict product stereochemistry	Spartan
2	M	2/4	Diels-Alder: using molecular models to predict thermochemistry <i>Distribute paper 2</i> <i>Distribute homework 2</i> <i>Collect homework 1</i>	Spartan
	W	2/6	Discuss paper 2	Discussion
	F	2/8	Diels-Alder: using molecular models to study internal rotation in conjugated dienes	Spartan
3	M	2/11	Selectivity in chemical reactions: thermodynamic vs. kinetic control <i>Distribute paper 3</i> <i>Distribute homework 3</i> <i>Collect homework 2</i>	Lecture
	W	2/13	Diels-Alder: chemical selectivity	Lecture
	F	2/15	Discuss paper 3	Discussion
4	M	2/18	Frontier MO analysis of transition states Diels-Alder: diene & dienophile frontier MO <i>Distribute paper 4</i> <i>Distribute homework 4</i> <i>Collect homework 3</i>	Lecture + Spartan
	W	2/20	Diels-Alder: frontier MO analysis of transition states using molecular models	Spartan
	F	2/22	Discuss paper 4	Discussion

5	M	2/25	Diels-Alder: Frontier MO analysis of reactivity & regioselectivity <i>Distribute paper 5</i> <i>Distribute homework 5</i> <i>Collect homework 4</i>	Lecture
	W	2/27	Diels-Alder: Experimental evidence for a concerted reaction	Lecture
	F	2/29	Discuss paper 5 <i>Collect homework 5</i>	Discussion
6	M	3/3	Woodward-Hoffmann Rules: Conservation of orbital symmetry <i>Distribute exam 1</i>	Lecture
	W	3/5	Dewar-Zimmerman Rules: Aromaticity in Hückel & Möbius systems	Lecture
	F	3/7	Conference: Practice applying Dewar-Zimmerman rules <i>Collect exam 1</i>	Conference
7	M	3/10	Sigmatropic rearrangements: order & stereochemistry <i>Distribute homework 6</i>	Lecture
	W	3/12	Sigmatropic rearrangements: using molecular models to analyze H migration	Spartan
	F	3/14	Sigmatropic rearrangements: Claisen rearrangement	Lecture
SPRING BREAK				
8	M	3/24	Sigmatropic rearrangements: Cope rearrangement & stereochemistry <i>Distribute paper 6</i> <i>Distribute homework 7</i> <i>Collect homework 6</i>	Lecture
	W	3/26	Sigmatropic rearrangements: Oxy-Cope & Oxy-anion Cope rearrangements	Lecture
	F	3/28	Discuss paper 6	Discussion
9	M	3/31	Electrocyclization: overview & thermochemistry <i>Distribute paper 7</i> <i>Collect homework 7</i>	Lecture
	W	4/2	Electrocyclization: using molecular models to analyze stereochemistry stereoselectivity in biochemical, photochemical, & ionic systems	Spartan Lecture
	F	4/4	Discuss paper 7	Discussion
10	M	4/7	Thermal 2+2 cycloadditions <i>Distribute homework 8</i>	Lecture
	W	4/9	Photochemistry: excitation & decay pathways	Lecture
	F	4/11	Photochemical 2+2 cycloadditions	Lecture
CHEM JR QUAL WEEKEND				

11	M	4/14	“Click” 3+2 cycloadditions <i>Distribute paper 8</i>	Lecture
	W	4/16	Thermal 3+2 cycloadditions <i>Collect homework 8</i>	Lecture
	F	4/18	Discuss paper 8 <i>Distribute final project instructions</i> <i>Distribute exam 2</i>	Discussion
12	M	4/21	Using molecular models to analyze 3+2 cycloaddition regioselectivity	Spartan
	W	4/23	Special topics	?
	F	4/25	Special topics <i>Collect exam 2</i>	?
13	M	4/28	Special topics	?
	W	4/30	Special topics	?
	F	5/2	Breakfast with Alan (day/time to be worked out later)	No class