

# Fundamentals of Chemistry II Syllabus

## CH 152, Spring 2012, Dr. Schmidt

Lecture: ST138, Section A MWF 10:00am – 10:50am

Recitation: ST311 T noon-12:50pm or 2-2:50pm ••• Lab: as assigned

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**Purpose:** “A continuation of Chemistry 151. Includes a study of equilibrium, electrochemistry, thermodynamics, thermochemistry, and kinetics. Laboratory work deals with experimental studies on the theories of chemistry, qualitative analysis and independent laboratory projects. Three class periods, one hour of recitation, and one three hour laboratory period per week.” CH 152 is designed to develop the student’s abilities in three areas: 1) fundamental chemical concepts, 2) problem solving techniques, and 3) critical thinking skills.

The following skills will be emphasized to satisfy general education requirements in “The World of Nature” area of knowledge.

- Reason mathematically and understand numerical data – you will be exposed to fundamental mathematical skills both in lecture and laboratory. You will be taught to use numerical data as a means of developing some of the fundamental laws of chemistry. Some direct applications of these skills will involve application and understanding of chemical kinetics, equilibrium, thermodynamics and electrochemistry.
- Process information both in terms of synthesis and analysis – you will develop the skill of evaluating empirical evidence (both mathematical and nonmathematical) in terms of developing models that describe chemical systems. You will learn to assess the validity and non-validity of the information in terms of consistency with theoretical models. Where the information is consistent with the model further refinement of the model will be developed, and when the information is not consistent with the model more sophisticated models are developed which better describe empirical evidence. An example of this progression is in the bonding theories introduced.
- Solve problems using the methods of analysis considering evidence, relevance, and validity. In both lecture and laboratory you will develop the skill of analyzing both numerical and other data to draw conclusions concerning chemical and physical systems. For example, during the laboratory inorganic qualitative analysis sequence you will develop identification strategies for a series of cations and anions. Based on a set of known reactions and observations, you will identify unknowns containing a subset of these cations and anions by interpretation of analogous reactions and observations.

The three skills discussed above will be evaluated 80% through lecture (homework, recitation, quizzes, and examination), and 20% through graded laboratory activities and reports.

**Prerequisite:** CH 151

### Textbook etc.:

- Chemistry: The Molecular Nature of Matter and Change, 6th Ed., by M. S. Silberberg, 2012 (required)*
- At least 2 Dry Erase Markers for Lecture and Recitation (required)
- Scientific calculator with an Equation Solver (required)
- Connect Chemistry*, on-line homework (optional)

**Attendance:** Attendance is required for BOTH lecture and recitation. The instructor must be notified by e-mail and in person at least one week prior to any potentially excused absence. In the very unlikely case of a dire emergency, you must immediately notify your instructor by phone or in person and then request an excuse by e-mail once the situation has passed. In addition, **missed quizzes, homework and exams will receive a zero and will not be made-up.** In the rare case that you have an excused absence, an exam grade based on your Make-up Exam grade or Final Exam grade may be recorded for the missed hourly exam. If a university field trip or athletic event conflicts with an exam time, it is the **student’s** responsibility to make arrangements with the instructor to take the exam early.

Laboratory participation is required for the successful completion of this course. If you are pregnant or become pregnant during this semester you should consult with your physician to decide if it is advisable for you to continue with this chemistry course. You may obtain a list of chemicals used during labs from your instructor.

**Grading:** Final grades will be assigned based on five hourly exams (100 points each), a Make-up Exam (100 points that can replace one hourly exam), a comprehensive final exam (300 points), and on your

laboratory grade (200 points). Unscheduled Pop-Quizzes and Pop-Exams may be given at the discretion of the instructor and included in the grading scheme as the instructor deems appropriate. Grades will be assessed based on a 1,000 point total. As chemistry is an empirical science, your overall grade in the course will not be more than one letter grade higher than your laboratory grade.

