

Introductory Chemistry --- CHM 103

Course Information and Syllabus

Fall Semester, 2020

Instructor: George W. Dombi, PhD

Email: Gdombi@uri.edu

Phone: (401) 874-2384

Office Hours: 11:30 am – 2:30 pm Monday – Friday or by appointment.

Zoom meeting room: 267 844 1472

Office: 115 A Beupre Science Center

Required Learning Materials

- 1) *CHM 103 site within the Brightspace platform:* which will contain: Lessons, Skills Checks (Quizzes), Assignments, Discussions
- 2) *Digital Platform:* OWLv2: **Chemistry for Today: General, Organic, and Biochemistry**, Seager/Hansen, 9 Edition;” purchase from Cengage.com or URI Bookstore (6-month= \$105, 24-month= \$120). Course Key = [E-FHXL8TTKY9ZPX](#)
For students who prefer a hardcopy textbook, rather than an online eReader, ANY recent edition of the Seager **Textbook: Introductory Chemistry for Today: GOB** hard copy textbook (published within the last decade) can be used.
- 3) *CHM 103 Skills Practice Book:* Skills Summaries, One Page Lessons, and Practice Exam Questions; pdf files posted within the CHM 103 site. Printed and bound, soft back copies are available at URI Bookstore (\$20)
- 4) *Scientific calculator:* Logarithm and exponent functions needed for pH calculations.

Technology Requirements

To successfully complete this course, each student will need access to a computer with a reliable, high-speed internet connection and appropriate system and software to support the Brightspace learning platform. (One can use computers in the URI Library as well.)

Typical, well supported technology requirements for online courses at URI include:

Windows 7 (XP or Vista) or higher	Mac OS X or higher
• 64 MB Ram	• 32 MB Ram
• 28.8 kbps modem (56k or higher)	• 28.8 kbps modem (56k or higher)
• Sound card and speakers	• Sound card and speakers
• Ext headphones with build-in microphone	• Ext headphones with build-in microphone
• Mozilla Firefox 9.0 or higher	• Mozilla Firefox 9.0 or higher

Other requirements: Word 2007 (PC) 2011 (Mac) or newer, PowerPoint, Excel, (or Open Office), Adobe Flash, Adobe Acrobat Reader, Java.

Brightspace Help

- LMS Platform Access: <https://brightspace.uri.edu>
- Resource Page: <https://web.uri.edu/brightspace/>.

Course Learning Objectives

CHM 103 is a General Education science knowledge outcomes course tailored for students in the textile sciences, or in one of the allied health fields such as: nursing, nutrition and dietetics, exercise science, kinesiology, physical education, and physical therapy. Students will have the opportunity to master introductory chemistry principles. CHM 103 will provide insight into historical people and events related to chemistry. The course will also provide relevant examples of chemical principles in everyday life. This will advance students' scientific knowledge and increase their competency in critical thinking and computational skills; especially those identified as essential to success in their programs of study. These skills will be developed by solving chemical problems. These skills include: obtaining and evaluating the data / information needed to address a problem, identifying relevant approaches, recognizing an appropriate strategy, correctly implementing the selected problem-solving process, critically evaluating the outcome of that process, and clearly communicating the final result. Topics in this course include: matter and measurements; the structure of the atom; electronic structure and periodic law; forces between particles; states of matter; chemical reactions and stoichiometry; solubility and solutions; reaction rates and equilibrium; acids, bases, pH, and buffers.

Specific learning outcomes are provided in the CHM 103 Skills Practice Book.

Class Protocol

The Brightspace Learning Management System (LMS) is the University of Rhode Island, campus-wide, class-room management tool. Nearly all classes at URI have a web site on Brightspace as does CHM 103. Students should see a course tab for CHM 103 Introductory Chemistry Lecture when they open the main portal of Brightspace with their campus user-name and password, <https://brightspace.uri.edu/d2l/home>. The CHM 103 website on Brightspace will serve as our classroom for the fully-online CHM 103 course. Brightspace will be the main communication tool for announcements generated by me. Grades will be kept on Brightspace. Students will be able to download old quizzes, and relevant videos from the Lessons section. Students may wish to refer to URI's [Brightspace tutorials](#) before getting started in the course, and refer back to the videos, as needed, throughout the course.

In an online learning environment, regular log-ins and active participation in Brightspace and OWLv2 sites cannot be overstated as this is how attendance is monitored and homework points are generated. There are 2-3 activities each week at those sites. The Schedule below gives suggested dates to do those activities. Following those suggestions, you will keep up with the class in a timely manner.

