

Chemistry 1506, Allied Health Chemistry II

Winter 2008 - Course Code #0481 (70 Students Maximum)

Syllabus - Last Updated on **April 30th, 2008**

Final Exam: Mon. May 5th, 5:30-7:30 (17:30-19:30)

Department of Chemistry, Youngstown State University, Professor Allen D. Hunter

Credit: Three (3) Semester Hours of Credit (this includes the lab)

Lecturer: **Dr. Allen Hunter** (Office WB 5015 (moving to WB 5001 later in Spring))
Phone: 330-941-7176 (Office (includes voice mail))
E-mail: adhunter@ysu.edu
Dr. Hunter's Home Page: <http://www.as.ysu.edu/~adhunter/index.html>

Textbooks: 1. Text: Denniston, Katherine, Topping, Joseph and Caret, Robert. (2007). *General, Organic, and Biochemistry with additional Material Youngstown State University*. (5th ed.) McGraw Hill: Boston..
2. Chemistry 1506 Problem Sets and Old Exams (required) and hand out notes (all available on my WEB site at <http://www.as.ysu.edu/~adhunter/Teaching/Chem1506/index.html>).
3. Molecular Model Set (strongly recommended, use will be allowed during exams).

Lecture: Monday & Wednesday 17:10 to 18:00 in Cushwa 2025.

Recitation: The Recitation section, Chemistry 1506R, is **very** strongly recommended for all students in Chemistry 1506.

Lab: Labs Start this week! To pass the course, you must obtain a grade of at least 70% in the laboratory portion.

Office Hours: Monday from 14:00 till 15:00 and Tuesday through Thursday 16:00 till 17:00 in my office. Please feel free to drop in and see me during my office hours or any time during the rest of the week. If you want to be sure to have me there at a specific time outside of my office hours, make an appointment during class, over the phone, or via confirmed email.

Course Objectives: To study the basic concepts of organic chemistry and biochemistry by building upon the basics of bonding and structure learned in Chemistry 1505, to experience the many practical techniques used by the organic chemist and biochemist in the modern laboratory, and to build an appreciation of the importance of these topics in such fields as biology, medicine, and the chemical industry. By the end of this class, students will learn to:

- distinguish between the major functional groups found in organic molecules.
- understand how functional groups influence a molecule's physical and chemical properties.
- identify three major classes of biomolecules: carbohydrates, lipids, and proteins and understand the different roles of each.
- understand the function and regulation of enzymes.
- distinguish between catabolic and anabolic pathways of metabolism.
- explain several biochemical pathways by which living organisms extract energy from the food they ingest.

Scheduled Lecture Topics:

- Chemistry 1506, Section 1 (Structure and Bonding in Alkanes: Online Notes & DT&C Chapter 10)
- Chemistry 1506, Section 2 (Alkenes, Alkynes, and Aromatic Compounds): Online Notes & DT&C Chapter 11
- Chemistry 1506, Section 3 (Alcohols, Phenols, Ethers, and Halides): Online Notes & DT&C Chapter 12
- **1st Exam, Midterm (≈ Wed. Feb. 15th, 10th Class) - 150 Points**
- Chemistry 1506, Section 4 (Aldehydes and Ketones): Online Notes & DT&C Chapter 13
- Chemistry 1506, Section 5 (Carboxylic Acids and Esters): Online Notes & DT&C Chapter 14
- Chemistry 1506, Section 6 (Amines and Amides): Online Notes & DT&C Chapter 15

- **2nd Exam, Midterm (≈ Wed. March 19th, 20th Class) - 150 Points**
- Chemistry 1506, Section 7 (Carbohydrates): Online Notes & DT&C Chapter 16
- Chemistry 1506, Section 8 (Lipids): Online Notes & DT&C Chapter 17
- Chemistry 1506, Section 9 (Proteins): Online Notes & DT&C Chapter 18
- Chemistry 1506, Section 10 (Enzymes): Online Notes & DT&C Chapter 19
- Chemistry 1506, Section 11 (Bioenergetics): Online Notes & DT&C Chapter 21
- Chemistry 1506, Section 12 (Specific Catabolic Pathways): Online Notes & DT&C Chapter 22
- Chemistry 1506, Section 13 (Biosynthetic Pathways): Online Notes & DT&C Chapter 22
- **3rd Exam, Final, (Mon. May 5th, 5:30-7:30 (17:30-19:30)) - 200 Points**
- **Lab - 100 Points**
- **Total Points - 600**
- **Expected Grade Ranges¹**
 - ❖ F < 50%
 - ❖ 50% ≤ D < 65%
 - ❖ 65% ≤ C < 80%
 - ❖ 80% ≤ B < 93%
 - ❖ 93% ≤ A

Exams: The exams will cover the materials presented in the lectures, much of which is not in the textbook. Questions on exams in this course typically require paragraph or page length written explanations (which should typically include diagrams and/or equations) or “chemical” answers (e.g., equations, molecular formulae, or molecular structures). Each of the midterms will *emphasize* the previous section’s work while the final exam will be comprehensive. The general topics to be covered on each exam will be announced in the previous class. The exams are best studied for by working through problem sets and old exams which are available on my WEB site. **You must bring photo ID with you when you write exams and place it on the desk top.**

Bonus Point Activities: No “bonus/extra point” activities are available for this course so start working early!