**Make-up Exam:** The Make-up Exam will be given on Wednesday, May 2<sup>nd</sup> at 5pm. Special arrangements will be made for **scheduled class conflicts only**. Your grade on the Make-up Exam can replace your lowest hourly exam score. The Make-up Exam is comprehensive.

**Homework: Late homework will not be accepted.** Since the answers to half of the textbook problems are given in the appendix, it is not unreasonable to expect their completion. Graded homework assignments are mainly comprised from the “paired” problems and will be collected at the beginning (10:00 am) of each class. Due dates and a listing of assigned problems are posted on-line on the schedule link of the class website. Credit for homework assignments completed will be given in the form of a homework curve on the pertinent exam:

- an average greater than or equal to exactly 90% will receive the full homework curve (5 points),
- between exactly 80% up to 90% will receive two-fifths of the homework curve (2 points),
- less than exactly 80% will receive no homework curve (0 points).

Un-graded homework assignments can be completed on-line through the “Connect Chemistry” link on the class homepage on my website. You will need to register with “Connect Chemistry” using the access code purchased with your lecture text. Your student ID# is your WIN# (*e.g.* W21234567). The URL for this course is [http://connect.mcgraw-hill.com/class/s\\_schmidt\\_spring\\_2012\\_section\\_a](http://connect.mcgraw-hill.com/class/s_schmidt_spring_2012_section_a).

Conscientious students will complete all of the problems available (graded or not), since the solutions to all of the problems are provided with the online homework.

**Success:** How can you further your success in this course? Read the book, turn in all of the homework, *do all of the chapter problems*, participate in lecture, participate even more in recitation, experience chemistry in the lab, study some more, think about what you’ve studied, *ask questions about what you’ve studied*, take advantage of Supplemental instruction (SI), use the “free” tutors, *get help from Dr. Schmidt...*

Here is what I expect you to do:

1. Quickly read the chapter.
2. Start on some of the chapter homework problems.
3. Re-read the chapter in more detail and start asking a lot of questions (Why, How, Where, When, Why not, etc.). In some cases you may need to make some flashcards.
4. Participate in Lecture.
5. Actively participate in Recitation.
6. Complete the chapter homework problems in the text or on-line. Focus on learning and understanding the chemistry, **not** on memorizing computational algorithms.
7. Re-re-read the chapter; *ask a lot of questions (Why, How, Where, When, Why not, etc.)*. You should be assimilating your ideas by now into your understanding of the Universe.
8. The day before the exam, review the material.
9. Perform at your peak level of expertise on the exam by applying the fundamental Chemical concepts that you have made a part of your understanding of the Universe.

“Chemistry requires rigorous and meticulous habits.”

## UNIVERSITY ADDITIONS – COURSE SYLLABUS

### **Mission of the University:**

Washburn University enriches the lives of students by providing opportunities for them to develop and to realize their intellectual, academic, and professional potential, leading to becoming productive and responsible citizens. We are committed to excellence in teaching, scholarly work, quality academic and professional programs, and high levels of faculty-student interaction. We develop and engage in relationships to enhance educational experiences and our community. *Washburn University Board of Regents, 2010*

### **Definition of a Credit Hour:**

For every credit hour awarded for a course, the student is typically expected to complete approximately one hour of classroom instruction, online interaction with course material, or direct faculty instruction and a minimum of two additional hours of student work each week for approximately 15 weeks for one semester or the equivalent amount of work over a different amount of time.

### **Academic Misconduct Policy:**

All students are expected to conduct themselves appropriately and ethically in their academic work. Inappropriate and unethical behavior includes (but is not limited to) giving or receiving unauthorized aid on examinations or in the preparation of papers or other assignments, or knowingly misrepresenting the source of academic work. Washburn University's Academic Impropriety Policy describes academically unethical behavior in greater detail and explains the actions that may be taken when such behavior occurs. For guidelines regarding protection of copyright, consult [www.washburn.edu/copyright/students](http://www.washburn.edu/copyright/students). For a complete copy of the Academic Impropriety Policy, contact the office of the Vice President for Academic Affairs, Bradbury Thompson Alumni Center Suite 200, or go on-line to: [www.washburn.edu/admin/vpaa/fachdbk/FHsec7.html#VIII](http://www.washburn.edu/admin/vpaa/fachdbk/FHsec7.html#VIII)

