Dr. Jason S. D'Acchioli *Office: B-141 Science*
Associate Professor of Chemistry *e-mail: jdacchio@uwsp.edu*
UW-Stevens Point *http://chemdac.uwsp.edu*
Campus phone: 715-346-2297 (dial × 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.

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II. General Information

Schedule for Fall Semester, 2016

	Monday	Tuesday	Wednesday	Thursday	Friday
08:00	R, P, G	R, P, G	R, P, G	R, P, G	R, P, G
09:00	106 Dis 5 A110	117 Lec 1 A111	R, P, G	117 Lec 1 A111	117 Lec 1 A111
10:00	106 Dis 6 A110	Office Hour	R, P, G	Office Hour	R, P, G
11:00	106 Dis 7 A110	R, P, G	117 Dis 1 A111	R, P, G	117 Lab 1 C128
12:00	R, P, G	R, P, G	R, P, G	R, P, G	117 Lab 1 C128
13:00	R, P, G	R, P, G	R, P, G	R, P, G	117 Lab 1 C128
14:00	106 Lec 2 A121	106 Lec 2 A121	Office Hour	106 Lec 2 A121	Meetings
15:00	R, P, G	R, P, G	R, P, G	Faculty Council	Meetings
16:00	R, P, G	R, P, G	R, P, G	R, P, G	R, P, G

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

A. Electronic Resources

1. 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.

2. http://chemdac.uwsp.edu

This is my personal homepage for Chem 106. I'll post lecture notes (pdf format), audio files of the lecture (mp3 format) for download, and screencasts. The mp3 files can be listened to with either iTunes or Windows Media Player. 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.

3. 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.

B. 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.`

C. Attendance, Absences, and Make-ups

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.

D. Required and Supplementary Materials

1. Course text (Required): Brown, T.L; LeMay Jr., H. E.; Bursten, B. E.; Murphy, C. J.; Woodward, P. M.; Chemistry: The Central Science, 12th ed.; Pearson Education, Inc.: New Jersey, **2012**. *Available at text rental in the Campus Bookstore.*
2. Chem 106 Laboratory Manual (Required). *Available for purchase at the Campus Bookstore*.
3. Chem 106: Objectives and Problems (Required). *Available for purchase at the Campus Bookstore*.
4. A 1-in, 3-ring binder (Required).
5. A scientific calculator with logarithmic functions (Required). This will be tremendously helpful for problem sets, 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. You may use a laptop computer or tablet to take notes if you choose.

D. Exams

Exams will be closed book. The questions asked 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!

E. 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 consist of suggested practice problems from the textbook. These problems are listed below. 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 Problems.

Chapter 11.	1, 3, 5, 7, 11, 15, 17, 19, 21, 23, 25, 27, 29, 33, 37, 39, 43, 45, 49, 53, 55, 57, 59, 61
Chapter 13.	1, 3, 5, 7, 9, 13, 15, 19, 21, 25, 27, 29, 31, 35, 39, 43, 57, 59, 61, 63, 67, 71, 75, 77, 79
Chapter 14.	3, 5, 7, 11, 13, 17, 19, 23, 25, 29, 31, 33, 35, 37, 39, 43, 47, 49, 51, 57, 63, 65, 69, 71, 73, 75
Chapter 15.	1, 3, 5, 11, 15, 17, 19, 21, 25, 27, 31, 33, 35, 37, 39, 47, 51, 53, 61, 71
Chapter 16.	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47, 49, 51, 53, 55, 57, 59, 61, 63, 69, 71, 73, 75, 77, 81, 83, 85, 87, 89, 91, 93, 95
Chapter 17.	1, 3, 5, 7, 13, 15, 19, 21, 23, 25, 29, 31, 33, 35, 37, 39, 43, 47, 49, 51, 55, 57
Chapter 19.	1, 3, 5, 9, 13, 15, 19, 21, 23, 25, 29, 31, 33, 35, 37, 39, 43, 47, 49, 51, 55, 61, 65, 73, 75, 77, 81, 85
Chapter 20.	1, 3, 5, 7, 9, 11, 15, 17, 19, 21, 25, 27, 29, 31, 33, 41, 49, 51, 59, 61, 85, 87

F. Discussion Sections

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!

G. 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 topics. Your lab instructor will give a little introduction about that week's lab, as well as some safety tips. All lab reports will be completed in lab and handed in by the end of the period.

Dates	**Activity**
9/6 – 9/9	Classes Begin – **No Labs**
9/12 – 9/16	Experiment 1: Molecular Models & Check In
9/19 – 9/23	Experiment 2: Intermolecular Forces
9/26 – 9.30	Experiment 3: Freezing Point Depression
10/3 – 10/7	Experiment 4: Thermodynamics of KNO_3
10/10 – 10/14	Experiment 5: Iodine Clock Reaction
10/17 – 10/21	Experiment 6: Decomposition of Crystal Violet
10/24 – 10/28	Experiment 7: Determination of an Equilibrium Constant
10/31 – 11/4	Experiment 8: Le Chatlier's Principle
11/7 – 11/11	Experiment 9: Determination of a Solubility Product Constant
11/14 – 11/18	Experiment 10: Strong vs. Weak Acid Analysis
11/21 – 11/25	Thanksgiving Break – **No Labs**
11/28 – 12/2	Experiment 11: Buffers
12/5 – 12/9	Experiment 12: Electrochemical Cells & Check Out
12/12	Experiment 13: Finals Start – **No Labs**

H. Tentative Schedule of 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!

Week	Dates	Description	D2L Quiz (Point values)
1	9/6-9/9	Chapters 9/11	Quiz 1 (10 points)
2	9/12-9/16	Chapter 11	Quiz 2 (10 points)
3	9/19-9/23	Chapter 13	Quiz 3 (10 points)
4	9/26-9/30	Chapters 13/14	
5	10/3-10/7	Chapter 14	Quiz 4 (10 points)
6	10/10-10/14	Chapter 15	Quiz 5 (10 points)
7	10/17-10/21	Chapter 16	
8	10/24-10/28	Chapters 16/ 17	Quiz 6 (10 points)
9	10/31-11/4	Chapter 17	Quiz 7 (10 points)
10	11/7-11/11	Chapter 19	Quiz 8 (10 points)
11	11/14-11/18	Chapter 19	Quiz 9 (10 points)
12	11/21-11/23	Chapter 20	
13	11/28-12/2	Chapter 20	Quiz 10 (10 points)
14	12/5-12/9	TBA	Quiz 11 (10 points)
15	12/12-12/15	Review	

I. Exam Schedule

Exam	Date	Time
Exam 1	Tuesday, 9/27	6PM – 8PM
Exam 2	Tuesday, 10/18	6PM – 8PM
Exam 3	Tuesday, 11/22	6PM – 8PM
Final Exam	Friday, 12/16	10:15AM-12:15PM

J. Other Important Dates

September 15	Last day to add or drop a 16-week course without a grade
November 11	Last day to drop a 16 wk course

K. Grading

A general breakdown of grading, along with point values, is listed below.

Course Exercise	Course Point Allocations
Three hour exams	300 pts.
11 D2L quizzes	110
12 Lab reports	120 pts.
Final exam	200 pts.
Total	730 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!

L. 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. Poorly written e-mails only serve—at best—to confuse and annoy the reader, and—at worst—embarrass you.

M. Academic Misconduct

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

Academic misconduct is serious—in plain English, don't cheat!

N . Disability Services

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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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: _____