On eCampus, CHM 103 is scheduled at the following times. Let these times guide you for viewing slides and videos of the course, although you can do that at anytime.

Section 001: Tu and Th, 11:00 AM – 12:15 AM, Online – Asynchronous

Section 002: Tu and Th, 3:30 PM – 4:45 PM, Online – Asynchronous

Section 003: Mo and We, 3:00 PM – 4:15 PM, Online – Asynchronous

Video lectures will be made available in Brightspace online. You should take notes when watching these videos. This will aid your learning of the material and help you to do well on exams. There will be 4, one-hour, mid-term exams and a cumulative final.

Course Work Items

Brightspace LMS Skill Checks:

1. Boot Camp is a 10-day, pre-course activity held in Brightspace. The Boot Camp activities will help you to review your chemistry skills and introduce you to the class culture. Each Boot Camp activity will contain a 200-300 word lesson, followed by 1 or 2 video lessons, then a quiz called a Skill Check. Skill Checks will probe your understanding of key concepts, and push you to think carefully about the review skills you're learning. Each quiz is randomly generated from a pooled set of questions, each time you open the Skill Check. Each Skill Check can be taken up to seven times. Feedback is provided for any questions that was missed or incorrectly answered. After studying the feedback, you should re-take the Skills Check until you're confident you've maximized your learning, and can answer each question correctly. These points, and a capstone practice exam, will be used to help reduce the OWL homework load during the semester.

2. Lecture Prep Skill Checks precede each lecture during the regular class and make-up part of your homework points. These Skill Checks will also probe your understanding of key concepts, and push you to think carefully about new skills. These questions are also selected at random from a larger pooled set of questions. Each Skill Check can be taken up to seven times. Your highest score is captured in the grade book. You should re-take the Skills Check, to answer a different set of questions, until you are confident you have maximized your learning and the points. Some of these Skill Check questions are included in the Skills Book. Many students record notes on these questions in their Skills Book since they are very similar to those types of problems included in the multiple-choice parts of exams during the semester.

OWLv2 usage:

The **On-line Web Learning** software, OWLv2, is a product of the Cengage company, who makes our text book. Homework assignments for CHM 103 will be completed in OWLv2. Students will need to register in OWLv2 using the registration card that comes inside the textbook, or purchased at the OWL portal below, which will get you an eCopy of the textbook. It is possible to purchase a registration card alone from the URI bookstore or on-line if you already have a text book. OWLv2 will be the main communication tool for homework related questions from students to me using my email address listed above. Students can get to our class portal for OWLv2 at:

E-FHXL8TTKY9ZPX

The OWLv2 homework system was designed to help students both learn and practice the skills needed for success in their chemistry course.

Three types of assignments contribute to the OWL portion of each student's grade:

- 1) *mastery assignments* (with pooled, algorithmic questions),
- 2) *end-of-chapter (EOC)* problems.
- 3) *adaptive learning* problems.

You must stay on track and on time with your OWL homework, as each assignment will have a due date (corresponding to the timing of that topic in the course), and an unavailable date later on in the term. As long as you've started an assignment prior to its due date, you can continue working until the unavailable date. There is no late penalty. Due dates of missed OWL assignments will not be extended.

1) **Mastery assignments** require that you answer a certain number of questions correctly out of a Group (usually two out of three). There are usually 6-7 groups per assignments. The questions are pulled at random from a larger pool of questions each time you Retry the Group. You can retry a Group up to ten times to get full credit, but you'll have only one submission for each OWLv2 assignment. So do not submit the assignment until you have all the Groups correct. If you have trouble with a particular Group, try 6-7 times to get it right, then email me and we can go over it together before you submit the assignment for credit. You do not have to finish a whole assignment in one sitting, you can choose to Save and Exit the assignment and return to it later. Your objective should be to go through each assignment until all the questions show the green check of a correct response. Students with higher exam grades tend to go through the cycle of getting the assignment correct more than once and utilize more of their ten allowed attempts to insure that they can do them all. These students carefully go through each assignment trying to learn as much as they can by working more of the challenging Mastery questions several times, in order to draw new questions from the pool and get additional skills practice. OWLv2 software will provide both skills practice opportunity and instant feedback on how you're progressing in building the needed skills.

