



## CHEM 100 Foundations of Chemistry



Dr. Murat Kahveci

[mkahveci@roosevelt.edu](mailto:mkahveci@roosevelt.edu)

Office: SCH 600 | WB 716D

Phone: 312-341-6357 | 847-619-8550

Peer Tutor

Paulina Sobus

[psobus@mail.roosevelt.edu](mailto:psobus@mail.roosevelt.edu)

Room: WB 715 | WB 716

### Course Meetings

Tu, Th • 11:00 AM — 12:15 PM • WB 1019 - Chicago

### Course Dates

08/27 to 12/15. Also see the tentative schedule below for more details.

### Office Hours

Tu, We • 12:30 PM — 1:30 PM, or by appointment.

These schedules are subject to changes (due to mandatory meetings, etc). Instructor will notify you of any changes. If your schedule conflicts with your instructor's office hours, please make an appointment with him.

### Credit Hours

Lecture: 3 credits

### Prerequisites

Successful completion of MATH 095 or 096 with a grade of C- or better, or higher MATH placement.

### Course Textbook

#### Required

Timberlake, K., & Timberlake, W. (2017). *Basic chemistry* (5th ed.). (ISBN-13: 978-0-134-13804-6; ISBN-10: 0-13-413804-X). Boston: Pearson Education

Course materials will be available at <http://roosevelt.blackboard.com>; thus, this web site should be regularly visited.

Mastering Chemistry Online Homework at <https://www.masteringchemistry.com> (Required). Enter the following code to register this course: **MCKAHVECI78189**.

Scientific Calculator (TI-30X is an easy-to-use inexpensive scientific calculator, usually under \$10, if you have a graphing calculator you may use that in this class, but it is not required)

## Course Overview

This course covers some fundamentals of chemistry: properties of matter, units and unit conversions, chemical bonding, stoichiometry, thermochemistry. The focus will be on concepts, skills, and abilities needed for success in subsequent chemistry courses. This course is appropriate for non-scientists and science majors with little or no chemistry background, or who need additionally assistance with math concepts.

The university's three overall learning goals for both undergraduate and graduate students are:

Goal: Effective communication.

Goal: Knowledge of discipline-focused content.

Goal: Awareness of social justice and engagement in civic life.

## General Course Objectives

1. Understand and be able to explain the general principles, laws, and theories of chemistry that are discussed and presented throughout the semester
2. Use critical thinking and logic in the solution of problems.
3. Apply learned chemistry skills to new situations.
4. Demonstrate an understanding of chemistry through technological advancement.
5. Develop independent and cooperative learning skills.
6. Recognize and acquire attitudes that are characteristic of the successful worker regardless of the major field of study.
7. Develop an awareness of the value of chemistry in our daily living.

## Course Specific Learning Outcomes

Successful completion of the course will provide the student with knowledge of the fundamental concepts of chemistry as a preparation for enrollment in General Chemistry I and II.

1. Be familiar with the metric units of measure used in the natural sciences.
2. Identify forms of energy and know units in which energy is measured.
3. Understand properties of matter and the classes which occur: mixtures, pure chemical substances, compounds, elements.
4. Know chemical symbols for about 50 important elements.
5. Understand the nature of changes which occur in matter and their classification as chemical or physical.
6. Know about the development of atomic theory and understand the arrangement of protons, neutrons, and electrons in atoms, and the relative size and mass of atoms.
7. Understand how the arrangement of electrons controls the chemical properties of atoms.
8. Understand the arrangement of Periodic Table of Elements and be able to predict the properties of elements based on their location in the table.
9. Understand the principles of chemical bonding (covalent and ionic) and be able to show electron arrangements in ionic and molecular compounds.
10. Write correct formulas for named compounds.
11. Understand how chemical equations are used to describe changes, and be able to write balanced chemical equations.
12. Understand the concept of a mole and be able to apply it to calculate quantities of substances involved in chemical changes.

## Tentative Schedule

An outline of the topics that will be covered in this course appears on the next page. Although I will generally follow the order of presentation found in your textbook, on occasion I will deviate from this order. Please refer to the tentative schedule below and posted reading assignments to note these deviations.

