

WIDENER UNIVERSITY
DEPARTMENT OF CHEMISTRY

Chemistry 102: Introduction to Chemistry II Syllabus

Sections A & B

Spring 2008

Lecture: Monday, Wednesday, Friday 1:00-1:50 PM
Room: Kirkbride 233

Workshop: Section A: Thursday 9:30-10:45 AM
Room: Kirkbride 235
Section B: Thursday 11:00-12:15 AM
Room: Kirkbride 501

Dr. Alexis A. Nagengast

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Office: Kirkbride 304
Phone: (610) 499-4020
Office Hours: Mon 2-3, Tues 1-2,
Wed 2-3, Fri 9-10, 11-12
and by appointment

Required Textbook: *General, Organic, & Biochemistry*, 5th edition by K.J. Denniston, J.T. Topping and R.L. Caret, McGraw Hill Higher Education, 2007.

Required Material: Molecular Models Kit and a basic scientific calculator capable of exponents and logs.

Prerequisite: CHEM 101 and CHEM 103

Corequisite: CHEM 104; If you withdraw from or drop CHEM 102, you must also withdraw from or drop CHEM 104.

Office Hours: Monday 2:00-3:00, Tuesday 1:00-2:00, Wednesday 2:00-3:00, Friday 9:00-10:00, 11:00-12:00 and by appointment. You are welcome to stop by my office for help at any time when the door is open. If I am not in my office but available, there will be a post-it note on my door telling you where I am. Please come find me! I can also be reached by email or phone to answer questions or arrange additional meeting times that are more convenient for you. Please contact me as soon as possible if you are having difficulties. I am here to help you!

Course Communications: Campus Cruiser is used heavily in this course so if necessary, familiarize yourself with it at the beginning of the semester when you have more time. Email will be sent to your Campus Cruiser account; forward your messages to the account that you use most often. Power Points of lectures, homework assignments and additional course materials will be posted in Shared Files on the Campus Cruiser course web site. Exam scores will be posted in the Gradebook on Campus Cruiser. Additionally, announcements, homework assignments and changes to the schedule will be announced in the beginning of class. Not everything covered in class is included in the Power Point lectures. You are responsible for knowing everything that transpires in class even if you are absent.

Workshop: **Section A:** Thursday 9:30-10:45, KH 235; **Section B:** Thursday 11:00-12:15, KH 501
Quizzes will be given in the first 15 minutes of Workshop every week except for the week of an exam. If you come late, you must finish your quiz within the first 15 minutes of Workshop; you will not be given extra time. Workshop also serves as a problem solving session where you are an active participant. We will discuss questions from class, review for exams and go over problems, including homework. You must come prepared with questions and answers by reviewing lecture material and working homework problems. You may be called upon to present a problem to class.

Readings: It is essential that you read and think about the material *before* class. Try to work the examples and imbedded questions as you are doing the readings. This will help put the lectures into context and allow you to start thinking about the problems and potential questions for Workshop immediately. All sections in the text will not be covered in detail during lecture and some material not in the text may be given in class.

Homework: CHEMISTRY TAKES PRACTICE! Working problems is an excellent way to study, learn the material and prepare for class. Homework problems will be posted on Campus Cruiser and are assigned to help you apply what you are learning and practice for the type of questions that will appear on your exams. Assigned problems are the *minimum* you are expected to do. Additional end-of-chapter problems can be worked until you are confident in your understanding and mastery of the material. Please contact me or seek help as soon as possible if you are having difficulty with the homework problems. Problems will be discussed during Workshop and you may be called upon to work a solution for the class. Although problems will not be collected or graded, they will be the basis for quiz material.

Quizzes: Quizzes will be given in the first 15 minutes of Workshop every week except for the week of an exam. There will be 10 quizzes throughout the semester and the dates are listed below. Make-ups will not be given for quizzes under any circumstances, even excused absences. Your highest quiz score will replace your lowest quiz score at the end of the semester. Lecture material and homework problems will be the basis for quiz material.

January 17	February 7	March 13	April 3
January 24	February 14	March 20	April 10
	February 28		April 17

Exams: Exams will be given on **Friday** during the lecture class period in Kirkbride 233, not the scheduled exam period. There will be four hourly exams and a comprehensive final exam on the following dates:

February 1	February 22	March 28	April 25
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The final exam will be scheduled by the registrar during finals period, **May 2-7**.

There will be **no make-up exams** given for any of the exams. If you are absent from an exam, it will be counted as a zero. Reconsideration of this policy may be possible under extenuating circumstances (usually circumstances beyond your control) and will require documentation. The instructor will be the judge as to whether the circumstances are sufficient to warrant consideration. You must contact me within 24 hours after a missed exam. No make-up requests will be granted for any reason once the exam has been returned, typically the Monday class period following an exam.

