

Chemistry !!!



101

Fall 2020

Dr. Maria A. Donnelly
Beaupre 117C
madon@uri.edu

Why Learn Chemistry?

To better understand the environment around us

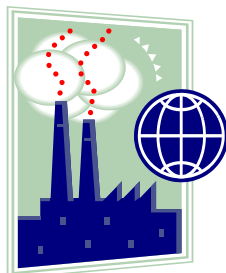


Medicine

- Understanding disease
- Develop new drugs

Environmental Science

- Ozone layer
- Global warming
- Acid rain



Agriculture

- Bioengineered food
- Fertilizers



Criminal Justice & Safety

- Forensics
- Explosives & Drug detection
- Safety equipment



Material Science

- Better built houses
- More efficient cars
- Plastics, composites



Why Learn Chemistry?

Fun!

3

Fireworks!



New materials for sports equipment!



Better electronic devices
& gaming systems!



High tech clothing
for any activity!



Course Organization & Expectations

CHM101 – Freshman Chem. Lecture (lab – CHM102)

- First half of 2 semester general chemistry sequence
- Required if need 3–4 semesters of chemistry for your major
- Pharmacy, Engineering, Biology
- Pre-professional programs: medical, dental, veterinary etc.
- Some environmental science groups
- **Emphasis on mathematical skills (esp. algebra) & problem solving** (most exams at least 80% math)
- Other General Chemistry courses – 103, 191
- If you think you may be enrolled in the wrong course, let me know right away

In-person Chemistry Labs Start Tuesday 9/15

**Safety Training is required for all Chemistry
Labs**

**You must complete the required on-line lab safety
module before attending your first in-person lab.**

**See your CHM 102 Brightspace site for an
introductory video with details about safety training
and lab and department policies**

**This introductory video must be viewed before the
start of in-person labs. DO NOT WAIT UNTIL
MONDAY 9/14!!!**

Course Organization & Expectations

Required Materials

- Book: Chemistry: Atoms First 4th edition
 - By Julia Burdge & Jason Overby
 - Published by McGraw Hill
 - Can use either paper or electronic
- Access to Connect online homework
 - Smart Book assignments
 - Homework assignments
 - Exams
- Scientific calculator
- Brightspace/URI email
 - Gradebook
 - Announcements
 - Submission of group work
 - Some additional assignments
 - Links to course resources
- Many course resources can also be accessed through
<https://www.chm.uri.edu/index.php/misc-user-page/?buttonname=miscbutton&person=mdonnelly&topicname=CHM101>



Chapters 1–12

Useful Information: Lecture Notes, etc.

THE
UNIVERSITY
OF RHODE ISLAND

DEPARTMENT OF CHEMISTRY

1-401-874-2318 chemistry@etal.uri.edu

Home

People ▾

Research

For Prospective Students

For Current Students

Links ▾

Contact Us

Dr. Donnelly's CHM 101 Student Resources

Course Information

Syllabus

Beaupre 100 Seating Chart

Connect Information

General Connect Information

Registration Information

Lecture Slides

Intro & Chapter 1

Chapter 2

Chapter 3

Chapter 4

Brightspace

To get to
announcements

THE
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CHM101: General Chemistry Lecture I_000...



Maria Donnelly



Course Home

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Overview



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Course Introduction
Start Here!

Overview ▾

Print

Settings

CHM 101 is a general chemistry course designed to introduce a variety of concepts and principles that are fundamental to the study of chemistry. Significant emphasis will be placed on mathematical skills and problem solving.

Instructor: Dr. Maria Donnelly

Email: madon@uri.edu

Office: Beaupre 117C (entrance to the office suite is through room 115)

Office Hours: Specific office hours for each week can be found on Starfish, and appointments can also be made through Starfish. (You can access Starfish through URI's single sign on. There is a link to the related IT page below.) If you would like to request an appointment at a time not listed on

Announcements also – must opt in!

Course Organization & Expectations

Course Organization

Asynchronous Portion

- Lectures will consist of PowerPoint presentation videos with sample problems worked out as examples
 - Videos will be posted online with links available via Brightspace
 - Can be watched at a time convenient to you
 - Make sure to watch videos early enough to be able to complete your homework on time & be prepared for exams
 - Videos should be available at least until the end of the semester
 - Homework will be completed and submitted through McGraw Hill's Connect Program.
 - Has specific due dates (mostly Mondays & Fridays)
 - Can submit early!

