

# Fundamental Chemistry I Fall 2020 Syllabus

## Dr. Amanda L. Jonsson

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**Important Note:** This syllabus, along with course assignments and due dates, are subject to change. It is the student's responsibility to check Canvas for corrections or updates to the syllabus. Any changes will be clearly noted in a course announcement or through email.

### Course Information

#### Instructor Information

**Instructor:** Dr. Amanda Jonsson

**Office:** CBB 400

**Virtual Office Hours:** Monday 9:00 – 10:00 a.m.  
Tuesday 11:00 a.m.– 12:00 p.m.  
Wednesday 4:00 – 5:00 p.m.  
Thursday 1:00 – 2:00 p.m.  
Friday 1:00 – 2:00 p.m.

Zoom links will be provided in Canvas. To meet with me outside of these times, please send me an email.

**E-mail:** [ajonsson@uwsp.edu](mailto:ajonsson@uwsp.edu)

**\*\*\*The best way to contact me is by email.\*\*\***

**Course Description:** Fundamental principles and theories of chemistry including stoichiometry, atomic and molecular structure and bonding, nuclear chemistry, thermodynamics, descriptive chemistry of nonmetals and transition metals, chemical kinetics and equilibria, introduction to organic chemistry.

**Credits:** 5

**Prerequisite:** Concurrent registration in MATH 107 or suitable math placement score. Recommended: High school chemistry or CHEM 101.

**GEP Category:** Natural Sciences

## **Expected Instructor Response Times**

- I will attempt to respond to student emails within 1 business day. I cannot guarantee email response on the weekend or on holidays.
  - \*\*\*If you have a general course question (not confidential or personal in nature), please post it to the Course Q&A Discussion Forum found on the course homepage. I will post answers to all general questions there so that all students can view them. Students are encouraged to answer each other's questions too.
- I will attempt to grade written work within 72 hours, however longer assignments or exams may take longer.

## **Textbook & Course Materials**

**Lecture Text:** Chemistry: Structures and Properties Tro, 2<sup>nd</sup> Edition, Pearson, 2018. This book is available for rental at the University Bookstore. Textbooks can be picked up in person or shipped to your home if you will be not be on campus. Please see the [University Store and Text Rental webpage](#) for more information.

**Lab Manual:** You will need to purchase a LabFlow account through the UWSP Bookstore.

### **Scientific Calculator**

## **Course Learning Outcomes**

By the end of this course students should be able to:

- Explain major concepts, methods, or theories in the natural sciences to investigate the physical world.
- Interpret information, solve problems, and make decisions by applying natural science concepts, methods, and quantitative techniques.
- Describe the relevance of aspects of the natural sciences to their lives and society.

You will meet the outcomes listed above through a combination of the following activities in this course:

- Completing pre-lecture assignments.
- Attending and participating in lecture and discussion.
- Working on suggested homework problems from your textbook.
- Completing laboratory exercises either virtually or in-person.
- Completing regular quizzes and exams.
- Engaging in a semester-long project focused on compounds of your choosing.

## **Lecture Outline/Schedule**

**Important Note:** Refer to the Canvas course home page for pertinent information. Activity and assignment details will be explained in detail within each week's corresponding Module. As tasks come due, they will appear in your "to do" list. If you have any questions, please contact your instructor.