TUESDAY		THURSDAY	
Aug 28th What is Chemistry? Read Chapter 1	1	30th Math review Read Chapter 1	2
Sep 4th Chemistry and Measurements Read Chapter 2	3	6th Chemistry and Measurements Read Chapter 2	4
11th Matter and Energy Read Chapter 3	5	13th Matter and Energy Read Chapter 3	6
18th Changes of State Read §10.7	7	20th Exam 1 (Chapters 1, 2, 3)	8
25th Atoms and Elements Read Chapter 4	9	27th Atoms and Elements Read Chapter 4	10
Oct 2nd Electronic Structure Read Chapter 5	11	4th Electronic Structure Read Chapter 5	12
9th Ionic and Molecular Compounds Read Chapter 6	13	11th Ionic and Molecular Compounds Read Chapter 6	14
16th Chemical Quantities – The Mole Read Chapter 7	15	18th Exam 2 (Chapters 4, 5, 6)	16
23rd Chemical Quantities – The Mole Read Chapter 7	17	25th Chemical Reactions Read Chapter 8	18
30th Chemical Reactions Read Chapter 8	19	Nov 1st Last day to withdraw Chemical Quantities in Reactions Read Chapter 9	20
6th Chemical Quantities in Reactions Read Chapter 9	21	8th Chemical Quantities in Reactions Read Chapter 9	22
13th Chemical Quantities in Reactions Read Chapter 9	23	15th Exam 3 (Chapters 7, 8, 9)	24
20th Thanksgiving (No Class)		22nd Thanksgiving (No Class)	
27th Solutions Read Chapter 12	25	29th Solutions Read Chapter 12	26

TUESDAY		THURSDAY	
Dec 4th	27	6th	28
Solutions Read Chapter 12		Solutions Read Chapter 12	
11th		13th	
Final Exam 11:00 AM – 1:30 AM			

Mastering Chemistry online homework is due by 11:55 pm on every Friday unless otherwise noted on the course Mastering web site. Late submissions are not accepted.

## Course Expectations, Incomplete, and Withdrawal

The final date for an official **withdrawal** from this class (meaning a “W” would appear on your transcript) is **11/1/2018**. In order to withdraw after the official withdrawal date, you must petition for a late withdraw with Office of the Registrar. Petitions are granted only for non-academic reasons after the deadline. You should consult your academic advisor if you are considering withdrawing from a course. If you receive financial aid, also check with your financial aid counselor to assure that aid isn't affected by withdrawing from a class. The complete withdrawal policy is here: <https://www.roosevelt.edu/current-students/academics/register-classes>.

A grade of **Incomplete (I)** may be given only with the consent of the instructor and appropriate notification to the registrar. An Incomplete grade specifies to the student and to the registrar that only a small portion of the total semester's work needs to be completed (e.g., the student must take a final examination, complete a paper, or similar requirements), that the student is academically able to complete the work, and that the student has presented a satisfactory reason to the instructor for not completing the work within the deadline of the regular semester.

Students must complete the course requirements prior to the end of the following term. The Incomplete grade will be removed when the instructor submits a letter grade evaluating academic progress (A, B, C, D, P, F) within the above deadline. If no grade is submitted and no extension granted, the registrar will automatically convert the incomplete grade on the deadline date to the default grade (B, C, D, or F) submitted by the faculty member at the time of granting the original incomplete grade.

Note: Exams will closely follow homework assignments, so it is to the students' advantage to understand the material covered in homework sets.

## Course Requirements

### Attendance

Regular attendance at class meetings is expected. Class attendance is monitored and recorded. However, this level of instruction includes expected personal responsibility that will not always be addressed. YOU are responsible for missed information. Attendance will affect your grade because you probably missed something you needed to learn how to do. Cell phones and laptops/tablets are not to be used during class. Lecture slides will be posted on Blackboard before class, it is your responsibility to print out copies of the slides if you want to use them in class.

### Classroom Etiquette

Students should arrive on time and remain in class until the full class period has expired. Appropriate dress attire should be worn (i.e. no pajamas or overly revealing attire), headwear should be removed, and students should be respectful (in language and behavior) toward one another and the instructor. Students are highly encouraged to engage the class by participating in class discussions and asking appropriate questions. The

standards of student conduct must be maintained with the instructor outside of class and in all electronic communication with the instructor or other students.

