

Chemistry 233 Organic Chemistry Spring 2009

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Syllabus Outline

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General Information

Laboratory (*i.e.*, Chem 235)

Chemistry 235 is a co-requisite of Chemistry 233. If you have already taken, and passed, Chem 235 in a previous semester, you do not have to take it again.

1. Chem 235 is a different course

The laboratory grade does not have any influence on the determination of the final grade, since Chem 235 is a separate entity for registration purposes and is assigned a completely separate grade. This means that the lab grade will not positively influence your lecture grade, nor will your lab grade be negatively influenced by your lecture grade.

2. Laboratory schedule

A schedule of the experiments can be found in the [Chem 235 Lab Schedule](#)

3. Laboratory Fees

Every student must pay a lab fee. The laboratory fee is NOT REFUNDABLE after the first week of classes. A charge for excessive breakage may also be levied.

Lecture (*i.e.*, Chem 233)

1. Required Materials

All homework will be administered via WileyPlus (<http://www.wileyplus.com>). If you do not have an account, email Dr. Penn to request one.

Practice tests can be found at <http://www.welearnhorizon.com/q/perception.dll> using your mix account ID (Example: jpenn) as a username and your first name as an initial password.

2. Highly Recommended Materials

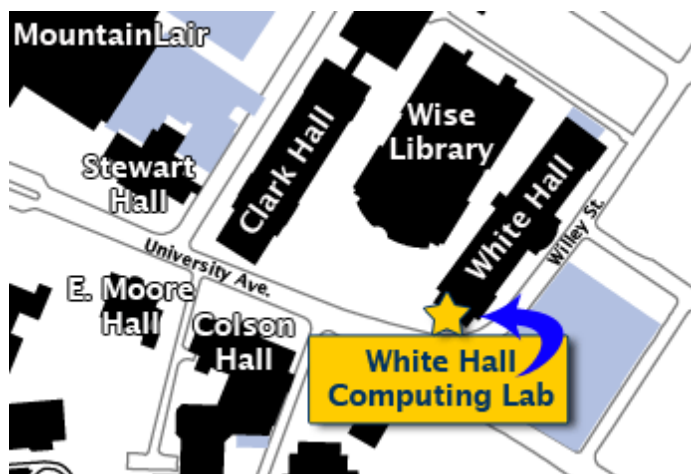
Lecture Text: *Organic Chemistry*, Second Edition, by Janice Gorzynski Smith, 2008, McGraw-Hill Publisher, ISBN 978-0-07-304986-1. This is the official textbook for organic chemistry at West Virginia University. Unofficially, *Organic Chemistry*, by Graham Solomons and Craig Fryhle, 9th Edition, John Wiley and Sons will be provided free of charge via the WileyPlus system.

3. Homework

Homework will be assigned through the WileyPlus system. If you don't have an account, email Dr. Penn to get an account.

4. Exams

After a class vote (with the final vote being 171-4), exams will be administered via computer using the WE_LEARN system. Practice tests will be available for the exams at <http://www.welearnhorizon.com/q/perception.dll> using your mixID as the username. The exams will be administered via the same account. The location of the exams will be the White Hall Computing Center, 3rd Floor High Tech Classrooms.



a. Dates

Exam number	Date	Time
Exam Number 1	Wednesday, February 11	7:00 PM
		9:00 PM
	Thursday, February 12	7:00 PM
		9:00 PM
	Friday, February 13	1:00 PM
		3:00 PM
	Saturday, February 14	1:00 PM
		3:00 PM
Exam Number 2	Monday, March 9	7:00 PM
		9:00 PM
	Tuesday, March 10	7:00 PM
		9:00 PM
	Wednesday, March 11	7:00 PM
		9:00 PM
	Thursday, March 12	7:00 PM
		9:00 PM
Exam Number 3	Monday, April 6	7:00 PM
		9:00 PM
	Tuesday, April 7	7:00 PM
		9:00 PM
	Wednesday, April 8	7:00 PM
		9:00 PM
	Thursday, April 9	7:00 PM
		9:00 PM
Exam 4 (Final Exam)	Time to be arranged	
	Time to be arranged	
	Time to be arranged	
	Time to be arranged	
Exam 4 (Retake Exam)	Time to be arranged	
	Time to be arranged	

b. Make-up Exams

Make-up examinations will be conducted at a time that is mutually acceptable to both the student and to the instructor. Make-up examinations scheduled prior to the times indicated above for the paper exams will be conducted on the computer. Make-up examinations scheduled after the time of the paper exam will be conducted as oral examinations, with students answering questions on the blackboard of the instructor's office. This policy will be strictly enforced.