Course Organization & Expectations

Synchronous Portion

- Students will meet once a week at the normal class time to work through problems in groups
 - Meetings will be held via zoom
 - The class will be divided in half – half of the students will meet on Tuesday, half on Thursday
 - You will be assigned a "CHM 101 Support Group", and will work through problems as a group in breakout rooms
 - I will be available to answer questions
 - The groups will submit their work via Brightspace by 11:00am (one submission per group)
 - Grades will be based on attendance; 50 pts per meeting
 - One absence is permitted without penalty
 - Attendance will be determined from submitted work
 - Solutions will be posted at the end of the week
 - If you need to be assigned to a specific day, let me know

Group Work Schedule

Final exam dates are set by the university and are subject to change

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
September						
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15 Group Work	16	17 Group Work	18	19
20	21	22 Group Work	23	24 Group Work	25	26
27	28	29 Review	30			
October						
				1 Exam 1	2	3
4	5	6 Group Work	7	8 Group Work	9	10
11	12	13 Group Work	14	15 Group Work	16	17
18	19	20 Review	21	22 Exam 2	23	24
25	26	27 Group Work	28	29 Group Work	30	31
November						
1	2	3 No Class	4	5 Group Work	6	7
8	9	10 Group Work	11	12 Review	13	14
15	16	17 Exam 3	18	19 Group Work	20	21
22	23	24 Group Work	25	26 No Class	27	28
29	30					
December						
		1 Group Work	2	3 Group Work	4	5
6	7	8 Review	9	10 Exam 4	11	12
13	14 Review	15	16	17 Final Exam 8:00 – 11:00am	18	19

**Graded on 7 of 8 required class meetings.
Exam Reviews are optional.**

Course Organization & Expectations

Homework

- Homework will be completed and submitted through the McGraw Hill Connect online homework program
- There are two types of homework, one of each per chapter
 - Homework assignments
 - Ten points per question
 - Best to complete after watching lecture video
 - Can be submitted late automatically with 2% per day loss of credit
 - Smart Book assignments
 - 100 points each, graded based on completion
 - Assigned toward the beginning of the chapter as an introduction to the material
 - To submit late, email me to request an extension
- There will also be **OPTIONAL** practice assignments with additional questions.

Connect Assignments

CHM 101 SEC 4 FALL 2020 - CHM 101 SEC 4 FALL 2020

Assignments

Assignment	Start	Due	Course	Icon
Chapter 1 Smart Book	Start: Sep 9, 2020 at 12:00 AM EDT	Due: Sep 14, 2020 at 11:59 PM EDT	CHM 101 Sec 4 Fall 2020 C...	SB
Chapter 1 Homework	Start: Sep 9, 2020 at 12:00 AM EDT	Due: Sep 18, 2020 at 11:59 PM EDT	CHM 101 Sec 4 Fall 2020 C...	Homework
Chapter 1 Practice	Start: Sep 9, 2020 at 12:00 AM EDT	Due: Dec 31, 2020 at 11:59 PM EST	CHM 101 Sec 4 Fall 2020 C...	Homework

Required (points to Chapter 1 Smart Book and Chapter 1 Homework)

NOT Required (points to Chapter 1 Practice)

Read

To read ebook (points to Burdge, Chemistry: Atoms First, 4e)

Burdge, Chemistry: Atoms First, 4e
Julia Burdge, 4e

Questions are required. All questions must be answered to receive full credit.

Concepts

1.1 THE STUDY OF CHEMISTRY

Chemistry often is called the *central science* because knowledge of the principles of chemistry can facilitate understanding of other sciences, including physics, biology, geology, astronomy, oceanography, engineering, and medicine. **Chemistry is the study of matter and the changes that matter undergoes.** Matter is what makes up our bodies, our belongings, our physical environment, and in fact our entire universe. **Matter** is anything that has mass and occupies space.

Chemistry You May Already Know

You may already be familiar with some of the terms used in chemistry. Even if this is your first chemistry course, you may have heard of *molecules* and know them to be tiny pieces of a substance—much too tiny to see. Further, you may know that molecules are made up of *atoms*, even smaller pieces of matter. And even if you don't know what a *chemical formula* is, you probably know that H₂O is water. You may have used, or at least heard, the term *chemical reaction*; and you are undoubtedly familiar with a variety of common processes that are chemical reactions, such as those shown in [Figure 1.1](#). Don't worry if you are not familiar with these terms; they are defined in the early chapters of this book.