2) End of Chapter OWLv2 (EOC) assignments are actually taken from the textbook so they are directly tied to the the topics discussed in the lectures. EOC assignments usually contain 10-14 problems, each of which you can do up to ten times. There are no groups as in the Mastery problems. The EOC problems are usually easier and there are more of them. EOC assignments have a submit button, which you can use only once.

3) Adaptive learning problems are the hardest of all and worth the most points. I recommend doing them before an exam, but after completing the EOC and Mastery problems. Adaptive learning problems must be done in a pre-test/post-test format, meaning you will have to do the some problems at least twice. There is no submit button, just a retake button. The Adaptive learning problems will self-submit on their unavailable date or once you get 100% correct after the due date. In the end, you will get partial credit for all partially completed adaptive learning OWLv2 work.

Academic Honesty

All forms of academic dishonesty, like cheating and plagiarism, are serious academic offenses and violations of the University Honor Code and are strictly forbidden. You must NOT cheat during exams and you must Not even give the appearance of cheating. Students should expect that disciplinary action will be taken. URI policy on academic honesty is detailed in the University Student Handbook, and is summarized here: Students are expected to be honest in all academic work. A student's name on ANY written work shall be regarded as assurance that the work is the result of the student's own thought and study. Work should be stated in the student's own words, and produced without assistance or properly attributed to its source.

The following are examples of academic dishonesty:

- Unauthorized possession or access to exams.
- Unauthorized communication during exams.
- Unauthorized use of another's work or preparing work for another student.
- Taking an exam for another student.
- Altering or attempting to alter grades.
- The use of notes or electronic devices such as computers, or cell phones to gain an unauthorized advantage during exams.
- Facilitating or aiding another's academic dishonesty.

When there is an allegation of academic dishonesty, the instructor may:

Fail the student for the assignment, request conduct action, or recommend that the student fail the course. A student who commits academic dishonesty will receive a failing letter grade for the exam and a possible failing grade for the course. Further sanctions may be imposed by the College Dean.

Hints for Success - PPP method (Prepare, Participate, Practice)

PREPARE: - **Before class: Read the text material** in preparation for the class as listed in the syllabus. **Review previous class notes. Record questions about unclear topics.** Complete and submit the assigned pre-lecture Skill Checks found in each daily Brightspace based Lessons. **Skill Checks** quiz in Brightspace Lessons will probe your pre-lecture understanding of key concepts, and push you to think carefully about the new skills you're learning. Try to learn as much as you can with these pre-lecture Skill Checks. There are 7 of these problems before each lecture and they consist of "pooled" questions – a set number of questions will be selected at random from a larger pool each time you open the Skill Checks. After you've completed (and received credit for) a Skill Check, you can re-open it to answer a different set of questions, and "skill-drill" until you can answer each question correctly.

PARTICIPATE: - **During video lecture: Take notes and email any of your questions to me.** Feel free to email any question about a chemistry subject even a "stupid" one. If you are unsure what to do or what was said, so are others. Ask the question if not for yourself then for your fellow students. The Skill Check questions and the OWLv2 questions are your Homework. I will keep a running account of your total score. Your job is to get to a semester total of **700** total, combined Homework points. If you do any of the Boot Camp, I will add those points into your account in order to help you reach **700** total points. You should try to gain 50 points a week from all sources.

PRACTICE: - **After video lecture: Reread your notes** within 24 hours of the lecture and **fill-in any blanks.** Re-watch the video and see if you missed anything. Look over the appropriate pages in the Skills Book and read them to fill-in any blanks. **Write a question in the margin** that will summarize each section. Answer these questions as you study the next day. **Do the weekly post-class OWLv2 assignments** by Sunday at 11:50 pm. OWLv2 is designed to HELP STUDENTS LEARN CHEMISTRY. Students will need to stay on track and on time with the OWLv2 assignments. Each assignment will have a due date that corresponds with the timing of each lecture topic. Ample time is provided to complete each assignment. Since the OWLv2 system is intended to be a key learning task in this course, the assignments may be worked in student study groups and/or with help from a tutor, or as open book exercises.

Students will need to receive credit for a total of **700** Homework problems from a combination of Boot Camp Skill check points, Brightspace pre-lecture Skill check points post-class OWLv2 assignments points. There are over 1000 points in these combined sources, so student do not need to do every problem. Historically, students who earn higher scores on their Final exam have done more than the required **700** points.