c. Course Letter Grade

Your final letter grade will be determined after calculation of your final numerical score, which will then have a letter grade assigned to it, based upon the standard scale of 90-100% = A, etc. The final numerical score is calculated using the following criteria.

i. Regular Exams

Exam 1, Exam 2, and Exam 3 are each worth 20% of the final grade for this course. **Note:** pay attention to the percentage score, and not the total number of points on the exam, because each exam will have a maximum score of 110 points. It is the percentage score which is calculated for the final grade (i.e., 93 points = 93 points/110 points = 84.5%, which is a grade of B, and NOT an A.

Calculation of the Final Numerical Score	
Exam 1	20%
Exam 2	20%
Exam 3	20%
Exam 4	30%
Homework	5%
Attendance	5%
Bonus Credit	Variable %
Total	100% + Bonus credit

ii. Final Exam

The final examination will be a cumulative examination. Therefore, it will be weighted more heavily in the final grade determination and is worth more than any of the individual exams. The final exam is worth 30% of the final grade

iii. Homework

The homework for this course will be assigned through the Catalyst system. The homework score is worth 5% of the total grade for the course. The final grade will be based upon the cumulative total of homework scores, as calculated in the WileyPlus system.¹

It is possible to take an assignment more than one time. The idea behind the system is that you may learn while doing the homework and improve your scores as your understanding increases. There will be no time extensions for any reason. It is the expectation of the instructor that everyone can achieve a bonus of 100%. The time stamp of the computer system is used to validate the time of submission of the homework.

¹ At this point in the semester, it is possible to recognize that there have been and will probably continue to be problems with the system. It appears that the best solution to these problems is that we drop some of the lowest grades. The exact number of homework scores to be dropped will be determined at the end of the semester, after we have learned how many problem assignments that there will have been.

iv. Attendance

Attendance will be taken at every class period. At the end of the semester, 20 class periods will be chosen at random. If you are present, you will receive 0.25% added towards your final grade. If you are absent, you will receive 0% added to your final grade. Because it is impossible to verify excuses in this Freedom of Information Age, you are either present or you are not. There are no excused absences. Your maximum attendance score is $20 \times 0.25\%$ or 5% for perfect attendance.

v. Bonus Credit

At the end of the semester, I am always asked if there is any way to get bonus credit. The answer is "yes". You may get bonus credit by being the first to report an error in the homework system. Because the procedure is a bit more complicated than in the past, 0.2% will be added to your grade for each mistake in which you have been determined to be the first person to report that given error. The time/date stamp of your email will be used to determine who was the first to report this error. Each, as described below. There is no other way to get bonus credit for this course.

To receive bonus credit, take a screen shot of your computer screen. In Windows systems², type Ctl-Alt-PrtScreen to copy the current window contents onto the clipboard. Then open the program "Paint", and then paste the clipboard contents into "Paint". Save the file as a *.jpg file and email it to me at John.Penn@mail.wvu.edu. In a Mac system, Command-Shift-3 saves a copy to the Desktop, which you can then email to me.

vi. Final Numerical Score Determination:

The percentage scores for each of the exams and the homework are added together to give a weighted average as defined above. To this percentage score will be added the applicable bonus percentages for reporting errors in the database of questions.

² Windows or Vista operating systems

vii. Final Letter Grade Assignment

Letter grades are assigned to your final percentage grade by the standard scale of 90-100% = A, etc. Note the Table shown to the right. There is no rounding up of final averages. In other words, 89.5% is a final grade of B. In fact, 89.9% is a final grade of B. You must achieve a final grade of 90.0% to earn an A.

Final Numerical Score	Letter Grade
90 – 100%	A
80 – 90%	B
70 – 80%	C
55 – 70%	D
<55%	F

One important exception to this scale is that you must earn a grade of >50% on the final exam to earn a passing grade in this course (i.e., a D or better).

