

**About the instructor:** I earned my BS in chemistry from Valparaiso University in 2000 and my Ph.D. in organic chemistry from the University of Wisconsin-Madison in 2005. I have been teaching chemistry courses at UWSP since the fall of 2006. In addition to teaching, I run an active research program where undergraduate students (like you) get hands-on experience synthesizing and studying organic molecules that have never before existed. (If you are interested in learning about chemical research opportunities, please come see me!)



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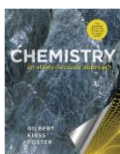
**How to contact me:** When I am not in the classroom or at home, I check my e-mail often. Also, you should feel free to stop by my office to say hello or ask a quick question. If you have lengthy or multiple questions, you can either come to my office hours (11 AM Mon, Wed, Thurs) or set up an appointment via e-mail. An e-mail like "Are you available to help me with Chem 105 stuff tomorrow morning at 10 AM?" is very welcome, and I will always say yes or find another time that works better.

**When to contact me:** If you are going to miss a quiz, exam, or lab session, you should e-mail me or talk to me in person as soon as possible. If you are going to miss a single discussion or lecture session, you do not need to contact me. If there is something (e.g. illness, stress, family obligations, sporting events, etc.) that is causing you to miss multiple things please come and talk to me in person. If you are struggling with Chem 105 or any other aspect of college life feel free to come by my office for help or to blow off steam.

**My schedule:** When I am not in the classroom, I stay very busy guiding students in their chemistry research projects (Chem 299/399), doing research myself, grading assignments, preparing for lectures and discussions, writing letters of recommendation and doing university committee work. During the work day, I will always prioritize helping students with their Chem 105 work over these other tasks. Feel free to request an appointment with me during any of the Chem 299/399 blocks below. If possible, I would like to reserve the blocks immediately preceding lectures and discussions for last minute class preparation.

	Monday	Tuesday	Wednesday	Thursday	Friday
08:00	<i>Chem 105 Lab 1, C-124</i>	<i>Class Preparation</i>	<i>Chem 105 Lab 2, C-124</i>	<i>Class Preparation</i>	<i>Class Preparation</i>
09:00	<i>Chem 105 Lab 1, C-124</i>	<i>Chem 105 Lecture, D-101</i>	<i>Chem 105 Lab 2, C-124</i>	<i>Chem 105 Lecture, D-101</i>	<i>Chem 105 Lecture, D-101</i>
10:00	<i>Chem 105 Lab 1, C-124</i>	<i>Class Preparation</i>	<i>Chem 105 Lab 2, C-124</i>	<i>Chem 299/399 D-117/D-119</i>	<i>Chem 299/399 D-117/D-119</i>
11:00	<i>Office Hour</i>	<i>Chem 105 Disc. 1, A-111</i>	<i>Office Hour</i>	<i>Office Hour</i>	<i>Chem 299/399 D-117/D-119</i>
12:00	<i>Chem 299/399 D-117/D-119</i>	<i>Chem 105 Disc. 2, A-111</i>	<i>Chem 299/399 D-117/D-119</i>	<i>Chem 299/399 D-117/D-119</i>	<i>Chem 299/399 D-117/D-119</i>
13:00	<i>Chem 299/399 D-117/D-119</i>	<i>Class Preparation</i>	<i>Chem 299/399 D-117/D-119</i>	<i>Chem 299/399 D-117/D-119</i>	<i>Chem 299/399 D-117/D-119</i>
14:00	<i>Chem 299/399 D-117/D-119</i>	<i>Chem 105 Disc. 3, A-111</i>	<i>Chem 299/399 D-117/D-119</i>	<i>Chem 299/399 D-117/D-119</i>	<i>Chem 299/399 D-117/D-119</i>
15:00	<i>Chem 299/399 D-117/D-119</i>	<i>Chem 105 Disc. 4, A-111</i>	<i>Chem 299/399 D-117/D-119</i>	<i>Chem 299/399 D-117/D-119</i>	<i>Chem 299/399 D-117/D-119</i>
16:00	<i>Chem 299/399 D-117/D-119</i>	<i>Chem 299/399 D-117/D-119</i>	<i>Chem 299/399 D-117/D-119</i>	<i>Chem 299/399 D-117/D-119</i>	<i>Chem 299/399 D-117/D-119</i>

**About the course: CHEM 105. Fundamental Chemistry.** The properties of everything around us are determined by the atoms, ions and molecules in those things. If you can gain an understanding of the structures, attractions, and energies that drive chemical processes on the atomic and molecular scale, you can understand how things around you work. This is particularly important when considering that all biological functions of humans and other living things are dictated by chemical reactions and interactions and that these can be supported, manipulated or disrupted by other chemicals in our environment. With this in mind, the semester will begin with the structure and properties of different atoms and molecules. Quickly, we will find out about the importance of the shapes and sizes of different molecules. Subsequently, we will discuss how molecules interact with each other to build the materials that we see and touch every day, and how these forces help us understand chemical solutions. After that, we will explore how and why chemical reactions work and the different types of chemical reactions that exist in our world. To finish the semester, we will discuss the energies involved in these natural processes. 5 cr. 3 hrs lec, 3 hrs lab, 1 hr disc per wk.



