

# De Anza College, Winter 2019

## Chemistry 1A, General Chemistry

Section 01:  
Lecture MWF 10:30-11:20, S32  
Lab MW 7:30-10:20, SC2202

Section 02:  
Lecture MWF 10:30-11:20, S32  
Lab MW 11:30-2:20, SC2202

**Instructor:** Parisa Pourattar, E-mail: [pourattarparisa@fhda.edu](mailto:pourattarparisa@fhda.edu)

**Website:** <https://sites.google.com/view/chem1a/>

**Office Hours (Tentative):** Monday and Friday 11:30-12:30, SC1 second floor, just a desk not an office.

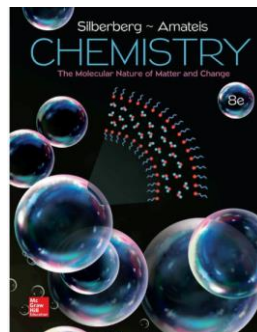
**Course Description:** This course is divided into two separate instructional periods, the lecture and laboratory sections. The lecture portion is primarily devoted to the material discussion while the laboratory portion gives a chance for students to practice chemical experimentation. This course consists of two sections. Once you are enrolled in a particular section, you must attend only that section for the duration of the quarter. This first quarter of a three-quarter sequence covers the fundamentals of chemistry, focusing on atomic and molecular structure, chemical composition and reactivity, and quantitative analysis.

### Course Materials:

**1. Lecture Text:** Chemistry: The Molecular Nature of Matter and Change, 8th edition by Martin Silberberg (McGraw-Hill) ISBN: 9781309097182

**2. Lab Manual:** Online lab manual;  
<https://www.deanza.edu/chemistry/Chem1A.html>

**3. Scientific or Graphing Calculator:** NO GRAPHING CALCULATORS; Logarithm and exponential functions required



**4. Lab Notebook:** permanently bound 8.5 x 11 notebook with duplicate copies.

**5. Safety Goggles:** Laboratory safety goggles from the bookstore. Other types of goggles will not be permitted. Without goggles, the lab cannot be performed, and the student receives a score of 0 for that day.

**6. Disposable Gloves:** Gloves should be neoprene or nitrile (not latex), and are available at standard drug stores (CVS, Walgreens, etc.)

**Class Registration:** This class is a lecture and laboratory-based course, so the registration limit is strictly set at 30 students per section based on the number of people able to safely conduct experiments in the space

provided. The class is filled based on the official roster provided by the De Anza Admissions and Records, including an official waitlist. Students on this waitlist may come for the lecture and the lecture part of the lab but will not be permitted to perform experiments or given a locker until officially enrolled.

**Dropping the Course.** Students that choose to drop this course are responsible for requesting a withdrawal through the admissions and records department before the deadline. Students who drop the class are also be required to officially check-out of the lab locker. Failure to check out by the scheduled check-out date will result in fees and a block placed on future registrations.

**Class Attendance.** If you miss a lab lecture or experiment the first day of class, you will be dropped from the course unless previous arrangements have been made with the instructor. More than one unexcused absence from lab will result in an automatic “F”. If you drop within the first two weeks of class, your lab locker will be inspected for missing items, you will be charged for missing or broken items, and the locker will be reassigned. If you fail to check out of the locker for any reason, you will be charged an administrative fee and a hold will be placed on your account until resolved.

