CHEMISTRY 100, General Chemistry I
Section A, CHEM 100A; Section B, CHEM 100B; Section C, CHEM 100C
Bard College of Simon's Rock, Division of Science, Mathematics, and Computing
Patty Dooley, Ph.D.

1. Administrative Details.

a. Office: Fisher Science & Academic Center, Room 130 (F130)
Extension 4966; (from off-campus, 413-644-4966) e-mail: pdooley@simons-rock.edu
Home phone 413-528-7984 (call before 10:00 p.m.)

b. Office Hours: Any time I am not in class and I am here (and I am *always* here), Mon-Thurs daily 8:00 a.m. – 5:00 p.m; or by appointment (***you*** name the time, we can negotiate what's convenient for you, even on Fridays).

c. Class:
CHEM 100A, Tues & Thurs 9:00 – 10:25 a.m. F102 (Clark Auditorium)
CHEM 100B, Tues & Thurs 10:30 – 11:55 a.m. F102 (Clark Auditorium)
CHEM 100C, Mon & Wed 2:00 – 3:25 p.m. F102 (Clark Auditorium)

d. Laboratory:
CHEM 100LA, Tues (Dongala) 2:00 p.m.-4:55 p.m. F128 (Chemistry Lab)
CHEM 100LB, Tues (Dongala), 6:00-8:55 p.m., F128 (Chemistry Lab)
CHEM 100LC, Thurs (Myers) 2:00-4:55 p.m., F128 (Chemistry Lab)
CHEM 100LD, Thursday (Dongala), 6:00-8:55 p.m., F128 (Chemistry Lab)

2. Support of the Academic Program.

a. The Goals of the Academic Program at Simon's Rock enumerated in the course catalog can be achieved through the curriculum offered to every student. Among these goals, you have the opportunity to develop[1]:

1. The ability to speak and write with confidence, clarity, and precision
2. The ability to read and think critically . . . learn and think independently
3. The ability to understand and interpret graphic and numerical data
4. Knowledge of the scientific method . . . and of the fundamental laws governing physical phenomena
5. Knowledge of and sensitivity to the moral and ethical dimensions of thought and action, and the ability to make informed moral and ethical decisions

b. My intent is to present General Chemistry in support of the Academic Program goals listed above through the following course goals. Each course goal maps to a goal of the Academic Program (identified in parentheses with the number of the academic program goal, above).

A. Promote problem solving and analytical reasoning (1-5)
B. Inspire students to think critically (2)
C. Motivate self-learning while enhancing study skills (1, 2, 5)
D. Demonstrate the relevance of chemistry to the real world (3, 4)
E. Integrate a laboratory program which reinforces classroom theory (3, 4)
F. Establish/improve scientific literacy (1-5)
G. Improve written and verbal communication skills (1, 3)

[1] The Goals of the Academic Program, Bard College at Simon's Rock Catalog 2011-2012, p. 9.

c. Course Description. The first semester of general chemistry will cover six blocks of instruction, grouped by general concepts. Later blocks build on the material presented in earlier blocks, a feature of the continuous and cumulative nature of chemistry.

Block #1: BASIC TOOLS OF CHEMISTRY
Block #2: STOICHIOMETRY
Block #3: CHEMICAL REACTIONS & GASES
Block #4: THERMODYNAMICS
Block #5: STRUCTURE & BONDING
Block #6: STATES OF MATTER

d. Laboratory Program. You will perform hands-on experiments during laboratory periods. The laboratory will deal with the safe handling of chemicals, the apparatus of chemistry and the chemical lab, the quantification of data, chemical identifications based on these data, as well as an introduction to some chemical instrumentation. The purpose behind the laboratory program is to:

1. Provide hands-on practical application of concepts from in the classroom
2. Encourage critical thinking
3. Develop self-learning
4. Demonstrate key concepts by using relevant lab experiments
5. Introduce you to and familiarize you with a variety of quantitative techniques

Note: you must obtain a passing grade in the laboratory to pass the class.

3. Course Requirements:

a. **Attendance**: Attendance at class is a pre-requisite for success in chemistry. A direct correlation exists between numbers of absences and lower grades. The more times a student was absent, the lower the grade the student earned—keeping up with material when you don't attend class is very challenging. I adhere to existing college policies (see the 2011-2012 Course Catalog) regarding observation of religious holidays (they are permitted, with advance notification and dates scheduled for make-up tests before the absence) and unexcused absences (they are not permitted, and more than two absences from lecture and one from lab puts the student into 'max cut' territory. The next absence after that—'overcut'—results in suspension from the course or lab). You may or may not be re-admitted to the course.

b. **Tardiness:** Lateness will be treated as one-half of a cut if you arrive after the beginning of lecture but before **five** minutes into class, and a full cut thereafter.