Example Grading Scenarios

	Example 1	Example 2	Example 3	Example 4	Example 5
Exam 1 (20%)	92%	92%	68%	68%	95%
Exam 2 (20%)	94%	94%	68%	68%	95%
Exam 3 (20%)	86%	86%	68%	68%	95%
Exam 4 (30%)	92%	92%	68%	68%	45%
Homework (5%)	85%	75%	95%	90%	100%
Attendance (5%)	90%	75%	95%	75%	100%
Total (100%)	90.75%	89.5%	70.7%	69.45%	80.5%
Final Grade Assigned	A	B	C	D	F

5. Academic Dishonesty

A full range of options is available to the instructor in the event of a discovery of academic dishonesty (i.e., cheating). These options are stated in the West Virginia University Code of Student Rights and Responsibilities (Section 3.5.2.6), but include dismissal from school or an unforgivable "F" for a course grade. These options will be vigorously enforced.

6. General Classroom Policies

a. Attendance

Attendance is not required, but does enter into the computation of the final grade.

b. Talking in Class

Talking in class is disruptive to **both** the instructor and the students in the immediate area of the talking. If you have questions, please direct them to the instructor. This helps provide immediate feedback to the instructor about what is being understood by the class and what is not being understood.

c. Cell phones in class

If your cell phone rings aloud in class, you get to take the call in front of the class. Please be courteous and place your phone on vibrate or turn it off completely during class time.

d. Sleeping

Sleeping in class is done at the student's own risk.

7. Extra Help

a. From Professor Penn

The instructor is always available through cyberspace for help. Questions that are submitted to [Dr. Penn](#) by 9:30 AM via email Monday through Friday will generally be answered that day. The instructor does hold "typical" office hours, but the door to his office is generally open when he is in the building. The best way to be sure to meet with me is to arrange an appointment, which can be done via email or talking with me immediately following a lecture session.

b. From Teaching Assistants

Additional help is also available from your laboratory teaching assistant. This assistance is offered free of charge. Ask your TA when they have office hours. In the event of problems in this line of assistance, please inform Professor Penn, so that he may be of assistance.

c. From the Student Learning Center

Another free source of assistance is from the Student Learning Center (located in Brooke Tower). Past experience indicates that the demand for assistance far exceeds the supply of available assistance.

d. From Tutors

As a last resort, help is available at a financial cost to you, the student. A list of tutors is available from the chemistry department office (217 Clark Hall). The assistance of a tutor will cost you money, the cost of which is negotiated between the tutor and the student. The effectiveness of tutoring has been shown to be primarily dependent on the student, since some students achieve great success while other students have no improvement from the same tutor.

e. Useful Websites for the Course

Information about any compound can be found simply by using Google or your favorite search engine. Or if you are looking for a boiling point for a compound, simply type the compound name and the property that you're looking for, and you will find it. For example, try "ethanol boiling point" in your favorite search engine.

Safety information about any compound is found on the Material Safety Data Sheet (the MSDS). These sheets are legal documents which were created by the manufacturers, primarily to protect themselves. Therefore, the effects are usually overstated, since it is better to overstate dangers when it comes time to defend a lawsuit. For example, try "sodium chloride MSDS" in your favorite search engine. You will see that sodium chloride, even though it is ordinary table salt, is considered to be a dangerous chemical when administered in certain ways to your body.

A site that is highly useful for organic chemistry is the Web-sters Organic Chemistry Site (http://ep.llnl.gov/msds/orgchem/Web-sters_Org_Chem.html) Here you can find assistance in almost any area of organic chemistry. Feel free to explore.

i. Mass spectrometry

1. [Mass Spectrometry: How It Works](#)
2. [Animated Ion Source](#)

ii. Infrared Spectroscopy

1. [Understanding Vibrations of IR Spectra](#)
2. [IR Spectra \(Handout to be Printed and Brought to Class\)](#)

iii. Nuclear Magnetic Resonance

1. ^1H NMR
 - a. [NMR Student Handout](#)
 - b. [NMR Theoretical Basis](#)
2. ^{13}C NMR
 - a. [\$^{13}\text{C}\$ NMR Spectral Interpretation](#)