

Instructor: Dr. Catherine Neto email: cneto@umassd.edu
Office: II-301A (in back of research lab 301)
Office hours: Mon. 10-11 and 12-1 PM, Wed. 2-3 PM, Fri. 9-10 AM, or by appointment
Phone: x 6928, off campus, dial: 910-6928
Classes meet: MWF @ 11:00 – 11:50 AM; plus Mon. @ 1:00, 2:00 or 3:00 PM
Prerequisites: Completion of CHM151/155 & CHM152/156 w grades of C- or better.
Required: Textbook: **McMurry, Organic Chemistry, 7th edition, Brooks/Cole**
Online OWL homework program for McMurry
Also required: **3-ring binder** for notes - download and print notes from website
URL: <http://www.faculty.umassd.edu/catherine.neto/>
Recommended: A set of organic chemistry **molecular models (sharing is encouraged)**

About this course...

Welcome to ORGANIC CHEMISTRY !!! This is the chemistry of LIFE, where you'll begin to learn about the structure and chemical reactivity of substances that make up the natural world (to be continued in Biochemistry). You'll learn about what makes up some of the synthetic materials that we in the modern-day world just can't do without (pharmaceuticals, plastics, petroleum products, etc.) and hopefully gain an appreciation for the diverse world of carbon-based molecules. We'll focus heavily on molecular structure and how it influences bonding, properties and reactivity of organic substances. We'll learn the principles behind modern instrumental techniques used to deduce the structure of complex molecules. You'll also be doing some hands-on exploration of organic substances and their behavior in CHM265 or 263 lab - this course will help you understand what you see in the lab and vice versa.

You may have heard rumors that Organic is a "difficult" course. That's putting it mildly. There will be **loads of information to manage**, concepts to learn and problem-solving to tackle. It's hard work. However, "difficult" is not the same thing as "impossible". Knowing that there is much to be learned, you should approach the course with as much energy as possible at the outset. Have a positive attitude that you WILL master the material and be ready to take advantage of all the tools at your disposal. One of these tools is student-active group-learning. We'll spend much of our fourth class hour on Monday afternoons in **group problem-solving** activities and when possible devote some of our morning class time to group work as well. The nature of the learning process in chemistry requires a good deal of additional time spent outside of class on your own (a good estimate is 3 hours per hour of lecture). You may also find it helpful to study together in groups. The large amount of new subject matter that we are expected to cover means that **the course will be faster-paced than freshman chemistry** so it is REALLY critical that you do not fall behind in reading and problem-solving. Wherever possible, you should read ahead to better prepare yourself for the time spent in class. We will be using the OWL on-line homework program (see separate handout). Keep track of due dates.

Regular class attendance is expected and attendance at recitation with full participation is absolutely mandatory. I expect from my students a mature attitude and a commitment to doing your best in the course -- and in return I will do my best to make the subject matter as clear as possible to facilitate your learning. Questions in class are welcome; no question is "too dumb" to be asked. Please email me, speak with me after class, or arrange an office visit if you have questions or need clarification of certain concepts. Don't fall victim to "fear" of organic chemistry -- instead, take a proactive role in your own success by taking advantage of such options as tutoring (available at the Science & Engineering Center, II-217). Most importantly, if you look for examples of where Organic Chemistry applies to the natural world, to your field of study and other courses you are taking, the subject matter will become much more interesting and relevant to you. Motivation can be one of your most powerful allies!

Course Grading Policy, Assignments, and Exam Info:

Contributions to your course grade will be allocated as follows	<u>Maximum value:</u>
3 best grades out of 4 "hour" exams (worth 100 points each):	300 points
5 best quiz grades (worth 25 points each):	125 points
OWL HW %:	125 points
<u>Cumulative final exam:</u>	<u>150 points</u>
Total possible:	700 points

"Hour" exams: There will be four exams given during class time (tentative exam dates next page). If you take all four exams, the lowest grade will be dropped and the three best grades will be counted toward your exam total. If you miss an exam for an acceptable reason, that exam may be counted as your dropped grade, at my discretion. Hour exams are to be closed-book, individual efforts; however, I may give you additional info to use when appropriate. The main focus of each exam will be the new material covered since the previous exam, but you will also be expected to know and use concepts learned over the semester. If time becomes a major issue, please speak with me about alternative testing arrangements.