**Text:** "Chemistry: An Atoms-Focused Approach", by Gilbert, Kirss and Foster. Norton, W. W. 2013. (ISBN-13: 9780393912340). Available from text rental.

**Lab Manual:** Must be purchased in the book store.

<b>Student Responsibilities (Lecture)</b>	<b>Student Responsibilities (Lab)</b>
<p><b>Weekly Quizzes:</b> Weekly quiz problems will be closely related, but not identical, to assigned problems on the Quiz Guides.</p> <p><b>Mid-Term Exam:</b> will cover the material featured in Quiz Guides #1 - #5</p> <p><b>Final Exam:</b> will cover the material featured in Quiz Guides #1 - #10</p> <p><b>Discussion Exercises:</b> There will often be some extra credit associated with discussion exercises. You must participate in discussion to be eligible for those points.</p>	<p><b>Lab Binder:</b> Buy the lab packet at the book store and put it in a binder. You will use this binder throughout the semester including on the lab quizzes.</p> <p><b>Pre-lab Quizzes:</b> Before you begin each experiment, you will review background material and take a D2L quiz. (Due before your lab starts)</p> <p><b>Lab Reports:</b> Every lab session you will turn in a report sheet associated with the activity. Save the graded sheets for you lab quizzes!</p> <p><b>Lab Quizzes:</b> These are "open-binder" quizzes to test your understanding of the lab exercises you have completed to this point. Please put your graded lab sheets in your binder.</p>

**Grading Breakdown and Policies:**

	<b>Item</b>	<b>Points</b>
509 Lecture Points (78% course)	Quizzes (10 x 30 pts each)	300 pts
	Mid-term Exam (covers Quiz Guide #1 - Quiz Guide #5)	80 pts
	Final Exam (covers Quiz Guide #1 – Quiz Guide #10)	129 pts
141 Lab Points (22% course)	On-line pre-lab Quizzes (13 x 3 pts each)	39 pts
	Lab Reports (13 x 4 pts each)	42 pts
	Lab Quizzes (2 x 30 pts each)	60 pts
	<b>Total points</b>	<b>650 points</b>

*Grade cut-offs: 100-90% = A or A-; 89-80% = B+, B, or B-; 79-70% = C+, C, or C-; 69-60% = D+ or D; < 60% = F. Grade cut-offs will not be raised, but may be lowered at the instructor's discretion. Grades below 60% will result in a failing grade. You must earn a minimum of 60% (305/509 pts) of the lecture exam and quiz points to receive a passing grade in the course.*

**Semester Lecture, Discussion, Quiz and Exam Schedule:**

	<i>Tues.</i>	<i>Thurs.</i>	<i>Fri.</i>
Jan. 23 – Jan. 29	Discussion #1		
Jan. 30 – Feb. 3	Discussion #2		<b>Quiz #1</b>
Feb. 6 – Feb. 10	Discussion #3		<b>Quiz #2</b>
Feb. 13 – Feb. 17	Discussion #4		<b>Quiz #3</b>
Feb. 20 – Feb. 24	Discussion #5		<b>Quiz #4</b>
Feb. 27 – Mar. 3	Discussion #6		<b>Quiz #5</b>
Mar. 6 – Mar. 10	Discussion #7		<b>Mid-Term Exam</b>
Mar. 13 – Mar. 17	Discussion #8 <b>Lab Quiz #1</b>		<b>Lecture, but no quiz</b>
Mar. 20 – Mar. 24	<b>Break</b>	<b>Break</b>	<b>Break</b>
Mar. 27 – Mar. 31	Discussion #9		<b>Quiz #6</b>
Apr. 3 – Apr. 7	No Discussion		<b>Lecture, but no quiz</b>
Apr. 10 – Apr. 14	Discussion #10		<b>Quiz #7</b>
Apr. 17 – Apr. 21	Discussion #11		<b>Quiz #8</b>
Apr. 24 – Apr. 28	Discussion #12		<b>Quiz #9</b>
May 1 – May 5	Discussion #13		<b>Quiz #10</b>
May 8 – May 12	Discussion #14 <b>Lab Quiz #2</b>		<b>Final Exam Monday May 15th, D101 8:00 AM-10:00 AM</b>

