

**Dr. Jason S. D'Acchioli**  
**Associate Professor of Chemistry**  
**UW-Stevens Point**

**Office: B-141 Science**  
**e-mail: [jdacchio@uwsp.edu](mailto:jdacchio@uwsp.edu)**  
**<http://chemdac.uwsp.edu>**  
**Campus phone: 715-346-2297 (dial x 2297 on campus)**

**Chemistry 106:**  
**Fundamental Chemistry**

**I. Course Description and Learning Outcomes**

Chemistry 106 is listed in the course bulletin as follows:

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.

Chemistry 106 builds on what you learned in Chemistry 105. We're going to take those tools—stoichiometry, structure and bonding, nomenclature, and periodic properties—and look more at the “whys” of matter's behavior. You'll begin to see how all these topics build from on other. During all this, remember one important thing—don't be afraid to ask questions! I'm here to help you!

Please be aware that I strive to make our learning environment safe and comfortable, regardless of race, ethnicity, gender, sexual orientation, beliefs, socio-economic status, or cognitive ability, you should feel comfortable in this class. If at any point you feel uncomfortable, *please* come see me.

After completing Chemistry 106, you should be able to better...

1. ... use chemical theories to explain physical phenomena.
2. ... develop laboratory skills that will allow you to function safely and productively, both in teams and independently.
3. ... use chemical principles, both simple and abstract, to solve a variety of chemical problems.
4. ... communicate—in a lucid, convincing manner—solutions to scientific problems.

## II. Course Information

### Schedule for Spring Semester, 2017

	Monday	Tuesday	Wednesday	Thursday	Friday
08:00	R, P, G	R, P, G	Off Campus	R, P, G	R, P, G
09:00	R, P, G	Class Prep		Class Prep	Class Prep
10:00	R, P, G	455 Lec 1 A111	R, P, G	455 Lec 1 A111	455 Lec 1 A111
11:00	Class Prep	R, P, G	Class Prep	R, P, G	Class Prep
12:00	106 Lec 2 A121	106 Dis 7 A112	106 Lec 2 A121	R, P, G	106 Lec 2 A121
13:00	Class Prep	106 Dis 6 A112	Meetings	Office Hour	Office Hour
14:00	106 Lab 6 B140	106 Dis 5 A112	Office Hour	R, P, G	Meetings
15:00		Research	Research	Meetings	
16:00				R, P, G	

**R, P, G stands for Research, Projects, Grading.**

### A. Required and Supplemental Materials

1. Course text: Gilbert, Thomas R.; Kirss, Rein V.; Foster, Natalie; *Chemistry: An Atoms-Focused Approach*, First Edition; W.W. Norton & Company, New York, 2014.  
**Available for rental at the Campus Bookstore; Required**
2. SmartWork electronic access: <http://smartwork.wwnorton.com/sw/login/index.php>;  
**Required**
3. *Chem 106 Laboratory Manual (Required)*. **Available for purchase at the Campus Bookstore; Required**
4. *Barbakam Lab Notebook: 100 Carbonless Pages Spiral Bound*. **Available for purchase at the Campus Bookstore; Required**
5. A scientific calculator with logarithmic functions; **Required**. This will be tremendously helpful for homework, in lab, and on exams. Available at the Campus Bookstore, Staples, or other office supply stores. Calculators with keyboards or QWERTY interfaces and iPads/iPods will not be allowed.
6. A 1-in, 3-ring binder (highly recommended; you'll get lots of handouts).

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7. <https://chemdac.uwsp.edu>: This is my personal homepage for Chem 106. I'll post lecture notes (pdf format) for download, and screencasts. I'll also post handouts, presentations from class, and other goodies on this site. You'll also be able to access D2L from my site.
8. <http://www.uwsp.edu/d2l/Pages/default.aspx>: D2L is an electronic resource that will allow you to exchange ideas and information with the class, and will also allow you to keep track of your grades.
9. **Twitter Account, @jdacchio**: Now you can follow me on Twitter! If you don't have a Twitter account, you can register at [www.twitter.com](http://www.twitter.com).
10. **Clickers**: Our class uses "Clickers" to do interactive polling. You are required to lease a clicker for \$8 for the semester. This semester lease fee will be automatically added to your UWSP student bill. You will need your UWSP Student ID to lease a clicker. Clickers are available through UWSP's Help Desk, located in the basement of the LRC, room 027. For hours: <http://www.uwsp.edu/infotech/Pages/HelpDesk/default.aspx>. Please be aware your clicker may be used in any class that requires clickers for the semester. Clickers must be returned to one of these areas before the end of finals. Students with unreturned clickers will receive an additional \$39 billed to their UWSP account.