**Grades/Evaluations:**

Lecture Exams, 4 total (100points each; the lowest exam score will be dropped)	300 Points
Lecture Quizzes, 6 total (10 points each; the lowest exam score will be dropped)	50 Points
Lecture Final	300 Points
Lecture Total	650 Points
Pre labs, 11 total (5points each, drop lowest)	50 Points
Data sheets, 10 total (10 points each, drop lowest)	90 Points
Lab Report, 1 total (30 points; Acid-Base Titration)	30 Points
Lab Final	80 Points
Lab Total	250 Points
Class Total	900 Points

**Grading Scale:**

<b>A+</b>	<b>95 - 100</b>
<b>A</b>	<b>90 - 94</b>
<b>A-</b>	<b>87 - 89</b>
<b>B+</b>	<b>84 - 86</b>
<b>B</b>	<b>80 - 83</b>
<b>B-</b>	<b>77 - 79</b>
<b>C+</b>	<b>73 - 76</b>
<b>C</b>	<b>70 - 72</b>
<b>D+</b>	<b>66 - 69</b>

**D**        **63 - 65**  
**D-**      **60 - 62**  
**F**        **0 - 59**

**Lecture:**

This class (Chem 1A) will cover chapters 1, 2, 3, 4, 6, 7, 8, 9, 10, and 11 from the assigned textbook. Students should read the chapter before attending class since all the details will not be covered in lecture. We are going to cover 2 chapters every week so do not fall behind. Following a lecture when you are shaky on earlier concept will cause problem. Although you won't be credited for homework, working problems is often an effective means of mastering a concept. Try to first do these problems without looking at the solutions. Please do not hesitate to reach out for help to me or coming to office hours.

**Exams:**

There will be four exams throughout the quarter. Materials covered in lectures, homework and book chapter will be on the exam. Each exam is worth 100 points. The lowest score will be dropped and top 3 will be count. note that these dates are subject to change depending on the pace of material. No late or early exams will be administered. There will be 10 points worth quizzes at the beginning of class as scheduled. The final exam is cumulative and worth 300 points. The date and time for the final are given on the following schedule and will not change. Please come and talk to me for a complete re-grade of any of your exams or quizzes within two days of the time exam is passed back.

**Class Schedule:**

All dates, including **exams** and **quizzes**, are subject to change throughout the quarter.

Week of	Week	Monday	Wednesday	Friday
<b>1/6/19</b>	<b>1</b>	<b>Chapter 1</b>	<b>Chapter 2</b>	<b>Chapter 2</b> <b>Quiz 1</b>
<b>1/13/19</b>	<b>2</b>	<b>Chapter 3</b>	<b>Chapter 3</b>	<b>Chapter 4</b> <b>Quiz 2</b>
<b>1/20/19</b>	<b>3</b>	<b>MLK HOLIDAY</b>	<b>Exam 1</b>	<b>Chapter 4</b>
<b>1/27/19</b>	<b>4</b>	<b>Chapter 4</b>	<b>Chapter 6</b> <b>Quiz 3</b>	<b>Chapter 6</b>
<b>2/3/19</b>	<b>5</b>	<b>Chapter 6</b>	<b>Exam 2</b>	<b>Chapter 7</b>
<b>2/10/19</b>	<b>6</b>	<b>Chapter 7</b>	<b>Chapter 7</b> <b>Quiz 4</b>	<b>PRESIDENTS DAY</b> <b>HOLIDAY</b>
<b>2/17/19</b>	<b>7</b>	<b>PRESIDENTS DAY</b> <b>HOLIDAY</b>	<b>Chapter 8</b>	<b>Chapter 8</b>
<b>2/24/19</b>	<b>8</b>	<b>Chapter 8</b>	<b>Exam 3</b>	<b>Chapter 9</b>
<b>3/3/19</b>	<b>9</b>	<b>Chapter 9</b>	<b>Chapter 9</b> <b>Quiz 5</b>	<b>Chapter 10</b>
<b>3/10/19</b>	<b>10</b>	<b>Chapter 10</b>	<b>Chapter 10</b> <b>Quiz 6</b>	<b>Chapter 11</b>

<b>3/17/19</b>	<b>11</b>	<b>Exam 4</b>	<b>Chapter 11</b>	<b>Chapter 11</b>
<b>3/24/19</b>			<b>FINAL EXAM</b>	