c. **Absence from graded events:** Absences from announced, scheduled graded events will result in a zero score earned for that graded event. I may consider offering a make-up test if the student notifies me ***beforehand*** of dire circumstances (actual cases I have encountered include: stuck in an airport returning from break; undergoing medical procedures; serving on jury duty; or so sick as to seek out medical attention at the Student Health Clinic). Telling me after the start of class that you are going to be absent, or simply choosing to not attend class, constitutes an unexcused absence and will earn you the zero. If you notify me before the start of class (and an email sent 30 minutes before class start does not constitute adequate notification) that you are going to be absent, I ***may*** consider that your absence was excusable and offer a make-up or make-ahead test.

d. **Final examination**: The published dates for the final exam period are Friday, 16 Dec; Monday, 29 Dec; and Tuesday, 20 Dec 11. The exact schedule for each course will not be published until

well into the semester. If the CHEM 100 exam is assigned to the last exam period of the last day, you will be expected to attend; do not make any travel arrangements that interfere with this possibility. There will be no make-aheads, no make-ups, no starting the final earlier or later than the time period assigned.

e. **Lesson Assignments:** The outline of the course is available separately on E-Reserves as an Excel spreadsheet entitled "CHEM 100 Fall 2011 Lsn & Lab Sequence." Key dates are identified for exam periods. A second Excel spreadsheet specifies the point value of each lesson and what type of graded event occurs during that lesson ("Point Value per Lesson"). Individual lesson assignments will be posted on the CHEM 100 page on the Simon's Rock library E-Reserves. The outline and each lesson assignment are very detailed because I expect you to read the assignment, evaluate whether you have achieved the learning objectives for that lesson, and work the homework problems **before** you come to class. It is vital that you know what will be covered during every lesson. I use the Socratic Method in my teaching, as opposed to simply lecturing to sponges on a hydration spectrum of bone-dry to sopping wet.

f. **Class Participation:** You will participate in class by asking about any material in the reading that you didn't understand, answering my questions directed to you about the reading, offering answers to other students about a particular method for solving a problem, and talking me through a correct technique for obtaining a solution. A maximum of 50 points will be awarded for class participation; you will be expected to contribute to class discussions. Your participation grade will depend upon a combination of the following daily assessment tools: 'Brain Candy,' Focused Free Writes about a concept, a definition, or an animation assigned for that lesson; student presentations of 2-3 minutes in duration at the start of the class period covering an Applications piece (see p. xix, Preface) or a Journal of Chemical Education article (available on E-Reserves).

g. You will make up all missed work in a timely fashion. Chemistry is a topic that is continuous and cumulative; gaps in your lesson attendance will have significantly negative downstream consequences. My office hours policy is intended to enable you to easily make up missed material.

3) **Grading**:

#	Event	Possible	% of Possible
12	Chapter tests, 15 – 35 pts	400	14.2%
24	ARIS Homework assignments, 5 – 15 pts	300	10.6%
12	ARIS vocabulary flashcards, 5 pts	60	2.1%
12	ARIS animations, 5 pts	60	2.1%
20	In-class assignments, 20 – 30 pts	450	16.0%
4	Exams @ 125 points	500	17.7%
10	Labs @ 50 points	500	17.7%
1	Lab Final Exam @ 100 pts	100	3.5%
1	Final Exam @ 500 points	400	14.2%
	Class Participation	50	1.8%
	Total	**2820**	

There will be five exams in this course; four given during the semester, of which one is a take-home test, and one cumulative final. In addition, homework assignments for each lesson are to be completed and submitted on-line at the ARIS site the *night before* the day you have that lesson. Homework may

include viewing of animations and reviewing the vocabulary of a chapter with flashcards at the textbook resources site. Some lessons will require submission of a solved homework problem *at the conclusion* of the class. Knowing full well the occasional technical difficulties with the ARIS web site and the inherent difficulty in some of the problems, you have a brief grace period: **Assignments, both on-line and in-class, will not be accepted after 1700 hrs of the day on which your lesson falls.** Chapter tests are launched on-line at the ARIS site and are *due the night of the day you have that lesson*. If you forget or fail to complete a chapter test before it is due, and no technical glitch prevented your test submission, turning in a hard-copy of the test from the ARIS site will impose a -10% penalty on your grade per day. As the lesson assignments are posted well in advance on E-Reserves, two weeks' worth of ARIS assignments are visible; you do not have to wait until the assignment or test is due to begin working on it. Class participation will be expected and graded.

4) **Grading Scale.**

A student earning an average percentage for the course will earn the corresponding grade:

93.33%	A	86.67%	B+	76.67%	C+	66.67%	D
90.00%	A-	83.33%	B	73.33%	C	<66.67%	F
		80.00%	B-	70.00%	C-		

5) **Text**: "Chemistry: The Molecular Nature of Matter and Change," 5th Ed., Martin Silberberg (be sure to read *About the Author* in the preface) with ARIS (Assessment, Review, and Instruction System) access and custom-print Reference Data Cards. Your laboratory professor will provide handouts from which the student will work. There will also be a required laboratory notebook, available in the bookstore.