**B. Attendance, Absence, and Make-up Policies:** Excused absences will be allowed for the following circumstances:

1. UWSP Athletic event (I require written authorization from your coach)
2. Armed forces related training / drills (I require written authorization from a supervising officer)
3. Medical emergency (I require written authorization from a physician)
4. Death in the family (please come speak to me)

*Other situations, e.g. oversleeping, forgetting, etc., are not valid excuses for missing a scheduled lab or exam.*

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**C. Homework:** Homework is the best place to practice problems and get a feel for the types of questions that will appear on the exams. In fact, some of the questions in the homework may appear on the exam! The homework will be from two sources.

1. **W.W. Norton SmartWork system.** This homework will be graded. To sign up for SmartWork, follow these instructions:
  - **Self-Registration.** Create a SmartWork account and self-enroll into your class following the "First Time User" instructions at <http://smartwork.wwnorton.com>  
You will need:
    1. A valid email address
    2. The enrollment key for your course: CHEMAT11575 (case sensitive!).
    3. A registration code from W.W. Norton. This proof-of-purchase allows students to access your course after their free two-week trial period expires.
2. **Practice problems from the textbook.** These problems are listed below, and are found at the end of each chapter in the textbook. These will not be graded or collected, but you should work on them! Like I said earlier, you never know where you might see these problems, or similar ones, again!

***Suggested Practice Problems.***

<b>C10</b>	10.1, 10.3, 10.5, 10.7, 10.13, 10.39, 10.45, 10.51, 10.53, 10.57, 10.59, 10.61, 10.65, 10.69, 10.73, 10.81, 10.83, 10.87 10.89, 10.93, 10.99, 10.105, 10.109
<b>C11</b>	11.1, 11.3, 11.7, 11.9, 11.15, 11.19, 11.21, 11.25, 11.29, 11.31, 11.37, 11.39, 11.41, 11.45, 11.47, 11.51, 11.65, 11.73, 11.75
<b>C12</b>	12.4, 12.5, 12.9, 12.13, 12.15, 12.17, 12.19, 12.23, 12.25, 12.27, 12.31, 12.35, 12.37, 12.39, 12.41, 12.45, 12.49, 12.51, 12.53, 12.55, 12.57, 12.61
<b>C13</b>	13.1, 13.3, 13.5, 13.25, 13.35, 13.39, 13.47, 13.51, 13.61, 13.63, 13.65, 13.69, 13.71, 13.79, 13.87, 13.89, 13.99, 13.103, 13.105, 13.111, 13.113, 13.115
<b>C14</b>	14.1, 14.3, 14.5, 14.15, 14.19, 14.23, 14.25, 14.29, 14.39, 14.43, 14.45, 14.47, 14.53, 14.57, 14.61, 14.63, 14.65, 14.67, 14.71, 14.75, 14.77, 14.81, 14.83, 17.89, 14.91, 14.97, 14.101, 14.103, 14.105, 14.107, 14.111, 14.113, 14.115
<b>C15</b>	15.3, 15.5, 15.9, 15.11, 15.13, 15.15, 15.17, 15.19, 15.21, 15.23, 15.25, 15.29, 15.31, 15.33, 15.35, 15.39, 15.41, 15.43, 15.45, 15.49, 15.51, 15.53, 15.55, 15.57, 15.59, 15.63, 15.65, 15.67, 15.75, 15.77, 15.79, 15.81, 15.83, 15.85, 15.87, 15.89, 15.91, 15.93, 15.95, 15.97, 15.99, 15.101, 15.103, 15.105, 15.109, 15.111, 15.113, 15.115, 15.117, 15.119, 15.121, 15.123, 15.125, 15.127, 15.131
<b>C17</b>	17.3, 17.11, 17.13, 17.15, 17.17, 17.19, 17.25, 17.27, 17.29, 17.35, 17.37, 17.39, 17.41, 17.43, 17.47, 17.49, 17.51, 17.53, 17.55, 17.65, 17.67, 17.71
<b>C?</b>	

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**D. Exams:** Exams will be closed book and given in the evening. Questions will be similar to ones you'll see in the text and in class. What does that mean? Practice, practice, practice! Practicing problems is one of the best ways to prepare for exams. If there's something you don't understand, come see me! The schedule of exams is below.

Exam	Date	Time
1	Tuesday, February 14	6-8PM
2	Tuesday, March 14	6-8PM
3	Tuesday, April 18	6-8PM
Final Exam	Thursday, May 18	8-10AM

**E. Laboratory:** One of the most important (and exciting!) parts of chemistry is the laboratory. Here is where you get a chance to uncover (and discover!) a variety of phenomena. You are required to keep a laboratory notebook, which you will set up each week prior to your scheduled laboratory meeting time. Your laboratory instructor (either Dr. Laura Cole or me) will give a little introduction about that week's lab, as well as safety tips. The schedule is below.