Quizzes: Quizzes are given during recitations. Your top five grades (out of seven quizzes) count toward your quiz total. Missed quizzes cannot be made up. There will be a variety of quiz formats but they will be mainly problem-based group quizzes. They can take the whole period; longer if you are not prepared ahead (you've been warned). You will be notified ahead of time what topics to expect on the quiz. Attend class regularly so you know what's going on.

Final: A cumulative, in-class final exam will be given. The final may include any topics covered in class and will be similar in format to hour exams. Everyone must take the final, no exceptions.

OWL Online HW Sets: There is **NO WAY** you can pass Organic Chemistry without working lots of problems. We will be using the OWL online HW program (see page 4 of this syllabus). Exam questions tend to be similar to quiz or HW problems; usually it's a matter of applying the concepts you learned to different molecules. To supplement the online HW program we'll work through some problems during class time. Questions about OWL problems may be raised during afternoon sessions, office visits or email. You are responsible for keeping up with these assignments and making sure they are completed by the due date required to receive credit.

Attendance and Class participation: You are expected to **attend morning lectures regularly, arrive on time, and behave courteously**. Attendance at recitation and participation in quizzes or problem sessions is **mandatory**. Regular attendance and overall contribution to class discussions/other in-class activities will be considered in computing your final grade.

Class notes: You will be given a URL to download and print .pdf files of the overheads used in class and will be expected to supplement this information by taking additional notes when we cover this material. Keep your notes in a binder, together with any additional handouts provided. **Come to each class on time** and be prepared to participate in discussion and problem-solve. It may be helpful also to write down notes as you read through the textbook. You may be allowed to use your notes during quizzes so it's to your advantage to take good notes. Vegging out during class is a waste of time, so come prepared to pay attention, write things down, ask questions. If you miss class, get the notes from a classmate; I will not hunt you down.

Course and classroom policies:

Prerequisites, withdrawals and incompletes

To be enrolled in this course, you must have passed CHM151/155 and 152/156 (or the equivalent at another school) with a grade of C- or better. The last day to withdraw from this class and receive a grade of "W" is Thursday, November 12th, so be sure to check on your average prior to then. You are required to get a C- or better in this course to go on to CHM252.

Only students who have a passing average in the course at the time of the final exam may request an incomplete (I). An incomplete will only be given under exceptional circumstances and if requested within 48 hours after the final exam. Lack of preparation for the final exam or receiving a failing grade will not be considered acceptable reasons to request an incomplete.

Academic Dishonesty:

Cheating in any form will not be tolerated. Anyone suspected by me of cheating will receive no credit for that assignment. For more information on what constitutes academic dishonesty consult the general catalog, p. 52, under "Academic Ethical Standards". Hour exams in this class are to be entirely individual effort, no collaboration, no unauthorized notes or supplementary materials allowed. Collaboration and use of notes will be allowed on some quizzes.

And one final note...courtesy:

Turn off your cell phone ringer during class time. Talking on the phone is not allowed in class. Phones must be off during exams unless you have an emergency situation. If you must make/answer a call or visit the rest room, please leave the room quietly. It's OK to bring food/drink to class as long as you take your trash with you when you leave. Please refrain from idle chit-chat; it detracts from others' learning and is discouraged. Anyone who disrupts class or exhibits discourteous behavior may be asked to leave. Please do the mature thing and consider how your actions affect those around you.

“OWL” Online homework program & e-book

All students taking CHM251 are required to have access to the McMurry textbook and to enroll in the OWL program. **Options:**

1. Purchase McMurry printed textbook new from the campus store, with OWL code bundled with the book. Directions for online enrollment should be included.
2. Purchase McMurry e-book along with the OWL online. Be advised that OWL online access can be unreliable at times and this may limit your access to the text if you choose e-book.
OWL with e-book access: 6-month (\$59.49) or 24-month (\$98.49).
3. Purchase or borrow McMurry textbook elsewhere. OWL program can be purchased separately. Prices with e-book access are above. Prices for OWL alone:
6-month OWL access (\$33.49) – if you do not plan to take CHM252, this is the cheapest option.
24-month OWL access (\$51.99) – for those who plan on taking CHM252 as well. This gives you an extra year in case you need to re-take or review. There is no 12-month option.