**Final Exam will be on March 27<sup>th</sup>, 9:15 AM to 11:15 AM**

**Quiz Breakdown:**

- Quiz 1: Chapter 1&2
- Quiz 2: Chapter 3
- Quiz 3: Chapter 4
- Quiz 4: Chapter 7
- Quiz 5: Chapter 9
- Quiz 6: Chapter 10

**Exam Breakdown:**

- Exam 1: Chapter 1,2 & 3
- Exam 2: Chapter 4 & 6
- Exam 3: Chapter 7 & 8
- Exam 4: Chapter 9,10 & 11

**Laboratory:**

You should submit a complete prelab prior to performing the experiment. Each prelab worth 5 points and must be completed before the laboratory session or the student will not be allowed to complete the experiment and will receive a 0 for that lab for that day. Students are required to attend all lab sessions. There are no make-up labs. Missing lab will result in a 0 for that lab and more than one unexcused absence will result in an "F" for the class. If there is an excusable absence, you must notify before the missed lab, or this will count as a missing lab. If you miss lab lecture the first day of class for any reason, you will be dropped from the course.

Students are required to record all laboratory data and perform all calculations in a designated notebook. Your data will be signed each session to make sure you have recorded the correct data. Data sheet are due at the end of lab session unless otherwise instructed.

Lab final exam will be held during lab session at the end of the quarter and worth 80 points. No late or early exams will be administered.

**Laboratory Schedule:**

<b>Week of</b>	<b>Week</b>	<b>Monday</b>	<b>Wednesday</b>
<b>1/6/19</b>	<b>1</b>	<b>CHECK-IN</b>	<b>MEASUREMENT</b>
<b>1/13/19</b>	<b>2</b>	<b>NOMEMCLATURE</b>	<b>HYDRATE (1)</b>
<b>1/20/19</b>	<b>3</b>	<b>MLK HOLIDAY</b>	<b>HYDRATE (2)</b>
<b>1/27/19</b>	<b>4</b>	<b>PRECIPITATION (1)</b>	<b>PRECIPITATION (2)</b>
<b>2/3/19</b>	<b>5</b>	<b>TYPES OF REACTIONS (1)</b>	<b>CONDUCTIVITY (1)</b>
<b>2/10/19</b>	<b>6</b>	<b>CONDUCTIVITY (2)</b>	<b>ACID-BASE TITRATION (1)</b>
<b>2/17/19</b>	<b>7</b>	<b>PRESIDENTS DAY HOLIDAY</b>	<b>ACID-BASE TITRATION (2)</b>
<b>2/24/19</b>	<b>8</b>	<b>CALORIMETRY (1)</b>	<b>CALORIMETRY (2)</b>
<b>3/3/19</b>	<b>9</b>	<b>REDOX TITRATION (1)</b>	<b>REDOX TITRATION (1)</b>
<b>3/10/19</b>	<b>10</b>	<b>LINE SPECTRUM</b>	<b>MOLECULAR MODEL</b>
<b>3/17/19</b>	<b>11</b>	<b>MOLECULAR MODEL</b>	<b>CHECK-OUT/LAB FINAL</b>



## Lab Notebook Guidelines:

### Prelab:

- **Experiment number and title;** your name and the date the experiment has been performed.
- **Introduction;** a brief description of the objective of lab. You should include the chemical concepts that will be used and how these concepts are used in the lab.
- **Materials;** list all materials and equipment used in the lab
- **Chemicals;** list all chemicals used in the lab.
- **Procedure;** detailed summarized procedure. It should be a summary of the procedure in the lab manual. The procedure should be clearly stated and organized. Do NOT just say refer to the lab manual. Recommend giving the procedure in bullet form.

### Data Sheets:

- **Data Table;** Record data during the lab. You can print the data table from the website and record all your data and observation in the tables provided. Make sure you don't leave any numerical data without a unit.
- **Calculation;** demonstrate your calculation neatly at the end of your report.
- **Conclusion;** write a short discussion or analysis of your results. Also include different source of error occurred during the procedure.