Grading Policy

Each student's lecture course grade will be assigned by me based on:

4 Cumulative Mid-Term Exams (15 % each).....	= 57 %	(400 pts)
Homework Score (Boot Camp, Brightspace, OWLv2)...	= 14 %	(100 pts)
1 Cumulative Final Exam (25 %)	= 29 %	(200 pts)
Total.....	= 100 %.	(700 pts)

Grading will be as follows:

at least 90%	guarantees an A (A- or A)
at least 80%	guarantees a B (B-, B or B+)
at least 70%	guarantees a C (C-, C or C+)
at least 60%	guarantees a D (D or D+)
less than 60%	guarantees an F.

There are NO extra credit assignments. Completion of the full **700** Homework points will be scaled to equal an exam. Students with valid permission can apply to me to make up a missed Mid-term exams. In some valid permission cases, I may replace the missing grade with the average of your remaining 3 mid-terms. No student may just drop an exam and expect me to replace the grade by averaging without a valid, written medical, military or URI team or club related sports event. If you miss two or more Mid-term exams, you will need to repeat the course. All students must take the Final Exam.

Students need to successfully complete **700** Homework points using a combination of Boot Camp, OWLv2, Skill check points. This will be divided by 7 to get the 100 Homework Score mentioned above. If a student successfully completes more than **700** Homework points that is good, but it will be limited to 100 maximum Homework Score.

Important Fall, 2020 Semester Deadlines.

- Classes begin:Wednesday, Sept 09.
- Last day of eCampus open ADD period: Tuesday, Sept 15.
- Last day of eCampus to ADD with permission number:..... Tuesday, Sept 22.
- Last day to DROP courses with no transcript W:Wednesday, Sept 30.
- Last day to DROP courses without permission:.....Thursday, Oct 21.
- Freshman mid-term grades posted in eCampus:.....Tuesday, Oct 27.
- THANKSGIVING Day recess, No Classes:Wed, Nov 26 – Sun Nov 29.
- Last Day of Classes:Tuesday, Dec 14.
- Final Grades Due in eCampus by 12:00 noon:Monday, Dec 28.

CHM 105 Lab grades are separate and will be determined by the lab instructor.

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Suggested on-Line Course Schedule: Fall Semester, 2020