Dates	Activity
1/23 – 1/27	Safety and Check In
1/30 – 2/3	Experiment 1: Synthesis of Aspirin
2/6 – 2/10	Experiment 2: Analysis of Aspirin
2/13 – 2/17	Experiment 3: Molar Mass of a Metal by Gas Evolution
2/20 – 2/24	Experiment 4: Lattice Enthalpy, Hydration Enthalpy, and Heat of Solution
2/27 – 3/3	Experiment 5: Freezing Point Depression
3/6 – 3/10	Experiment 6: Iodine Clock
3/13 – 3/17	Experiment 7: Decomposition of Crystal Violet
3/20 – 3/24	Spring Break!
3/27 – 3/31	Experiment 8: Determination of an Equilibrium Constant
4/3 – 4/7	Experiment 9: Le Chatlier's Principle
4/10 – 4/14	Experiment 10: Thermodynamics of KNO <sub>3</sub> Dissolution
4/17 – 4/21	Experiment 11: Strong vs. Weak Acid Analysis (Week 1)
4/24 – 4/28	Experiment 11: Strong vs. Weak Acid Analysis (Week 2)
5/1 – 5/5	Experiment 12: Buffers
5/8 – 5/12	Experiment 13: Electrochemical Cells AND Check Out

**F. Discussion:** Discussion sections are where you get a chance to work out, with each other, the problems in the course. This is time for you to practice, practice, practice!

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**G. Topics and Assignments.** Our schedule is not set in stone. I may need to move faster or slower depending on how well you understand the material. This is why feedback is good—let me know how you're (and I'm) doing! The quiz due dates

Week	Dates	Description	SmartWork Homework
1	1/23 – 1/27	Chapter 10	Homework 0: Review
2	1/30 – 2/3	Chapter 10/Chapter 11	C10 Homework
3	2/6 – 2/10	Chapter 11	
4	2/13 – 2/17	Chapter 11/Chapter 12	C11 Homework
5	2/20 – 2/24	Chapter 12	
6	2/27 – 3/3	Chapter 12/Chapter 13	C12 Homework
7	3/6 – 3/10	Chapter 13	
8	3/13 – 3/17	Chapter 13/Chapter 14	
9	3/20 – 3/24	Spring Break!	C13 Homework
10	3/27 – 3/31	Chapter 14	
11	4/3 – 4/7	Chapter 14/15	C14 Homework
12	4/10 – 4/14	Chapter 15	C15 Homework 1
13	4/17 – 4/21	Chapter 15/17	C15 Homework 2
14	4/24 – 4/28	Chapter 17	
15	5/1 – 5/5	Chapter 17/Chapter ?	C17 Homework
16	5/8 – 5/12	Chapter ?/Review	C? Homework/Review

#### H. Academic Success Resources

1. **Tutoring-Learning Center (TLC):** The TLC has a number of resources available to help you with Chemistry 106, and all your courses! You can find out more information, including tutoring schedules, at <http://www.uwsp.edu/tlc/Pages/default.aspx>.
2. **Disability Services and Assistive Technology.** There are a number of resources available for students with documented disabilities. A full listing of them can be found at <http://www.uwsp.edu/disability/Pages/default.aspx>. Please be aware that, in order to take advantage of some of the services, you must provide me with an Accommodation Request Form I will sign. You must return the form to Disability Services.

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**I. Grades:** A general breakdown of grading, along with point values, is listed below.

Course Exercise	Course Point Allocations
Three hour exams	300 pts.
10 Online Homeworks	100
13 Lab Reports	130 pts.
Final exam	100 pts.
Total	630 pts.

Total points accumulated will be converted to a percentage of the total points possible. I reserve the right to adjust these cut-off points, but in no case will the cut-off for a particular grade be higher than those listed.

Grades: A, 93 – 100%; A-, 90 – 93%; B+, 87 – 90%; B, 83 – 87%; B-, 80 – 83%; C+, 77 – 80%; C, 73 – 77%; C-, 70 – 73%; D+, 67 – 70%; D, 63 – 67%; F, 63%

***Failing any combination of 3 exams will result in an automatic F for the course!***

While on the subject of grades, be aware of the following drop dates:

<b>February 1</b>	Last day to add or drop a 16-week course without a grade
<b>April 7</b>	Last day to drop a 16 wk course

**J. Academic Misconduct:** Full information on academic misconduct can be found at:  
<http://www.uwsp.edu/dos/Pages/Academic-Misconduct.aspx>.

**K. Etiquette:** It is absolutely essential that you show respect to your peers and your instructor. As such, the following will not be tolerated:

1. **Cell phones / iPhones / other electronic devices.** Please turn them off during class.
2. **Improperly formatted e-mails.** E-mails are not texts or tweets. A properly formatted e-mail should look like a letter, with a subject, salutation, body, and "signature". E-mails are routinely used as a way of *effectively* communicating ideas and information. Poorly written e-mails only serve—at best—to confuse and annoy the reader, and—at worst—embarrass you.

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***Notification of Course Policies and Procedures***

Name (please print): \_\_\_\_\_

I have received a copy of the course syllabus and Dr. D'Acchioli has reviewed the contents with our class. I understand that I can approach Dr. D'Acchioli for further clarification of the policies and procedures in Chemistry 106.

By signing below, I agree to abide by the policies and procedures present in this syllabus.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_