

## **General Information**

### **CH 116**

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Office hours:

TBA

For other times e-mail me to set up an appointment but do not just talk to me in the class, always confirm it with an email so that I can make a note of it.

#### **Text book**

The text for this course is Brown, LeMay, and Bursten's Chemistry: The Central Science, 12th Ed. The book is available in the bookstore as a special bundle that includes the Student Solution Manual to the text.

In CH 116 we will be covering chapters 10 through 20.

#### **Lecture:**

The lectures, not the book, constitute the principal source of material for the tests. The projected overheads that I will use in class are available for print-out on the website. Most students find it useful to have these in hand during the lecture. However, much of the content of the lectures are not in these overheads. Therefore, it is imperative that you faithfully attend lectures and take good notes.

#### **Discussion:**

Discussions are intended to give you opportunities to deepen your understanding of the material, to explain homework problems, and to prepare you for the tests.

Homework is not collected or graded, and worked-out answers are available. Although you will not turn in your homework, you should always attempt to do the assignment before coming to discussion.

The discussions will start only in the second week of the semester. Every time there is holiday on a Monday there will be no discussions that entire week.

#### **Laboratory:**

The laboratory is a totally independent grade and is not included in the lecture. If you have any questions or problems that you are not able to resolve with your instructors you should go to Prof. Jason Evens. He is the super chief of the 115/116 labs. His email address is [\\_Jason.Evens@umb.edu](mailto:_Jason.Evens@umb.edu).

**OWL** (Online Web-based Learning) system

This is an online homework system that allows multiple tries at questions, with the questions changing randomly. The system can be accessed at <http://owl.oit.umass.edu>

Please be sure to check the due dates for the various sections. Note that the assignment numbers on OWL do NOT correlate with the chapter numbers in the textbook. Look at the topics instead of the numbers. If you have any issues starting off with this you should directly contact the number on the website. The system will close on the last day of the classes

**Calculators:**

Calculators may be used in all aspects of this course, including examinations. You may find it useful to have a more sophisticated calculator, such as the Texas Instruments TI-86 or similar models. However, during a test you may not use any calculator or device that is capable of communicating with any other calculator or device. Anyone bringing such a device to a test will receive a zero for the test. Be sure you know how to operate your calculator before you have to use it in a test situation. Before coming to a test, be sure your calculator is working properly and that it has fresh batteries (if needed) or will work in low light (if solar powered). You may bring a back-up calculator to the tests, calculator sharing is not allowed during a test.

**Tests and Academic Honesty:**

Academic dishonesty will not be tolerated and may result in your failing the test, failing the course, or being expelled from the University, depending on the circumstances.

**Grades:**

	%
Class attendance	5
Disc Attendance	5
Three tests +	Total
Final worth 2 tests	
<b>Total</b>	100

**EXTRA CREDIT:**

OWL	5%
FSG	3%

The class attendance will be generated from the use of iclicker. The students are responsible for ensuring that their iclickers are registered on its website within the first week. We will start using it to take attendance from the second week of classes. There will be some questions that I will ask you to either do in the class or bring back as home work. There will be no make up for these. These are there to ensure you attend the

classes. These will be totally random and will not be given every day. I will use these to give you extra credit.

You will be allowed to miss two of the classes in a regular semester and only one in the summer sessions for both lecture and discussion individually without losing points.

The attendance comes in handy at the time of grade calculation as there you can get all the points just by being present.

### **Syllabus :**

Topic Chapters & Sections in Brown et al.

Gases	Chapter 10	(all sections, in order)
Intermolecular Forces, Liquids, and Solids	Chapter 11	(omit section 11.7)
Physical Properties of Solutions	Chapter 13	(omit section 13.6)
Chemical Kinetics: Rates and Mechanisms	Chapter 14	(omit Second-Order Reactions, pp. 589-591)
Chemical Equilibrium	Chapter 15	(all sections, in order)
Acid-Base Equilibria	Chapter 16	(all sections)
Additional Aspects of Aqueous Equilibria	Chapter 17	(omit sections 17.4-17.7)
Thermodynamics	Chapter 19	(all sections).
Electrochemistry	Chapter 20	(omit sections 20.7 & 20.8)

### **Tests**

The tests will be on the specified dates. The test will cover the chapters between the tests and will not be cumulative. The final exam will be cumulative and will cover all the chapters. There will be three in-class tests, to be given on the dates listed above and a three hour final. All the tests are counted. No test is dropped.

Tests will be given during the normal lecture hour. Please bring your ID to the test and keep it visible. We will do random checks.

The final exam date is determined by the university, be prepared to take the final on the specified date, do not make plans before you know the exam date. There will be no exceptions to this.

If you cannot attend a test for some legitimate reason (e.g., debilitating illness, death in the immediate family, or car accident on the way to the university) you must call me or send e-mail in advance of the test or as soon as possible under the circumstances. In cases of real emergency you might be eligible to start the test late or to be excused from the examination. Absence without notice and/or legitimate cause will result in a score of zero for the test. Make every effort to arrive on time to each test. If you arrive late, you will not be given extra time, except in special circumstances. No one arriving late to a test will be allowed to take the exam after the first paper has been handed in, unless special arrangements have been made in advance.

You must take every test. During a test you are allowed to have pencils, erasers, and your calculator (with extra batteries, if needed) – nothing else. You may not have notes, open books, or scrap paper.

The test questions are generated from the lecture material, homework and the text. You will see some direct questions from the homework in your exams. Most of my long answer questions come from the solved examples, practice questions in the book or homework. In addition, some exam questions are challenging and thought provoking - you will need to apply concepts and think critically in order to solve them.

Make an effort to arrive on time for each exam. If you arrive late, you will not be given extra time. You will not be allowed to take the test if even one student has left the hall.

Test answers are posted on the website after grading is completed.

The test will consist of about 20 to 30 multiple choice questions which will be about 70 % of the grade and two to three short answer questions which will be about 30% of the overall grade. This is only a guideline and will vary from test to test.

**Homework:**

The problems within the chapter are a good place to start. These will reinforce the previous material. Selected problems from the end of each chapter will be assigned [see the course website]. Both of these represent the minimum number of problems; of course, you are encouraged to do other problems at the end of the chapter as well.

No amount of reading or outlining is a suitable substitute for problem solving! A “Study Guide and Solutions Manual” is available; however, reading the correct answer will not lead to mastery! Do not use the solutions book until you have really tried the problem.

Homework will not be turned in or graded but it is the rare student indeed who does well on exams without previously doing problems.