Week #	ACTIVITY ONE	ACTIVITY TWO	ACTIVITY THREE
1	9/07- 9/08: Read "Start Here" Advising day. Finish Boot Camp OWL: Intro 1 and Intro 2.	9/09 - 9/10: Lesson 1 - SC01 Ch 1: Matter Meas, Calculate. OWL: 1.2, 1.4 and EOC 1.1	9/11 - 9/12: Lesson 2 - SC02 Ch 1: Matter Meas, Calculate. OWL: 1.6, 1.7 and EOC 1.2
2	9/14 - 9/15: Lesson 3 - SC03 Ch 1: Matter Meas, Calculate OWL: 1.8, 1.9, 1.11 and EOC 1.3	9/16 - 9/17 : Lesson 4 - SC04 Ch 1: Matter Meas, Calculate. OWL: Mastery 1 and Chapter 1	9/18 - 9/19: Lesson 5 - SC05 Ch 2: Atoms and Molecules. OWL: 2.1, 2.2, 2.3 and EOC 2.1
3	9/21 - 9/22: Lesson 6 - SC06 Ch 2: Atoms and Molecules. OWL: 2.4-2.7, EOC 2.2, EOC 2.3	9/23 - 9/24: Lesson 7 - SC07 Ch 2: Atoms and Molecules. OWL: Mastery 2 and Chapter 2	9/25-9/26: EXAM 1 Chapters 1-2 Last Day to Drop, no W- 9/30 OWL: Finish what you have open
4	9/28 - 9/29: Lesson 8 - SC08 Ch 3: Elect. Struct, Periodic Law. OWL: 3.1, 3.2, 3.3 and EOC 3.1	9/30-10/01: Lesson 9 - SC09 Ch 3: Elect. Struct, Periodic Law. OWL: 3.4, 3.5, 3.6 and EOC 3.2	10/02-10/03: Lesson 10 - SC10 Ch 3: Elect. Struct, Periodic Law. OWL: Mastery 3 and Chapter 3
5	10/05 - 10/06: Lesson 11 - SC11 Ch 4: Forces Between Particles. OWL: 4.1, 4.2, 4.3 and EOC 4.1	10/07 - 10/08: Lesson 12 - SC12 Ch 4: Forces Between Particles. OWL: 4.4- 4.6, 4.8 and EOC 4.2	10/09 - 10/10: Lesson 13 - SC13 Ch 4: Forces Between Particles. OWL: 4.9 - 4.11 and EOC 4.3
6	10/12 - 10/13: Lesson 14 - SC14 Ch 4: Forces Between Particles. OWL: Mastery 4	10/14 - 10/15: Lesson 15 - SC15 Ch 4: Forces Between Particles. OWL: Chapter 4	10/16 -10/17: EXAM 2 Chapt 3-4 Last Day to Withdrawal - 10/21 OWL: Finish what you have open
7	10/19 - 10/20: Lesson 16 - SC16 Ch 5: Chemical Reactions. OWL: 5.1, 5.3 - 5.6 and EOC 5.1	10/21 - 10/22: Lesson 17 - SC17 Ch 5: Chemical Reactions. OWL: 5.7-5.11,EOC 5.2,EOC 5.3	10/23 - 10/24: Lesson 18 - SC18 Ch 5: Chemical Reactions. OWL: Mastery 5 and Chapter 5
8	10/26 - 10/27: Lesson 19 - SC19 Ch 6: States of Matter, Solids. OWL:6.1-6.2, 6.6-6.9, EOC 6.1	10/28 - 10/29: Lesson 20 - SC20 Ch 6: States of Matter, Liquids. OWL: 6.12-6.13, and EOC 6.2	10/30 - 10/31: Lesson 21 - SC21 Ch 6: States of Matter, Gases. OWL: 6.15 and EOC 6.3
9	11/02 - 11/03: Lesson 22 - SC22 Ch 6: States of Matter, Gases. Mastery 6 and Chapter 6	11/04 - 11/05: Lesson 23 - SC23 Ch 7: Solutions and Colloids. OWL: 7.1, 7.2, 7.3 and EOC 7.1	11/06 - 11/07: Lesson 24 - SC24 Ch 7: Solutions and Colloids. OWL: 7.4, 7.5 and EOC 7.2
10	11/09 - 11/10: Lesson 25 - SC25 Ch 7: Solutions and Colloids. OWL: 7.6, 7.7, 7.8 and EOC 7.3	11/11 - 11/12: Lesson 26 - SC26 Ch 7: Solutions and Colloids. OWL: Mastery 7 and Chapter 7	11/13 -11/14: EXAM 3 Chapters 5-6-7 OWL: Finish what you have open
11	11/16 - 11/17: Lesson 27 - SC27 Ch 8: React Rates, Equilibrium. OWL: 8.1, 8.2, 8.3, 8.4, EOC 8.1	11/18 - 11/19: Lesson 28 - SC28 Ch 8: React Rates, Equilibrium. OWL: 8.5, 8.6, 8.7, 8.8, EOC 8.2	11/20 - 11/21: Lesson 29 - SC29 Ch 8: React Rates, Equilibrium. OWL: Mastery 8 and Chapter 8
12	11/23 - 11/24: Lesson 30 - SC30 Ch 9: Acids, Bases and Salts. OWL: 9.2, 9.3 and EOC 9.1	11/25 - 11/26: No Lesson - Thanksgiving Day Holiday OWL: Finish what you got.	11/27 - 11/28: No Lesson - Thanksgiving Day Holiday OWL: Finish what you got.
13	11/30 - 12/01: No Lesson - Thanksgiving Day Holiday OWL: Finish what you got.	12/02 - 12/03: Lesson 31 - SC31 Ch 9: Acids, Bases and Salts. OWL: 9.4, 9.5 and EOC 9.2	12/04 - 12/05: Lesson 32 - SC32 Ch 9: Acids, Bases and Salts. OWL: 9.9, 9.11 and EOC 9.3
14	12/07 - 12/08: Lesson 33 - SC33 Ch 9: Acids, Bases and Salts. OWL: 9.12, 9.13 and EOC 4	12/09 - 12/10: Lesson 34 - SC34 Ch 9: Acids, Bases and Salts. OWL: Mastery 9 and Chapter 9	12/11 - 12/12: EXAM 4 Chapters 8-9. OWL: Finish what is left to 700.
15	12/14 - 12/15: No New Lesson You should Review exam 4. OWL: Finish what is left to 700.	12/16 - 12/17: No New Lesson Reading day. OWL: Finish what is left to 700.	Final Exam: On-Line Section 001: Dec 16, 8:00-11:00 Section 002: Dec 16, 3:00-6:00 Section 003: Dec 20, 3:00-6:00