### Laboratory Safety:

- No eating or drinking in the lab.
- **ALWAYS WEAR YOUR EYE PROTECTION.** Failure to wear your eye protection will lead to dismissal from lab and a lowered grade for that experiment.
- **You can NEVER WEAR SHORT PANTS or SKIRTS or SANDALS during LABORATORY PERIODS.** This is a school policy. If you wear shorts, sandals, or other clothing that is not consistent with safety, you will not be admitted to the laboratory.
- **NO CHEMICAL OUT OF THE HOOD.** Do not take reagent bottles to your laboratory work area. Use test tubes, beakers, or paper to obtain chemicals from the dispensing area. Take small quantities of reagents.
- **Do not look down into the open end of a test tube** in which the contents are being heated or in which a reaction is being conducted.
- **Pour all the toxic liquids into the waste bottles provided or as directed by instructor.** Dispose solid waste such as filter paper, litmus paper, and matches in the wastebasket, not in the sink. Dispose broken glass in the broken glass waste container. Dispose all other solid chemicals as directed by your instructor.

From the American Chemical Society Safety In Academic Laboratories Guidelines, 7th Ed., the following mandatory minimum safety requirements must be followed by all students and be rigorously enforced by all Chemistry faculty:

- 1) Chemistry Department-approved safety goggles purchased from the De Anza College bookstore (NOT safety glasses) must be worn at all times once laboratory work begins, including when obtaining equipment from the stockroom or removing equipment from student drawers, and may not be removed until all laboratory work has ended and all glassware has been returned to student drawers.
- 2) Shoes that completely enclose the foot are to be worn at all times; NO sandals, open-toed, or open-topped shoes, or slippers, even with socks on, are to be worn in the lab
- 3) Shorts, cut-offs, skirts or pants exposing skin above the ankle, and sleeveless tops may not be worn in the lab: ankle-length clothing must be worn at all times
- 4) Hair reaching the top of the shoulders must be tied back securely
- 5) Loose clothing must be constrained
- 6) Wearing "...jewelry such as rings, bracelets, and wristwatches in the laboratory..." should be discouraged to prevent "...chemical seepage in between the jewelry and skin...".
- 7) Eating, drinking, or applying cosmetics in the laboratory is forbidden at ALL times, including during lab lecture
- 8) Use of electronic devices requiring headphones in the laboratory is prohibited at ALL times, including during lab lecture
- 9) Students are advised to inform their instructor about any pre-existing medical conditions, such as pregnancy, epilepsy, or diabetes, that they have that might affect their performance.
- 10) Students are required to know the locations of the eyewash stations, emergency shower, and all exits
- 11) Students may not be in the lab without an instructor being present
- 12) Students not enrolled in the laboratory class may not be in the lab at any time after the first lab period of each quarter.
- 13) Except for soapy or clear rinse water from washing glassware, NO CHEMICALS MAY BE Poured INTO THE SINKS; all remaining chemicals from an experiment must be poured into the waste bottle provided.
- 14) Students are required to follow the De Anza College Code of Conduct at all times while in lab: "horseplay", yelling, offensive language, or any behavior that could startle or frighten another student is not allowed during lab;
- 15) Strongly recommended: Wear Nitrile gloves while performing lab work; wear a chemically resistant lab coat or lab apron; wear shoes made of leather or polymeric leather substitute.

By signing below, I, \_\_\_\_\_,

First Name

Family Name

acknowledge that I fully understand and agree to abide by the laboratory safety rules listed above. Further, I acknowledge that my failure to abide by these rules will result in my being dropped from this chemistry class immediately.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date





**Student Learning Outcome(s):**

- \*Identify and explain trends in the periodic table.
- \*Construct balanced reaction equations and illustrate principles of stoichiometry.
- \*Apply the first law of thermodynamics to chemical reactions.