[To Questions](#)

Connect Registration

Registration Information
is section specific!

Your Section!

Section 1:
Spring 2018
TTh 9:30 am

Section 2:
Spring 2018
TTh 11:00 am

Section 4:
TTh 9:30 am

connect

student registration information
course

Spring 2018 CHM 101 General Chemistry
with LearnSmart and LearnSmart Prep

instructor

Maria Donnelly

section

Spring 2018 Section 1 TTh 9:30 am

online registration instructions
Go to the following web address and click the "register now" button.

<https://connect.mheducation.com/class/m-donnelly-spring-2018-section-1-tth-930-am>

This is a unique address for
Spring 2018 Section 1 TTh 9:30 am

Having trouble registering?
Get help here: <http://bit.ly/StudentRegistration>

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connect

student registration information
course

Spring 2018 CHM 101 General Chemistry
with LearnSmart and LearnSmart Prep

instructor

Maria Donnelly

section

Spring 2018 Section 2 TTh 11:00 am

registration dates

01/18/18 - 05/01/18

online registration instructions
Go to the following web address and click the "register now" button.

<http://connect.mheducation.com/class/m-donnelly-spring-2018-section-2-tth-1100-am>

This is a unique address for
Spring 2018 Section 2 TTh 11:00 am

Having trouble registering?
Get help here: <http://bit.ly/StudentRegistration>

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connect

student registration information
course

CHM 101 Sec 4 Fall 2020
with LearnSmart Labs

instructor

Maria Donnelly

section

CHM 101 Sec 4 Fall 2020

online registration instructions
Go to the following web address and click the "register now" button.

<https://connect.mheducation.com/class/m-donnelly-chm-101-sec-4-fall-2020>

This is a unique address for
CHM 101 Sec 4 Fall 2020

Having trouble registering?
Get help here: <https://bit.ly/StudentRegistration>

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Link to registration page

Connect Registration

Welcome

Need help? [Contact customer service](#) →

CHM 101 SEC 4 FALL 2020
CHM 101 SEC 4 FALL 2020



INSTRUCTOR
MARIA DONNELLY



CHEMISTRY: ATOMS FIRST
JULIA BURDGE, 4TH ED.

Enter your email to join this class:

Email

By using this site you agree to the [Terms of Use](#) and [Privacy Notice](#).

BEGIN >

Create your McGraw-Hill account.

Email Address

Confirm Email Address

Password

Confirm Password

Passwords are case sensitive and must contain 8-20 characters including: 1 uppercase character, 1 lowercase character and 1 number. (No spaces)

First Name

Last Name

Security Question

Security Answer

We'll ask you this question to retrieve your password.

Mobile Number (optional, [get important text alerts](#))

Mobile Number

☐ I agree to the terms of the McGraw-Hill [Terms of Use](#) and [Privacy Notice](#).

CONTINUE



Instructor:
Maria Donnelly



Burdge: Chemistry: Atoms First
4TH EDITION
Julia Burdge

A two week courtesy access is available if you cannot immediately purchase an access code.

Register & start work right away!

Student Registration



General Chemistry: The Essential Concepts
ISBN:0077623290
Edition:7
Author:Raymond Chang, Kenneth Goldsby

What you get with Connect:

- Digital Access to the textbook
- Interactive tools that will help you focus your study time
- Exclusive discounts on a print copy of the textbook

Already purchased?

To access your course materials, first enter your 20 digit registration code.

Registration Code:

Example: GRFU-BYHA-6MYJ-FGNK-F9XA

Submit

[How do I register?](#) | [What is a registration code?](#)

Need to purchase?

No registration code, no problem. You can buy access to General Chemistry: The Essential Concepts right now. All you need is a credit card.



Buy Online

Need Temporary Access?

You can get two week access to your course materials. After that your work will be archived and you can purchase access.

