

**Syllabus**  
**Chemistry 101 – General Chemistry**  
**Fall 2012**

Dr. Paul A. Silver

Office: Brown Lab 171

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Office Hours: Tu//Th 11:30-1:30pm; or by appointment

**Required**

Textbook: Burdge, Chemistry 2<sup>nd</sup> ed., ISBN 978-0-07-337564-9

Lab Manual: Laboratory Manual for General Chemistry

Eye Protection: Approved safety goggles are REQUIRED at all times in lab.

**Optional**

Lecture Notes: D.S. Chatellier. Chemistry 101 Lecture Notes

Study Guide to Burdge

Solution Manual

**Other Resources**

- a) Me. I am your first resource. Do not hesitate to see me for any reason. If my office hours are inconvenient, we can set up an appointment to fit your schedule. Don't be shy.
- b) TA help sessions. Within a few weeks, a schedule of help sessions run by TA's will be announced.
- c) Your TA. Make sure you get your TA's email address so you can meet with them as necessary.
- d) Tutors are available at a cost. Lists can be obtained in the Chem. Office
- e) Online lecture. Mr. Chatellier has posted his lectures from last year online.  
[udcapture.udel.edu/2010s/chem101-010](http://udcapture.udel.edu/2010s/chem101-010)

**Honesty Policy**

The University's policy on cheating and other forms of academic fraud will be strictly enforced. Violations will not be tolerated and are grounds for failure in this course (or worse). If in doubt about what is acceptable, ask. Study groups are encouraged. However, any work product which is graded must be done individually and be your own work, including answers to lab questions. You will be permitted to use calculators for exams, as long as calculating is the

only function. Cell phones or other electronic devices which can act as calculators are not permitted.

### **Schedule**

Class meets Tu/Th, 2:00-3:15pm in Kirkbride 100. I do not take attendance, so attending lecture is not mandatory. However, in my experience, those who skip lecture on a regular basis fare poorly. So be warned. Labs meet in Drake Hall (QDH) 022 at various times according to your lab section. You are required to attend the lab section to which you are assigned. If you have a semester conflict, see the Chem. Office to resolve it. If you have a conflict for any given week, see me for permission to attend another lab for that week only. Attendance in lab is mandatory and your TA will keep a record. Missing more than two lab sessions will result in failure in the course. There are no makeup labs. Once the lab week has passed, so has that experiment. Please make an effort to attend lab every week. If you are well enough to go to any class that day, you are well enough to go to lab as well.

### **Exams**

There will be four in-class exams during the semester and a cumulative final exam. There will be no makeup exams for any reason. If you have an acceptable reason for missing an exam, you will be excused, but your lowest exam grade will be doubled to make up the difference. BE WARNED: proof for an excused absence may be required and I am the sole judge as to whether an excuse is valid. An unexcused absence from an exam will result in a zero grade. The answer key to an exam will be posted outside my office for your review. If you believe I have made an error in grading, return the entire exam to me with a note indicating the answer(s) in question and I will review it. It is strongly recommended that any notes you make on a returned exam be made in a different color ink or pencil than you used for the exam. This is to avoid any confusion in regrading. Please note that changing an answer for regrading is a violation of the honesty policy and will be dealt with severely.

### **Goals**

- a) To learn fundamental concepts of general chemistry and to apply those concepts to solving chemical problems.
- b) To, whenever possible, link chemical theory to everyday life.
- c) To make you aware of the natural world around you and to arouse your curiosity about it.

I take your education seriously and I hope you will too. As you will see, I like to have a little fun along the way as well.

---PAS

### Grading Policy

The minimum requirements for a passing grade in Chem. 101 are:

- a) Successful completion of at least ten lab experiments.
- b) Successful completion of the final exam.
- c) Obtaining a total of 400 points on the grading scheme outlined below.