Week	Date	Sections	Topic
1	R 9/3		Course intro/syllabus day
	F 9/4	E2, E5, E7	Measurements and Dimensional Analysis
2	T 9/7		Lab Introduction Day
	R 9/10	E3, E4	Accuracy, Precision, and Sig Figs
	F 9/11	E6	Energy and Coulomb's Law
3	T 9/15	1.1, 1.2	Classifying Matter
	R 9/17	1.3 – 1.9	Structure of the atom
	F 9/18	1.10	Atomic and Molar mass
4	T 9/22	2.2-2.3	Nature of Light
	R 9/24	2.4-2.5	Quantum Mechanics
	F 9/25	2.6	Shapes of Orbitals
5	T 9/29	3.1-3.3	The Periodic Table and Electron Configurations
	R 10/1	3.4-3.5	Electron Configurations, the Periodic Table, and Elemental Properties
	F 10/2	3.6-3.8	Periodic Properties
6	M 10/5	4.2-4.5	Types of Formulas
	W 10/7	4.6-4.8	Names and Formulas
	F 10/9	4.9-4.10	Formula Mass, Moles, and Composition
7	M 10/12	5.2	Polarity and bonds
	W 10/14	5.3-5.5	Lewis Structures and Formal Charges
	F 10/16	5.6	Bond Energies and Bond Length
8	T 10/20	5.7-5.9	VSEPR Theory
	R 10/22	5.10	Molecular Polarity
	F 10/23	6.2-6.3	Valence Bond Theory
9	T 10/27		MIDTERM REVIEW
	R 10/29		MIDTERM EXAM Ch 1 – 6
	F 10/30	7.2-7.3	Chemical Reactions
10	T 11/3	7.4	Stoichiometry
	R 11/5	7.5	Limiting Reactant

	F 11/6	8.2	Molarity
11	T 11/10	8.3	Solution Stoichiometry
	R 11/12	8.4	Types of Solutions and Solubility
	F 11/13	8.5-8.6	Precipitation Reaction and Ionic Equations
12	T 11/17	8.7	Acid-Base Reactions
	R 11/19	8.8-8.9	Gas-Evolution Reactions and Redox
	F 11/20	9.2-9.5	Energy, Heat, and Work
13	T 11/24	9.6-9.9	Calorimetry, Hess's Law and Bond Energies
	R 11/26	NO CLASS THANKSGIVING BREAK	
	F 11/27	NO CLASS THANKSGIVING BREAK	
14	T 12/1	9.10	Enthalpy of Formation
	R 12/3	10.2	Kinetic Molecular Theory
	F 12/4	10.3-10.4	Gas Laws
15	T 12/8	10.5-10.6	Ideal Gas Law
	R 12/10	10.7	Partial Pressure
	F 12/11	10.10	Gases in Stoichiometry

FINAL EXAM: R 12/17 2:45 – 4:45 p.m.

### Student Expectations

In this course you will be expected to complete the following types of tasks.

- communicate via email
- complete basic internet searches
- download and upload documents to Canvas
- read documents online
- view online videos
- participate in online discussions
- complete quizzes/tests online
- upload documents to Canvas to submit an assignment
- participate in synchronous online lectures and discussions

### **Course Structure**

The lecture and discussion portion of this course will be delivered synchronously through Zoom. While you are expected to attend these sessions, recordings will be made available to students, as appropriate, who are ill or cannot otherwise attend. The lab portion of the course will be delivered with both in person and virtual options using a cohort model. During the first week of class you will be assigned to either cohort A or cohort B, which will determine what lab you will be completing that week and whether the lab you will be completing will be done in-person or virtually. Virtual options will be available for all labs for students who are

unwilling or unable to come to campus during their scheduled lab time.

This course will heavily utilize the Canvas course management system. You will use your UWSP account to login to the course from the [Canvas Login Page](#). If you have not activated your UWSP account, please visit the [Manage Your Account](#) page to do so.

## **Technology**

### **Protecting your Data and Privacy**

UW-System approved tools meet security, privacy, and data protection standards. For a list of approved tools, visit this website.

<https://www.wisconsin.edu/dle/external-application-integration-requests/>

Tools not listed on the website linked above may not meet security, privacy, and data protection standards. If you have questions about tools, contact the UWSP IT Service Desk at 715-346-4357.

Here are steps you can take to protect your data and privacy.

