Erland Stevens
Office: 133 Martin
Phone: x2305
email: erstevens@davidson.edu

Office hours
Monday – 1:00-2:30
Thursday – 10:00-11:00

TENTATIVE LECTURE SCHEDULE

The text for this class is *Organic Chemistry*, 8th ed., by L. G. Wade, Jr. Changes are possible, but they will be announced in class. The days of the exams will be finalized during the first week of class so that everyone can make travel plans for breaks, etc. The exam dates will not be changed after the first week.

lecture dates			topics	book sections
Mon	**Wed**	**Fri**		
1/12	1/14		Introduction and review (2 lectures)	review of CHE 250
		1/16	Acidity and basicity (1 lecture)	Ch 1: 12-14
1/19			**MLK Jr. Day (no class)**	
	1/21	1/23	Acidity and basicity (con't) (2 lectures)	
1/26	1/28	1/30	Halides and alcohols (7 lectures)	Ch 6: sections 7 to end Ch 11: all sections Ch 14: sections 5, 8, 11-14
2/2	2/4	2/6		
2/9				
	2/11		Alkenes and alkynes (1 lecture)	Ch 8: all sections **except** 5, 6, 11, 16, & 17
		2/13	**Exam #1 – review, acidity, halides, and alcohols**	see above
2/16	2/18	2/20	Alkenes and alkynes (con't) (3 lectures)	Ch 9: sections 6, 7, & 9A-9C
2/23	2/25	2/27	Electrophilic aromatic substitutions (3 lectures)	Ch 17: sections 1-12
3/2	3/4	3/6	**Spring Break (no class)**	none
3/9	3/11	3/13	Cycloaddition chemistry (4 lectures)	Ch 15: sections 11 & 12
3/16				
	3/18		C-C bonds: the Holy Grail of organic chemistry (1 lecture)	none
		3/20	**Exam #2 – alkenes, alkynes, EAS, and cycloadditions**	see above
3/23	3/25	3/27	Carbonyls as electrophiles (6 lectures)	Ch 10: sections 8-11 Ch 16: section 9 Ch 18: sections 13, 15-18, & 20
3/30	4/1	4/3		
4/6			**Easter Break (no class)**	none
	4/8	4/10	Chemistry of enolates (3 lectures)	Ch 22: all sections
4/13				
	4/15		Radical reactions (1 lecture)	Ch 4: sections 1-3
		4/17	**Exam #3 – carbonyl electrophiles and enolates**	see above
4/20	4/22		Polymers (2 lectures)	Ch 26: all sections Ch 8: sections 16 & 17
		4/24	Case study – alkaloids	Ch 19: section 1
4/27			Case study – terpenoids	Ch 25: sections 6 & 8
	4/29		Case study – polyketides	none
		5/1	Course evaluations	none
5/4			Case study – macrocycles	none
	5/6		Last lecture	none

OFFICE HOURS

The times I am in my office during non-office hours are not normally the best for student interruptions. Regardless, if you need to meet outside office hours, please give me some advance notice (email, phone call). Also, office hours are much more productive if you come by with specific questions.

TENTATIVE LABORATORY SCHEDULE

There is no text for the laboratory. All necessary lab handouts will be made available in class or by email.

week	Topics
1/12	Check-in, safety information
1/19	Aldol condensation – LAB REPORT
1/26	Osazones of glucose and fructose
2/2	Osazones (con't)
2/9	Tosylation of *p*-toluidine
2/16	Nitration of a protected aniline
2/23	Nitration (con't) – LAB REPORT
3/2	**Spring Break (no lab)**
3/9	Diels-Alder
3/16	Diels-Alder (con't)
3/23	Computational chemistry – WORKSHEET
3/30	Pyrazolone synthesis
4/6	Pyrazolone analysis – LAB REPORT
4/13	Check-out

ATTENDANCE

Although attendance is not required, it is *strongly* recommended. You will not do well in the class if you make a habit of missing lectures. Some lecture material does not appear in the text. This extra information will show up on the reviews. In addition, all students will be held responsible for any announcements or assignments made during class. Missing lecture is not an excuse for not knowing what is going on in class. **Attendance for lab is mandatory**. Schedule conflicts with lab will be reluctantly handled on an individual basis. If you miss a lab, you will take a 0 on both that week's lab quiz and any lab assignment for that particular week. If you are late for lab, you will take a 0 on that week's lab quiz.

CLASS PARTICIPATION

Class participation will not be part of the final grade, but it is encouraged. However, the lecture will be much more enjoyable for both you and me if you are involved in the lecture. We have a small enough enrollment that participation will not overly interfere in the flow of the class.