You must have OWL access by 9/10. Visit the BrooksCole/Cengage website asap:

<http://owl.cengage.com/partners/brookscole/epin.html?category=Organic>

Be sure to select “Organic Chemistry, 7th edition, McMurry”

Enrolling in OWL: Follow the instructions included with your access code and navigate to the UMass Dartmouth registration/login page. Under “courses”, select “CHM251-01 Neto Fall 2010”
All recitations will enroll under a single OWL section (separate from Dr. Boerth’s) **All students must be enrolled in OWL and complete the “Introduction to OWL” tutorials by Fri. Sept. 10th.**

OWL Homework Due Dates: All OWL assignments will have due dates posted on the website. Students will be responsible for knowing all due dates and completing assignments on time.

OWL homework scoring: There are three basic types of assignments: tutor/exercise, homework and end-of-chapter questions. Tutor/exercises may be required for learning but don’t count for regular credit (occasional extra credit). “Homework” sets and end-of-chapter questions do count for credit.

OWL HW % will be computed as a percentage of the total possible OWL points you could earn. There may be some extra-credit opportunities.

Homework sets: With these, you keep trying problems on a specific topic until you get them right. For each set, you need to complete a certain number of problems to “master” the set and earn credit for it, but you can have as many “do-overs” as you need. In computing OWL points, the sum of the homework sets in a chapter will weigh about equally with the end-of-chapter questions.

End-of-chapter questions: There are up to 20 multiple-choice questions at the end of each chapter. These should be attempted only after you’ve done the other homeworks (and ideally after we’ve gone over as much of the material as possible.) You only get two chances to get each question correct.

Technical difficulties:

Any problems accessing OWL, crashes, loss of data, glitches in program etc. should be reported to the OWL tech support which can be accessed through the menu on the left hand side of the page. If you believe any OWL answers given by the program are incorrect, print a page and report it to one of the tutors or to your instructor.

Tentative Schedule

Note that exam dates are subject to change!
Topics for each exam will be announced in class.
Projected coverage of topics is based on estimated class progress!

Week of:	Topics:	McMurry, 7th edition
Sept. 3 rd Sept. 8 th – 13 th	Syllabus, course info Intro/review: Structure, bonding, orbitals, polarity, acids & bases	Chapters 1 & 2
Sept. 15 th – 27 th	Alkanes and cycloalkanes: structure, physical properties and nomenclature, conformations & energy	Chapters 3 & 4
Oct. 1st	Exam #1	Chapters 1 – 4
Sept. 29 th – Oct. 4 th	Overview of organic reactions, energy & introduction to organic mechanisms	Chapter 5
Oct. 4 th - 13 th	Alkenes: structure, isomerism & reactivity Reactions involving alkenes (Note: Tues. Oct 12 th follows Monday schedule)	Chapters 6 & 7
Oct. 15 th – 20 th	Alkynes	Chapter 8
October 22nd	Exam #2	Chapters 5 – 7
Oct. 25 th – 27 th	Dienes	Chapter 14
Oct. 29 th – Nov. 3 rd	Chiral carbons and Stereochemistry	Chapter 9
Nov. 5 th – 12 th	Nomenclature & free radical reactions of alkyl halides	Chapter 10
Nov. 19th	Exam #3	Chapters 8, 9, 10 & 14
Nov. 15 th – 24 th	Alkyl halides cont'd, substitution (S_N1 , S_N2) and elimination (E1, E2) reactions	Chapter 11
Nov. 29 th - Dec. 3 rd	Infrared spectroscopy	Chapter 12
Dec. 6 th – end	Benzene and aromatic compounds	Chapters 15 – 16
Dec. 10th	Exam #4	Chapters 11, 12 & 15
Wed. Dec. 22nd	Final Exam (8-11 AM)	Everything