## Semester Laboratory Schedule

	<i>Mon.</i>	<i>Wed.</i>	<i>Thurs.</i>
Jan. 23 – Jan. 29	<b>Lab Check-in</b>	<b>Lab Check-in</b>	<b>Lab Check-in</b>
Jan. 30 – Feb. 3	Measurement and Significant Figures	Measurement and Significant Figures	Measurement and Significant Figures
Feb. 6 – Feb. 10	Intro to Lab Equip and Techniques	Intro to Lab Equip and Techniques	Intro to Lab Equip and Techniques
Feb. 13 – Feb. 17	Density	Density	Density
Feb. 20 – Feb. 24	Law of Definite Proportions	Law of Definite Proportions	Law of Definite Proportions
Feb. 27 – Mar. 3	Water in a Hydrate	Water in a Hydrate	Water in a Hydrate
Mar. 6 – Mar. 10	Intro to Absorption Spectrophotometry	Intro to Absorption Spectrophotometry	Intro to Absorption Spectrophotometry
Mar. 13 – Mar. 17	Spec. Determination of Iron	Spec. Determination of Iron	Spec. Determination of Iron
Mar. 20 – Mar. 24	<b>Break</b>	<b>Break</b>	<b>Break</b>
Mar. 27 – Mar. 31	Separation of a Mixture	Separation of a Mixture	Separation of a Mixture
Apr. 3 – Apr. 7	Chemical Reactivity	Chemical Reactivity	Chemical Reactivity
Apr. 10 – Apr. 14	Limiting Reactant	Limiting Reactant	Limiting Reactant
Apr. 17 – Apr. 21	Titration of Vinegar (Part I)	Titration of Vinegar (Part I)	Titration of Vinegar (Part I)
Apr. 24 – Apr. 28	Titration of Vinegar (Part II)	Titration of Vinegar (Part II)	Titration of Vinegar (Part II)
May 1 – May 5	Enthalpy by Solution Calorimetry/Calorie Content of Nut	Enthalpy by Solution Calorimetry/Calorie Content of Nut	Enthalpy by Solution Calorimetry/Calorie Content of Nut
May 8 – May 12	<b>Lab Check-out</b>	<b>Lab Check-out</b>	<b>Lab Check-out</b>

**Attendance Policies:**

**Lecture and Discussion** – Absences from lecture or discussion will not result in any direct penalties for students. It is the student's responsibility to collect missed material (e.g. lecture notes, reading assignments, announcements) from students that did attend. Students missing lectures or discussions cannot earn extra credit points that may be offered during those periods.

**Laboratory** – Students are required to attend all laboratory sessions, and will only be allowed one unexcused absence for the semester. Showing up late to lab will be considered an unexcused absence, even if you complete the experiment. Absences *may* be excused at the instructor's discretion. In order for an absence from laboratory to count as excused 1) the student must contact the instructor as soon as they know they will miss the lab period, and 2) the student must complete the missed experiment at another scheduled laboratory time that is approved by the instructor. A student that has more than one unexcused absence for the semester will receive a failing grade in the course (5 credits).

**Due Date and Make-up Policies:**

**Pre-lab "Quizzes"** – There will be a few pre-lab questions that you must answer on D2L before the beginning of your laboratory session. Students who do not complete these before the beginning of *their lab section* will receive zero points.

**Exams and Quizzes** – When an exam or quiz must be missed due to a scheduled event it must be made-up before the scheduled exam/quiz (at a time determined by the instructor), rather than after. Students must provide one week of notice before an exam/quiz absence due to a scheduled event. If an absence is unscheduled, the instructor will decide, first, if the student will be allowed to take the exam/quiz, and, second, where and when the student shall take the make-up exam.

**Ethical and Etiquette Policies:**

**Cheating/Copying** – Students, under no circumstances, shall turn in work that is partially or entirely copied from another source (e.g. a classmate, web site, etc.). Everything you turn in must reflect *your understanding* of that topic. Any copied material, whether words or drawings, will be treated as plagiarism according to [Ch. 14 of the student rights and responsibilities handbook](#), and will result in failing grade in this course.

**Lecture** – The mission in my lecture is to help guide your study and enhance your understanding of chemistry. Student actions in lecture are to be consistent with this mission. Activities that do not fit within this mission, such as texting (or any other phone use), talking to others (about stuff other than chemistry), and reading books/newspapers/websites, are distracting to this mission and will not be tolerated. If a student feels the need to use their phone during class time, they must leave the classroom. Students shall not interrupt the end of lecture by "packing up" before dismissed by the instructor. In the event that lecture goes past the scheduled time, students can begin "packing up" at 9:52 AM to alert the instructor that time is up.