HOMEWORK

Homework will be assigned with regularity to reinforce specific lecture topics. Students may work in groups on these homework sets. Note that the more individual time you put into the problem sets, the more beneficial they will be for you. Each homework set has a due date. If your homework is in my office before I get in on the following day, I will accept it as on time. If you think you will be late with your homework, then you *must* contact me ahead of time. Homework turned in late has a 25% penalty. Homework is generally not accepted if more than a day late.

LABORATORY PREPARATION AND WORK

All students are required to thoroughly read all assigned reading before meeting for their laboratory section. Quizzes will be given at the beginning of each lab at the instructor's discretion. Proper maintenance of the laboratory notebook will be discussed on the first day of lab. The notebook will be graded after completion of each lab experiment. Three formal lab reports will be assigned on the experiments (Lab 4/5 and Lab 10/11). A worksheet will be collected for Lab 7. Lab bills for non-returnable and broken items will be distributed after checkout.

HONOR CODE

A not-so-obvious place for trouble with the honor code in this course is in the laboratory. Students often feel compelled to falsify their lab results – mostly as inflated percent yields. This type of behavior is not limited to student lab experiments, and unfortunately it occurs at every level of scientific research. This sort of activity seriously undermines the value of research and the published literature. One of the main tenets of science is that observations (including yields) are consistent and reproducible. To prevent any temptation to 'fudge' data, I will not grade on yield in this class. I hope that this will at the least get everyone in the habit of reporting exactly what one observes in lab instead of reporting what one wants to see. This is probably less an issue of the honor code than personal integrity. Unfortunately, these are not the same thing.

GRADING

Grades will be assigned as listed below. At the end of the term final grades will be assigned with the three reviews being weighted as 12, 15, and 18% of the grade in the order that favors each student.

Course Section	Item	Weight
Lecture	Review 1	12
(80%)	Review 2	15
	Review 3	18
	Homework (at least 5)	10
	Final	25
Laboratory	Notebook checks (up to 6)	5
(20%)	Reports/work sheets (3 LR + 1 WS)	10
	Quizzes (up to 6)	5
Final grade	Everything	100

The letter grade for the course will not be based on a regular 90, 80, 70, 60 percent scale. Ultimately, the letter grades will depend on the natural gaps and clustering in the overall class scores. Exam scores will be adjusted with the following formula:

$$\text{Adjusted score} = [(\text{exam score} - \text{mean}) * 10 / \text{std. dev.}] + 80$$

The exam score is the score you received on the test as a percentage. The standard deviation is the standard deviation of the class scores. A standard deviation is a range (e.g. ± 10) about the mean that includes nearly 70% of the scores. Double the standard deviation, and the new range will encompass approximately 95% of the scores. The formula above has two effects. First, it changes the class mean to 80. Second, it resets the standard deviation to 10. So, in the adjusted scores, about 70% of the class will lie in the range of 70 to 90. Nearly the entire class will fit in the range of 60 to 100. The main reason for doing this is to allow the direct comparison of all the exam scores. This equation puts every exam on the same level (mean = 80, std. dev. = 10). *Note that your relative class performance is not affected at all by this equation.*

HINTS AND TIPS

Most of these suggestions are true for any class. All but the last hint will require a significant amount of time. To do well in this class (or probably any other class on campus) will take time and effort.

1. By all means, come to class!
2. Take notes in class. Some students feel they need to just listen in class. I disagree. Part of coming to class is actively *recording* what is being related in class. That means you need to be writing non-stop. Note that I said *writing*. Do not take notes on a computer. You need to write. (I guess a tablet with a stylus could work.) Most of you notes need to include chemical structures, and computers cannot quickly draw structures.
3. Re-copy your notes. Before the next lecture, you should try to re-copy the notes of the most recent lecture. This reinforces the material. Also, as you re-copy your notes, you'll likely remember things mentioned in lecture that you didn't have time to write down. As you get these extra notes written in, your new notes will become more complete and a better resource.
4. Study your notes. I generate my tests by looking over my lecture notes, so you certainly should be very familiar with your notes.
5. Read ahead. Organic books can indeed be boring and difficult to understand when reading a chapter for the first time. Regardless, if you can come to class with a working vocabulary before I give the lecture, you will be much more able to follow and digest the lecture.
6. Do the book problems without looking at the study guide. The study guide has its place, but it should be out of your reach while you are doing problems.
7. Be pro-active if you're having trouble. Don't wait for two bad exams in a row before seeing me. I, like any other professor on this campus, want to see you learn. Come see me while there is still time in the semester to try and turn things around.