Make-Up Exams: Make-up exams will not be given. Absences that have not been approved as described below will result in a grade of **ZERO** for that exam. Foreseeable absences for sporting events, holidays, weddings etc., will be given **only** if I am informed in advance by phone/voicemail or written note in class and only if I agree in advance. Unforeseeable absences for health reasons, car breakdowns, family emergencies, etc., must be discussed with me in person or by phone/voicemail *within 24 hours* of the missed exam time for approval to be granted (at my discretion). The points for a missed exams will, upon approval, be applied to the final exam.

Exam Regrading: Regrading of exams may be requested if you think that I might have made an error in assigning the grade to the work you originally handed in for the exam. In particular, you **may not** change or add to the answer before you submit it for regrading. An exam must be submitted for regrading *within 48 hours* after it has been returned to the class. The whole exam may be re-graded since the grades assigned individual questions are sometimes linked. [Note: Representative exams are scanned/photocopied before they are returned. These copies are compared to the originals returned for regrading to ensure that answers have not been altered.]

Attendance: Lecture attendance is **mandatory** and will be recorded through daily sign-in sheets *at the start of each class period*. Your timely arrival in class is expected. It is **your responsibility** to be sure you sign in and therefore if you fail to arrive on time or do not sign in at that time you will be deemed to be officially absent (i.e., with respect to the influence of attendance on borderline grades). **Students are responsible for all information, material, and announcements made in class, including changes to this syllabus.** Attendance in class, *as recorded on the sign in sheets*, is used in deciding borderline grades. Those students who are recorded as *officially absent* (i.e., based on the sign in sheets) for *more than 3 classes for which I have attendance records* will have their grades adversely effected. **Be on time!!!**

¹ No grading curve is used and the official attendances record may be used to help assign borderline grades.

Assigned Readings, Problems, and Studying: You are required to read the assigned chapters from the lecture text and/or other materials **before** we discuss them in class. Some question based on these readings will appear on exams. I will suggest problems from the text, problem sets, and old exams regularly. These will not be graded but are very important since these are the questions on which most of the exams will be based! **It is recommended by YSU that for all courses students study at least 2 to 3 hours outside of class for every scheduled class hour. For Chemistry 1506, this corresponds to approximately 4-6 hours a week.** Students with less complete or less recent science backgrounds may require additional study time. This time should be spent (in order of importance): working through old problem sets and exams (60-80% of your time), studying your notes (20 to 40% of your time), and reading the text (10-20% of your time).

Tutoring: There are two sources of free tutoring available: (1) Graduate students are available throughout the day, 5 days per week in Ward Beecher Hall room 5039. There is a posted schedule on the door. Just walk in during the posted hours and ask your questions. They will answer your questions immediately. (2) The Center for Student Progress next to Kilcawly Hall offers tutoring. Walk in and give your name and identify the class you want tutoring in. They will set up the appointments. The phone number is 330-941-3538.

Academic Honesty: In accordance with university policy and professional standards, the highest levels of academic integrity are expected in this class. The code of student conduct will be *strictly* enforced. Academic dishonesty will result in severe reductions in grades (to an “F”) and/or expulsion from the university. Because of the reported widespread abuse of online “term paper mills” and other types of plagiarism, sections of text from each submitted term paper will be compared to the WEB’s content and other sources. Using any content from any source without attribution is plagiarism and is a severe form of academic misconduct and will be treated as such. If you are unsure of how to reference your sources and/or what constitutes plagiarism, please see me.

Disability Services: In accordance with University procedures, if you have a documented disability and require accommodations to obtain equal access in this course, please contact me privately to discuss your specific needs. You must be registered with CSP Disability Services, which is located at Wick House, and provide a letter of accommodation to verify your eligibility. You can reach CSP Disability Services at 330-941-1372.

First Week’s Activities Expected of ALL STUDENTS: During the first week, I will go over this syllabus and discuss what is expected of each student in this class. I will also start on the course content, time allowing. During the first week, you must: Check that you appear on the OFFICIAL CLASS ROSTER and learn how to print out the Problem Sets, etc., from the WEB.

Daily Activities Expected of ALL STUDENTS: Each day you should: read the assigned pages in the chapter, the Outline Notes, and any other assigned readings before class and review them after the class. You must also: come to class on time, participate in the class activities, and remember to **sign in** for the class.

Weekly Activities Expected of ALL STUDENTS: Each week you should: review your notes for the past week, make study notes or flashcards, and work on the assigned problem sets & old exams. Don’t let this work slide until just before the exam!!! The exact dates of each exam will be announced the previous day in class.

If you are worried about your grade or don’t understand something we discussed in class: I suggest that all students visit me at my office at least several times during the term. If you have problems understanding the materials, big or small, come and see me, email me with a question, and/or go to the Student Tutorial Center for help. Remember: the earlier you look for help the more benefit you will get from it.

Computer Lab: The Chemistry Department computer lab is located in room WB 5043 and contains 25 computers equipped with a range of software. It is available for students to work on their chemistry assignments during the posted hours.

Incomplete Grades: If no formal grade change occurs within one year, an “I” automatically converts to an “F.” If graduation occurs within the one-year time period, the Incomplete Grade will be converted to an “F” before graduation.