**Laboratory** – The primary purpose of being in the laboratory is to learn chemistry techniques. Unlike lecture, however, a certain level socializing is expected in the laboratory, as long as it does not interfere with student progress. With that in mind, remember that the laboratory is still a classroom. You must be respectful of others using "PG" language at a reasonable level (i.e. the entire class should not be able to hear your conversations with your neighbors). If you wish to communicate with anyone outside of the classroom (e.g. texting, phone conversations, etc.), you must leave the laboratory/classroom area.

**How to succeed in my chemistry course:**

- ✓ Attend every lecture, lab session and discussion.
- ✓ Read all of the suggested text carefully, making a concerted effort to *understand* the material. Work through the sample problems as you go.
- ✓ Do all of the suggested problems in a separate notebook designated for this purpose. Show your work and do not look at the book, your notes, or an answer key until after you are done. After checking your answers, re-read the sections with material that gave you the most trouble. If that does not clear things up, come see me in my office.
- ✓ Minimize distractions while you study. Turn off your phone and put it away while you are reading and doing practice problems.
- ✓ Do not try to memorize your way through this course! Success in chemistry requires you to understand a few major concepts and several exceptions and caveats. You will be tested on your understanding of the material, not your ability to memorize.
- ✓ Commit at least 8 hours by yourself per week to studying/learning chemistry outside of class time.
- ✓ After you spend time studying on your own, you may also want to get together with other people or attend tutoring sessions. Do not go to group or one-on-one tutoring sessions without trying to learn the material on your own first.
- ✓ Stop me in lecture if you don't understand something.
- ✓ Come to my office for help. Bring your suggested problem notebook. If my office hours don't work for you, feel free to schedule an appointment via e-mail.

**Example study schedule.** Establish a routine weekly schedule for studying chemistry. You, of course, will have to organize your schedule around your other responsibilities. An effective study schedule might look something like this:

	Activity	Approximate time
<b>Monday</b>	Carefully read the assigned sections. Re-read as you go if you don't understand. Work through the in-chapter sample problems and begin in-chapter problems.	1-2 hours
<b>Tuesday</b>	Make appointments to clarify fuzzy points if necessary. Try to complete the problems, referencing book and notes as little as possible.	1-2 hours
<b>Wednesday</b>	Grade yourself using solutions in back of book. Get together with classmates or tutors to discuss problems.	1- 2 hours
<b>Thursday</b>	Clear up any final confusion. Re-work as many problems as you can before Friday's quiz, checking your answer as you go.	1-2 hours

**Extra Help:**

The best way to get help with course material is to come to my office for help!

Additional help is offered by the Tutoring-Learning Center (TLC) on campus.

- Schedules for Group Tutoring and Supplemental Instruction can be found here: <http://www.uwsp.edu/tlc/Pages/schedules.aspx>. Times and locations will be listed by Week 2 of the semester.
- The Drop-In Tutoring Center (DUC 205) schedule can be found here: <http://www.uwsp.edu/tlc/Pages/dropInTutoring.aspx>. Note that additional chemistry tutoring hours will be added to this schedule – please check back often to view the most up-to-date schedule!
- One-on-One Tutoring is available by appointment only. Please go to the TLC (ALB 018, library basement) to request tutoring. Appointments are made based upon tutor availability – we cannot guarantee that every student will be matched with a tutor.

Tutoring in Math and Science (TIMS) in the Tutoring-Learning Center (TLC) offers free group and drop-in tutoring to support you in your chemistry classes. In addition, TIMS offers the option for individual chemistry tutoring sessions. The tutors are UWSP students who have done well in their classes and who are here to share their successful study habits and chemistry content knowledge to help others succeed. Discussing chemistry concepts and practicing problems together clarifies and solidifies knowledge, and the tutors are eager to study with you. If you have questions about the schedule or would like to make an appointment, please visit the TLC in room 018 ALB, email ([tlctutor@uwsp.edu](mailto:tlctutor@uwsp.edu)), or call (715) 346-3568 for information.

**Math and Science Tutoring – Spring 2017**

Name	Day	Time	Location	Cost
Drop-In Tutoring Center	Mon. – Thurs.	<a href="#">See TLC Drop-In Schedule</a>	DUC 205	Free
Group Tutoring and Supplemental Instruction	Mon. – Fri.	<a href="#">See TLC Website</a>	<a href="#">See TLC Website</a>	Free
One-on-One Tutoring	Mon. – Fri.	By appointment	Sign up in TLC, 018 ALB Mon. – Fri. 9:00 a.m. - 4:30 p.m.	May have fee
Math Room	Mon. – Thurs.	9:00 a.m. - 4:00 p.m. 7:00 p.m. - 9:00 p.m.	SCI A113A <a href="#">See Math Department Website</a>	Free
Math Pad (Math 90 & Math 100 only)	Mon. – Fri.	<a href="#">See Math Department Website</a>	CCC 302	Free
Physics Room	Mon. – Fri.	<a href="#">See Physics Department Website</a>	SCI A105	Free