Start courtesy access

(Older screenshot, looks a little different now)

Course Organization & Expectations

Exams

- Exams will be held at the scheduled class time.
 - Dates are in the syllabus and the schedules in this presentation
- Exams will be completed and submitted through Connect (mostly)
 - One question at the end will be for you to submit your work as a single pdf file
 - The pdf file is what I will grade for your exam
 - There is info in Brightspace about ways to turn your work into a single pdf file
 - If you have trouble submitting through Connect, email me the pdf file BEFORE THE END OF THE EXAM PERIOD
- There will be a “test” exam to allow you to see the format (not example questions)
- Exams will be open book & notes
- Use of google or help from another individual is not permitted and is considered academic dishonesty – see policies in the syllabus & University manual
- If you feel there is an error in the grading of your exam, you must bring this to my attention within 48 hrs of the graded exam being returned to you. No grade changes will be considered after this time

Course Organization & Expectations

Grading

Online Homework, Smart Book, & Participation	20 %
3 of 4 Lecture Exams* (20 % each)	60 %
Final Exam	20 %
Total	100%

- Your final course average will be calculated using the following formula:

$$\text{Course Avg.} = (\text{Homework Avg.} \times 0.20) + (\text{Exam Avg.} \times 0.80)$$

- The homework average includes homework assignments, smart book assignments, & group work participation
 - Each homework assignment counts for a given number of points based on the number of questions
 - Each Smart Book assignment counts for 100 points
 - Each group work counts for 50 points
 - $\text{HWK Avg.} = (\text{pts. earned} / \text{total \# of pts possible}) \times 100$
- To eliminate the need for make-up exams, you will be graded on 4 out of 5 exams.

Incomplete Policy

Incomplete grades cannot be assigned except in the case of a real emergency. Any grade of incomplete must be approved by the department chair and the dean. In order to receive an incomplete, a student's **course work must have been passing** and the student **must have completed at least half of the coursework for the semester**. Incompletes should be made up within one year of the semester in which the grade of incomplete was assigned. **If an incomplete is not made up prior to the two year grade change deadline established by the University, the "I" will be replaced with a grade calculated for the student based on the work completed and including zeroes for any work not completed.**

Getting Help

Make sure to seek help right away if you feel you are struggling with material

- Office hours will be held via zoom (webex also available by request)
 - Use Starfish to sign up for a time
 - If you prefer webex let me know
 - Email me to ask for a meeting outside of office hours
- Chemistry department TAs also hold office hours
 - There will be a single zoom address for TA help in gen chem
 - Can ask any 102 or 114 TA for help
 - Also two CHM 101 TAs – Leah & Audreyana
 - Link to the TA office hour schedule will be posted in Brightspace as soon as it is available.
- AEC also offers tutoring (www.uri.edu/aec)

I am happy to help!!!



Your choices will determine your level of success

- **Watching the videos is important**
 - prepare in advance – become familiar with key terms & ideas
 - pay attention, write down questions to ask
 - print out slides and use them to take notes on
 - **if you get tired, take a break & finish the video later!**
- **Assignments are designed to help you learn**
 - focus on WHY you need to follow certain steps to solve problems rather than trying to memorize the steps
 - ask yourself what you do and do not understand
- **Complete assignments on time**
 - mastery of early material will help with material covered later
 - avoid having assignments build up & losing points due to lateness
- **Seek help right away!**
 - office hours
 - TAs via zoom
 - AEC

General Course Schedule

SCHEDULE

Chapter	Title	Week/Date
1	Chemistry: The Science of Change	1-3
2	Atoms & the Periodic Table	
3	Quantum Theory & The Electronic Structure of Atoms	
Exam 1	Chapters 1-3	Thursday Oct. 1st
4	Periodic Trends of the Elements	4-6
5	Ionic & Covalent Compounds	
6	Representing Molecules	
Exam 2	Chapters 4-6	Thursday Oct. 22nd
7	Molecular Geom., Intermolec. Forces, & Bonding	7-9
8	Chemical Reactions	
9	Chemical Reactions in Aqueous Solutions	
Exam 3	Chapters 7-9	Tuesday Nov. 17th
10	Energy Changes in Chemical Reactions	10-14
11	Gases	
12	Liquids & Solids	
Exam 4	Chapters 10-12	Thursday Dec. 10th
The Monday Dec. 14 th make-up day will be used for an optional review day for the final		
*Final Exam: Thursday December 17th 8:00 - 11:00 am		

Notable Dates:

- Wednesday Sept. 30th: last day to drop courses with no transcript designation of "W"
- Monday Oct. 12th: Columbus Day, classes DO meet
- Wednesday Oct. 21st: last day for students to drop courses; dropping a course after this date will require the permission of your academic dean.
- Tuesday Nov. 3rd: Election day, classes DO NOT meet
- Wednesday Nov. 11th: Veteran's Day, classes DO NOT meet
- Wednesday Nov. 25th: Last day of face-to-face classes, last day of CHM 102 labs
- Monday Dec. 14th: last day of classes; Tuesday classes meet to make up for election day

Read the Syllabus!