- Use different usernames and passwords for each service you use
- Do not use your UWSP username and password for any other services
- Use secure versions of websites whenever possible (HTTPS instead of HTTP)
- Have updated antivirus software installed on your devices

### **Course Technology Requirements**

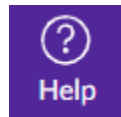
- View this website to see [minimum recommended computer and internet configurations for Canvas](#).
- You will also need access to the following tools to participate in this course.
  - o webcam
  - o microphone
  - o printer
  - o a stable internet connection (don't rely on cellular)

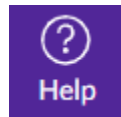
- o cell-phone, tablet, webcam, scanner, or other technology that will allow you to capture images of written work.

## UWSP Technology Support

- Visit with a [Student Technology Tutor](#)
- Seek assistance from the [IT Service Desk](#) (Formerly HELP Desk)
  - o IT Service Desk Phone: 715-346-4357 (HELP)
  - o IT Service Desk Email: [techhelp@uwsp.edu](mailto:techhelp@uwsp.edu)

## Canvas Support



Click on the  button in the global (left) navigation menu and note the

options that appear:

Support Options	Explanations
<a href="#">Ask Your Instructor a Question</a> Submit a question to your instructor	Use <b>Ask Your Instructor a Question</b> sparingly; technical questions are best reserved for Canvas personnel and help as detailed below.
<a href="#">Chat with Canvas Support (Student)</a> Live Chat with Canvas Support 24x7!	<b>Chatting with Canvas Support (Student)</b> will initiate a <i>text chat</i> with Canvas support. Response can be qualified with severity level.
<a href="#">Contact Canvas Support via email</a> Canvas support will email a response	<b>Contacting Canvas Support via email</b> will allow you to explain in detail or even upload a screenshot to show your particular difficulty.
<a href="#">Contact Canvas Support via phone</a> Find the phone number for your institution	Calling the Canvas number will let Canvas know that you're from UWSP; phone option is available 24/7.
<a href="#">Search the Canvas Guides</a> Find answers to common questions	<b>Searching the Canvas guides</b> connects you to documents that are searchable by issue. You may also opt for <b>Canvas video guides</b> .

<p><a href="#">Submit a Feature Idea</a></p> <p>Have an idea to improve Canvas?</p>	<p>If you have an idea for Canvas that might make instructions or navigation easier, feel free to offer your thoughts through this <b>Submit a Feature Idea</b> avenue.</p>
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*All options are available 24/7; however, if you opt to email your instructor, s/he may not be available immediately.*

- Self-train on Canvas through the [Self-enrolling/paced Canvas training course](#)

## **Grading Policies**

### **Graded Course Activities**

Click the **Assignments** link in Canvas to access assignment listing, categories and weights as applicable. Click the **Syllabus** link to see a chronological listing of assignments (right now it's relatively empty, but it will fill in and I add more due dates). Click the **Grades** link to see current grades. Overall assignments and accompanying percentages are listed below:

<b>Description</b>	<b>Percent</b>
Daily Reading Quizzes	5%
Weekly Skill Drills	10%
Exam Review Discussions	10%
Midterm Exam	10%
Final Exam	10%
Semester-Long Project	15%
Bi-Weekly Quizzes	20%
Lab	20%
Total	100%

**Daily Reading Quizzes** - After completing the reading assignment, but before coming to class you will complete a short (5 question) reading quiz in canvas that contains multiple-choice, true/false, matching, and/or fill in the blank questions. These are designed as both a practice activity and a knowledge check, so you can see whether you are understanding the concepts from the reading. You are allowed unlimited attempts on the quizzes and will be given your highest score. I encourage you to complete the quizzes multiple times both so you get additional practice and so you earn full credit. Reading quizzes are due at 11:59 p.m. the night before the lecture.