There are 800 points available in Chem. 101:

- a) Four exams at 100 points each (400 points; 50%)
- b) Lab experiments (200 points; 25%)
- c) Final Exam (200 points; 25%). The final exam will be cumulative covering the semester's work.

The following is a tentative grading scheme which will be used to calculate letter grades:

800-730 (91%)	A	559-530 (66%)	C
729-700 (87%)	A-	529-500 (62%)	C-
699-660 (82%)	B+	499-460 (57%)	D+
659-630 (78%)	B	459-430 (53%)	D
629-600 (75%)	B-	429-400 (50%)	D-
599-560 (70%)	C+	399-0 (0%)	F

I reserve the right to adjust any grade on an individual basis.

### Exam Schedule (tentative)

Thurs. Sept 20

Thurs. Oct. 18

Tues. Nov. 13

Tues. Dec. 4

Final Exam – TBA

## Problem Sets

Below are suggested problems for each chapter which represent the concepts and problem solving abilities you should learn. They are only a sampling, as there are many more problems in the back of each chapter. The more you do, the better you will be.

<u>Chapter</u>	<u>Number</u>
1	8, 9, 10, 12, 13, 15, 18, 19, 23, 24, 25, 27, 29, 31, 32, 33, 34, 36, 37, 38, 40, 45, 47, 51, 55, 57, 63, 65, 69, 72, 73, 74, 96, 106
2	3, 17, 18, 21, 23, 30, 31, 32, 37, 44, 45, 50, 51, 61, 63, 67, 68, 71, 72, 75, 77, 79, 81
3	4, 7, 9, 11, 12, 14, 17, 19, 22, 26, 28, 29, 32, 33, 39, 44, 45, 49, 50, 51, 53, 54, 57, 59, 65, 67, 75, 77, 80, 83, 88, 90, 91, 94, 97, 98, 99, 102
4	1, 2, 3, 4, 8, 10, 11, 13, 14, 19, 21, 23, 26, 28, 29, 33, 34, 35, 40, 41, 43, 45, 49, 50, 52, 53, 56, 59, 61, 63, 65, 68, 69, 79, 80, 81, 82
5	1, 5, 7, 10, 17, 20, 25, 26, 33, 34, 37, 43, 45, 47, 48, 54, 59, 61, 63, 65, 67
6	11, 13, 28, 48, 49, 52, 53, 59, 71, 73, 74, 80, 84, 85, 88, 92
7	3, 4, 5, 6, 11, 12, 13, 17, 18, 20, 21, 22, 23, 26, 27, 28, 30, 31, 32, 33, 34, 35, 41, 48, 53, 55, 59, 65
8	3, 6, 7, 8, 9, 15, 20, 26, 28, 32, 35, 40, 41, 42, 47, 51, 53, 55, 60, 63, 68, 73, 76
9	7, 9, 13, 16, 27, 29, 33, 36, 37
11	7, 9, 13, 23, 25, 27, 31, 32, 34, 35, 37, 41, 45, 53, 55, 59, 62, 64, 66, 69, 70, 73, 85, 87, 89

## Lecture Calendar

Lecture is on a rolling schedule. That means there is no set day or week when one chapter ends and another begins. The only way to know where we are is to attend class. We will follow the chapters in Burdge in order 1-12, omitting chapter 10.

## Lab Calendar

<u>Week of</u>	<u>Experiment</u>
8/27	No lab this week
9/3	No lab this week
9/10	Check-in, safety training, Exp. 2-Density
9/17	Exp. 3-Physical and Chemical Properties
9/24	Exp. 5-Hydrates
10/1	Exp. 6-Limiting Reactants
10/8	Exp. 30-Titration
10/15	Exp. 15-Calorimetry
10/22	Exp. 9-Periodic Table and Exp. 10-Spectroscopy
10/29	Exp. 11-Lewis Structures
11/5	No lab this week
11/12	Exp. 12-Using Lewis Structures
11/19	No lab this week
11/26	Exp. 8-Gas Laws and Volatile Liquids
12/3	No lab this week