The Science Division and the Chemistry Department strictly enforce the University's policy on cheating and other forms of academic fraud. Cheating includes any of the following: giving or receiving information about an exam, copying from someone else's paper, using another student's work for an assignment, using unapproved notes or other materials for an exam or removing exam material from an instructor's office.

Molecule Project: Each student will be assigned a biochemically relevant molecule to be used in a semester long project. At different times during the semester, you will provide the following

information regarding your molecule: a) the Lewis structure, b) the functional groups present, c) a computer generated color, three dimensional perspective ball and stick model, d) stereogenic centers present, e) prediction of water solubility, f) a summary report of the biological function of the molecule including at least one chemical reaction it participates in and g) at least two references used for the report. A more detailed description of the requirements for each of the assignments is provided in a separate hand out.

Grading: The course will be graded on the +/- system. Your attendance and participation in class will be a factor in determining borderline grades. Your grade will be weighted as follows:

Hour exam average	60%
Quizzes	15%
Molecule Project	10%
Comprehensive final	15%

NO EXTRA CREDIT WORK WILL BE GIVEN IN THIS COURSE.

Attendance: Attendance is required for all class meetings and records will be kept. Read the *Undergraduate Student Handbook* regarding school policies on attendance: "A student may receive a failing grade, if the number of absences in a semester exceeds **twice** the number of weekly class meetings." This policy is in effect for Chemistry 102.

Studying: Plan to spend a **minimum of 10-12 hours per week** studying for this course outside of class time and in addition to any other classes you are taking. You should spend at least 1-2 hours every day. You cannot study effectively by cramming the night before an exam.

Reading the material before class should help make lectures more understandable. Use your lecture notes as a basis for re-reading relevant material from the text. Work the imbedded questions as you are reading, practice assigned problems from the text and then practice some more. The information in many of the chapters is based on material that is presented earlier. Mastery of the early chapters is the foundation for later chapters. It is essential that you read the textbook, attend all lectures and workshops, take good lecture notes, work practice problems and study a minimum of one to two hours for each lecture hour. Do not expect to learn this material simply by attending class.

Tutoring: Free tutoring is available and is an excellent resource you should take advantage of if you have difficulties. The weekly group tutoring schedule for CHEM 102 will be posted on the Science Tutoring Center in Kirkbride 449. You may also seek an individual tutor or academic coaching by contacting Academic Support Services (610-499-1267) located in the Pineapple House at 522 East 14th Street.

Grievance policy: Please refer to the student handbook, the science office or myself if you have a problem.

Course content and schedule: The next page contains a **tentative** schedule of topics that will be covered. Alterations to the schedule may be made as necessary and we may leave out significant portions of some chapters. Announcements of changes will be given in class; you are responsible for knowing those changes whether or not you attend class.

Tentative Class Schedule

Week	Date	Chapter and Topic
1	January 14, 16, 18	Ch 10: Functional Groups, Cycloalkanes, Cyclohexane Ch 11: Alkenes, Isomers, Addition Reactions
	January 17	Receive Molecule for Molecule Project
2	January 21	No Class – MLK Day
	January 23, 25	Ch 11: Aromatics Ch 12: Intro to Alcohols
	January 24	Parts a and b of Molecule Project Due
3	January 28, 30	Ch 12: Reactions of Alcohols, Thiols, Ethers
	February 1	EXAM #1
4	February 4, 6, 8	Ch 13: Aldehydes, Ketones, Reactions
5	February 11, 13, 15	Ch 14: Carboxylic Acids & Reactions, Esters, Saponification, Acid Chlorides, Anhydrides, Phosphoesters
6	February 18, 20	Ch 15: Amines, Amides
	February 22	EXAM #2
7	February 25, 27, 29	Ch 16: Carbohydrates, Classification, Stereochemistry, Monosaccharides
8	March 3, 5, 7	No Class – Spring Break
9	March 10, 12, 14	Ch 16: Carbohydrates, Polysaccharides Ch 17: Lipids, Fatty Acids, Glycerides
10	March 17, 19	Ch 17: Biological Membranes Ch 18: Amino Acids
	March 20	Parts c & d of Molecule Project Due
	March 21	No class – Spring Holiday
11	March 24, 26	Ch 18: Protein Structure and Function
	March 28	EXAM #3
12	March 31, April 2, 4	Ch 18: Proteins continued Ch 19: Enzymes, Classification, Nomenclature, Kinetics
13	April 7, 9, 11	Ch 19: Enzymes, Cofactors & Coenzymes, Regulation, Medicine
14	April 14, 16	Ch 21: ATP, Glycolysis
	April 18	No class – Student Projects' Day
15	April 21, 23	Ch 21: Fermentation, Pentose Phosphate Pathway, Gluconeogenesis, Glycogen Synthesis & Degredation
	April 25	EXAM #4
16	April 28, 30	Ch 22: The Citric Acid Cycle, Oxidative Phosphorylation
	April 28	Final Submission of all parts of Molecule Project Due
	May 2-7	FINAL EXAM