**Weekly Skill Drills** - Each week you will complete a skill drill testing you on vocabulary and basic skills that you will need to master in order to do well on more challenging tasks. The goal of these quizzes is to help you carry out these tasks quickly and without too much mental effort. Each quiz will be 3 minutes in length and consist of 10 questions; 5 from the current material and 5 from past material. The quizzes will contain multiple-choice, true/false, matching, and/or fill in the blank questions. These quizzes are designed as both a practice activity and a knowledge check, so you can see whether you can do the basic skills before tackling more complex tasks. You are allowed multiple attempts on the quizzes (questions will change between attempts) and will be given your highest score. I encourage you to complete the quizzes multiple times both so you get additional practice and so you earn full credit. Skill drills are due at 11:59 p.m. on Sundays.

**Bi-Weekly Quizzes** - During odd-numbered weeks you will complete a quiz on the course material. These quizzes will contain a variety of question types including short answer questions and worked problems. There will be a time limit on these quizzes and you will only get one attempt, however, the discussion activities and suggested problems will be excellent preparation for these quizzes. Quizzes are due by 11:59 p.m. on Saturdays (odd-weeks only).

**Semester-Long Project** - At the start of the semester you will choose two compounds to research over the course of the semester. During even-numbered weeks you will complete an assignment as part of your semester-long project which will culminate in a formal report on one of your compounds. These assignments will be due by 11:59 p.m. on Saturdays (even-weeks only).

**Exams** - There will be two cumulative exams in this course; one midterm and one final. There will be a time limit for these exams and you will only get one attempt. These exams are designed to evaluate your understanding of the concepts and will be proctored over Zoom.

**Exam Review Discussions** - Before the midterm and final exams you will complete a review activity in groups. The goal of these activities is to help you review the material and prepare for the exams.

**Labs** - Most weeks you will complete a laboratory exercise either in person or virtually. Pre-lab quizzes will be due at 5:00 p.m. on the night **before** your scheduled lab session. Lab reports are due the



following week at the start of lab. Both the pre-lab quizzes and the lab reports will be completed and submitted using a program called LabFlow.

## **Participation**

Students are expected to participate in all synchronous lecture and discussion sessions. In the event that you are unable to attend a lecture sessions recording will be made available. Discussion handouts will be posted for students who cannot attend.

Students who cannot attend lab in person for any reason and for any length of time will be able to complete their labs virtually.

## **Complete Assignments**

**All assignments, quizzes, and exams for this course will be submitted electronically through Canvas. Labs will be submitted electronically through LabFlow.** Assignments must be submitted by the given deadline or special permission must be requested from instructor *before the due date*.

## **Late Work Policy**

Be sure to pay close attention to deadlines—there will be no make-up quizzes, skill drills, or exams. Students may request no more than two extensions on Labs and/or assignments. In both cases extensions must be requested *before the due date*.

## **Viewing Grades in Canvas**

Points you receive for graded activities will be posted to Grades. Click on the Grades link to view your points.

Reading quizzes and skill drills will be auto-graded in Canvas and you will be able to see your scores immediately. You may reattempt these activities as many times as you would like and only your highest score will be recorded. Questions may differ between attempts.

Labs, quizzes, assignments and exams will typically be graded within two business days of being turned in. You will have only one attempt at these activities.

## **Letter Grade Assignment**

Final grades assigned for this course will be determined using a weighted

percent of the graded course activities as noted above. Letter grades will be assigned using the grading scale below:

<b>Letter Grade</b>	<b>Percentage</b>
A	≥93%
A-	≥90%
B+	≥87%
B	≥83%
B-	≥80%
C+	≥77%
C	≥73%
C-	≥70-%
D	≥63%
F	<63%

**\*\*\*YOU MUST EARN A GRADE OF C- OR BETTER TO MOVE ON TO CHEM 106\*\*\***

## **Course Policies**

### **Build Rapport**

If you find that you have any trouble keeping up with assignments or other aspects of the course, make sure you let your instructor know as early as possible. As you will find, building rapport and effective relationships are key to becoming an effective professional. Make sure that you are proactive in informing your instructor when difficulties arise during the semester so that we can help you find a solution.