Cell phones, computers, and all other electronic devices must be turned off before the beginning of class unless indicated by the instructor. Students shall be allowed to record lectures but their recording device must be placed at the front of the class on or near the instructor. Recording a lecture does not excuse a student from attending class.

### Exams

There will be three midterm exams and a final exam worth. No books or notes will be allowed at the exams however basic formulas, constants and periodic table will be provided. **You will be allowed to use your own calculator during exams (if needed), but no cell phones are allowed during exams.**

If you cannot attend an exam at the scheduled time, email me in advance to schedule an alternate time or date. There will be NO make-up exams unless previously arranged. Unexcused absences will result in a grade of zero, and can easily cause you to fail the course.

### Problem Sets

Problem sets will be posted on Mastering Chemistry several times a week. You may use any resources to help you with the problem sets, including the peer tutors. Homework is due at 11:55 pm every Friday. **Late homework will not be accepted.**

### In-class Work

There will be a mix of graded in-class work to include group problems, individual activities, quizzes, etc.

### Participation

You are expected to attend and fully participate in each class session. Class meetings will routinely involve working in groups and solving problems. **The use of laptop/tablet computers and cell phones is not allowed during class.**

### Grading

	Weight
Midterm Exams	43%
Mastering Online Homework	21%
In-class Work	14%
Final Exam	22%

**Final grade distribution by percentage of total points**

Letter	Percent Range
A	92 – 100
A-	89 – 91
B+	86 – 88
B	82 – 85
B-	79 – 81
C+	76 – 78
C	72 – 75
C-	69 – 71
D+	66 – 68
D	62 – 65
D-	59 – 61
F	< 58

**Policies****Academic Integrity**

For the Academic Integrity Policy on issues such as plagiarism, repurposing, cheating and other forms of academic dishonesty please see the University's policies page, which is available at: [www.roosevelt.edu/policies](http://www.roosevelt.edu/policies). Additional guidelines for avoiding plagiarism are available here: <https://www.roosevelt.edu/current-students/academics/academic-integrity>.

**Disability**

Roosevelt University complies fully with the Americans with Disabilities Act. Details about ADA and Roosevelt's policies and practices are found in the following link: <https://www.roosevelt.edu/current-students/get-help/learning-commons/disability-services>. If you have a condition or disability that requires reasonable accommodation, please alert the Academic Success Center as soon as possible, certainly before any assignment or classroom activity that requires accommodation. The Academic Success Center is located in AUD1050 (inside the Library) in Chicago, and the phone number is 312-341-3811. In Schaumburg, the office is in room 125, and the phone number is 847-619-7978. You can also reach the ASC by emailing [academicsuccess@roosevelt.edu](mailto:academicsuccess@roosevelt.edu).

**Religious Holidays**

Please let your instructor know as soon as possible if you will miss class because you are observing a religious holiday. Roosevelt University policy requires written notification to the instructor within the first two weeks of the term. Any work you miss because of a religious holiday can be made up. You can see the full policy here: <https://www.roosevelt.edu/policies/religious-holidays>.

**Student Code of Conduct**

Students enrolled in the university are expected to conduct themselves in a manner compatible with the university's function as an educational institution. <https://www.roosevelt.edu/current-students/get-help/complaint/student-misconduct>.

**Title IX**

Roosevelt University cares greatly about the health and well-being of our students, staff, faculty, and guests to our campuses. Federal law, specifically Title IX, and the University Sexual Misconduct Policy require that all employees are mandated reporters of incidents involving sexual or gender-based violence or harassment.

The complete policy can be found here: <https://www.roosevelt.edu/title-ix>

Disclosures made to faculty or teaching assistants (TAs) about sexual or gender-based harassment, sexual assault, dating violence, domestic violence, and/or stalking on or off campus must be forwarded to the Title IX Coordinator. The above listed staff are Responsible Employees and therefore are mandated to report. The Title IX office will contact any student who discloses an incident regarding student rights, including the option to request an investigation, interim safety measures, and/or academic accommodations. In certain circumstances, the Title IX Coordinator may need to proceed with an investigation, even if none is requested, if there are safety risks to the student or campus community. Participation in the process is voluntary. If you want a confidential place to disclose sexual assault, sexual harassment or intimate partner violence, there are confidential advisors on campus who are not mandated reporters. They are:

LaDonna Long (312)244-0426 – Confidential Advisor (available via phone all hours)

Toyia Stewart – Deputy Coordinator (312) 341-6756

Alice Jones — Title IX Coordinator (312) 341-2045.