### **Understand When You May Drop This Course**

It is the student's responsibility to understand when they need to consider unenrolling from a course. Refer to the UWSP [Academic Calendar](#) for dates and deadlines for registration. After this period, a serious and compelling reason is required to drop from the course. Serious and compelling reasons includes: (1) documented and significant change in work hours, leaving student unable to attend class, or (2) documented and severe physical/mental illness/injury to the student or student's family.

### **Incomplete Policy**

Under emergency/special circumstances, students may petition for an incomplete grade. An incomplete will only be assigned if there are extenuating circumstances that will prevent you from completing the course.

All incomplete course assignments must be completed by the end of the following semester or the incomplete will turn into an F.

## **Inform Your Instructor of Any Accommodations Needed**

If you have a documented disability and verification from the Disability and Assistive Technology Center and wish to discuss academic accommodations, please contact your instructor as soon as possible. It is the student's responsibility to provide documentation of disability to Disability Services and meet with a Disability Services counselor to request special accommodation *before* classes start.

The Disability and Assistive Technology Center is located in 609 Albertson Hall and can be contacted by phone at (715) 346-3365 (Voice) (715) 346-3362 (TDD only) or via email at [datctr@uwsp.edu](mailto:datctr@uwsp.edu).

### **Statement of Policy**

UW-Stevens Point will modify academic program requirements as necessary to ensure that they do not discriminate against qualified applicants or students with disabilities. The modifications should not affect the substance of educational programs or compromise academic standards; nor should they intrude upon academic freedom. Examinations or other procedures used for evaluating students' academic achievements may be adapted. The results of such evaluation must demonstrate the student's achievement in the academic activity, rather than describe his/her disability.

*If modifications are required due to a disability, please inform the instructor and contact the Disability and Assistive Technology Center in 609 ALB, or (715) 346-3365.*

## **Commit to Integrity**

As a student in this course (and at this university) you are expected to maintain high degrees of professionalism, commitment to active learning and participation in this class and also integrity in your behavior in and out of the classroom.

## **UWSP Academic Honesty Policy & Procedures**

### **Student Academic Disciplinary Procedures**

UWSP 14.01 Statement of principles

The board of regents, administrators, faculty, academic staff and students of the university of Wisconsin system believe that academic honesty and integrity are fundamental to the mission of higher education and of the university of Wisconsin system. The university has a responsibility to

promote academic honesty and integrity and to develop procedures to deal effectively with instances of academic dishonesty. Students are responsible for the honest completion and representation of their work, for the appropriate citation of sources, and for respect of others' academic endeavors. Students who violate these standards must be confronted and must accept the consequences of their actions.

UWSP 14.03 Academic misconduct subject to disciplinary action.

(1) Academic misconduct is an act in which a student:

- (a) Seeks to claim credit for the work or efforts of another without authorization or citation;
- (b) Uses unauthorized materials or fabricated data in any academic exercise;
- (c) Forges or falsifies academic documents or records;
- (d) Intentionally impedes or damages the academic work of others;
- (e) Engages in conduct aimed at making false representation of a student's academic performance; or
- (f) Assists other students in any of these acts.

(2) Examples of academic misconduct include, but are not limited to: cheating on an examination; collaborating with others in work to be presented, contrary to the stated rules of the course; submitting a paper or assignment as one's own work when a part or all of the paper or assignment is the work of another; submitting a paper or assignment that contains ideas or research of others without appropriately identifying the sources of those ideas; stealing examinations or course materials; submitting, if contrary to the rules of a course, work previously presented in another course; tampering with the laboratory experiment or computer program of another student; knowingly and intentionally assisting another student in any of the above, including assistance in an arrangement whereby any work, classroom performance, examination or other activity is submitted or performed by a person other than the student under whose name the work is submitted or performed.

## **Religious Beliefs**

Relief from any academic requirement due to religious beliefs will be accommodated according to UWS 22.03, with notification within the first three weeks of class.