The Counseling Center (430 S. Michigan Avenue Room 470 Phone: 312-341-3548) staff are also NOT mandatory reporters and therefore NOT required to report a disclosure to the Title IX Office.

## Resources for Students

### Academic Advising

Advisors help students review degree options and curriculum requirements for most undergraduate programs; assist undecided students in identifying career goals and academic major; and guide students experiencing academic difficulty or academic probation.

Help students interpret University policies and procedures

Chicago campus: room 1M10, Mezzanine, Wabash Building, (312) 341-4340.

Schaumburg campus: SCH 125; (847) 619-7930

CCPA, Education, Honors and Hospitality Management students are advised in their programs. Graduate students work directly with their academic department.

### Academic Success Center

Disability Services, Peer Mentor Program

Chicago campus: Auditorium Building 1050 (inside the Library) (312) 341-3818.

Schaumburg campus: room 125, 847-619-7978. Email Adam Wouk or Danielle Smith at [dsmith51@roosevelt.edu](mailto:dsmith51@roosevelt.edu).

### Blackboard Support, Training and Quick Guides

The Blackboard course management system is supported by the RUOnline staff and by the Roosevelt University Help Desk.

Quick guides: <http://www.roosevelt.edu/RUOnline/Students/BbTutorials.aspx>

RUOnline: <http://www.roosevelt.edu/RUOnline/ContactUs.aspx>

Technology Help desk: <https://www.roosevelt.edu/current-students/technology>

### Campus Safety

Auditorium Building: (312) 341-2020

Gage Building: (312) 341-3111

Schaumburg campus: (847) 619-8989

**Computer Labs**

A list of open labs is located here: <http://www.roosevelt.edu/ITS/labs.aspx>

**Counseling Center**

Individual counseling, as well as group and couples counseling.

Chicago campus: room 470 Auditorium Building, (312) 341-3548

Schaumburg campus: room 114, (312) 341-3548 <https://www.roosevelt.edu/current-students/get-help/counseling-center>

**Financial Aid Services**

Apply for financial aid, set up payment plans, and answer questions regarding your Roosevelt bill.

Chicago campus: Mezzanine, Wabash Building, (866) 421-0935; [FAO@roosevelt.edu](mailto:FAO@roosevelt.edu)

Schaumburg campus: room 125, (866) 421-0935; [FAO@roosevelt.edu](mailto:FAO@roosevelt.edu)

**Food and Toiletry Pantry**

If you or someone you know are in need of food or toiletries please visit the pantry located in WB318 and SCH 130 H. Students may access the pantry during the posted hours or by appointment. Appointment can be scheduled via email at [HFI@roosevelt.edu](mailto:HFI@roosevelt.edu). Additionally, if interested in volunteering or donating to the pantry, please e-mail [HFI@roosevelt.edu](mailto:HFI@roosevelt.edu).

**Learning Commons**

Peer tutoring in writing, math, and other subjects, in person and online.

Chicago: 10th Floor (in the Library), Auditorium Building.

Schaumburg: Visit SCH 125 for information on available tutoring.

Visit our webpage for more information on hours, appointments, and available services <https://www.roosevelt.edu/current-students/get-help/learning-commons>

**Library**

Find everything you need to know at <http://www.roosevelt.edu/Library.aspx> about the Auditorium Building library, the Schaumburg library and the Performing Arts library.

**Registrar**

Registration, drop/add, withdrawal, transcripts, credit evaluation, graduation.

Chicago campus: Mezzanine floor, Wabash Building, (312) 341-3535; [registrar@roosevelt.edu](mailto:registrar@roosevelt.edu)

Schaumburg campus: room 125, (847) 619-7950; [registrar@roosevelt.edu](mailto:registrar@roosevelt.edu)

**RUWiFi**

To access the university's wireless network, either email [helpdesk@roosevelt.edu](mailto:helpdesk@roosevelt.edu) or call (312) 341-4357 for the connection key.

Changes to this syllabus may be made when deemed appropriate.

Last updated: August 26, 2018