### **Disability Services:**

The Student Services Office is responsible for assisting in arranging accommodations and for identifying resources on campus for persons with disabilities. Qualified students with disabilities must register with the office to be eligible for services. The office MUST have appropriate documentation on file in order to provide services. Accommodations may include in-class note takers, test readers and/or scribes, adaptive computer technology, brailled materials. Requests for accommodations should be submitted at least two months before services should begin; however, if you need an accommodation this semester, please contact the Student Services Office immediately.

Location: Student Services, Morgan Hall Room 135 (new location)

Phone: 785-670-1629 or TDD 785-670-1025

E-Mail: [student-services@washburn.edu](mailto:student-services@washburn.edu)

Students may voluntarily identify themselves to the instructor for a referral to the Student Services Office.

### **Office of Academic Advising:**

As a Washburn student, you may experience difficulty with issues such as studying, personal problems, time management, or choice of major, classes, or employment. The Office of Academic Advising is available to help students either directly through academic advising, mentoring, testing and developing learning strategies or by identifying the appropriate University resource. If you feel you need someone with whom to discuss an issue confidentially and free of charge, contact Academic Advising in Morgan 122, 785-670-1942, [advising@washburn.edu](mailto:advising@washburn.edu).

**Withdrawal Policy:**

During fall and spring semesters, students may go online and withdraw from full semester courses through the second week of class with no recorded grade. From the third through the eleventh week a “W” is recorded for any dropped course. After the eleventh week, there are NO withdrawals, and a grade will be assigned for the course. These deadlines will be different for short-term, out-of-sequence, or summer courses. To view the deadline dates for your courses visit the “Last Day” Deadlines web page at:  
<https://www2-prod.washburn.edu/self-service/coursedates.php>

**Attendance/Administrative Withdrawal:**

Although it is the student's responsibility to initiate course withdrawals, an instructor, after due notice to the student, may request withdrawal of the student from a course because of nonattendance through the same date as the last day a student may withdraw from a course. This would NOT absolve the student of financial responsibility for tuition/fees for the course in question. The inclusion of this information in the course syllabus is considered due notice.

**Official E-Mail Address:**

Your Washburn University e-mail address will be the official address used by the University for relaying important messages regarding academic and financial information and the University will consider this your official notification for important information. It may also be used by your instructors to provide specific course information. If you prefer to use an alternate e-mail address to receive official University notices, you can access your MyWashburn e-mail account, choose the "Options" tab, and select "Settings", scroll to the bottom of the screen, click enable forwarding and enter the e-mail address you would like your Washburn emails forwarded to in the “mail forwarding” area. Click add and then click on save changes. This will complete the process of forwarding your Washburn e-mail. It is your responsibility to ensure that your official e-mail box does not exceed your message quota resulting in the inability of e-mail messages to be accepted into your mailbox.

**Success Week:**

Success Week for undergraduate students is designated as the five week days preceding the first day of scheduled final examinations each Fall and Spring semester. Success Week is intended to provide students ample opportunity to prepare for final examinations. For academic programs, the following guidelines apply:

A. Faculty are encouraged to utilize Success Week as a time for review of course material in preparation for the final examination. If an examination is to be given during Success Week, it must not be given in the last three days of Success Week unless approved by the Dean or Department Chair. Assignments worth no more than 10% of the final grade and covering no more than one-fourth of assigned reading material in the course may be given.

B. Major course assignments (extensive research papers, projects, etc.) should be due on or before the Friday prior to Success Week and should be assigned early in the semester. Any modifications to assignments should be made in a timely fashion to give students adequate time to complete the assignments.

C. If major course assignments must be given during Success Week, they should be due in the first three days of Success Week. Exceptions include class presentations by students and semester-long projects such as a project assignment in lieu of a final. Participation and attendance grades are acceptable. The Success Week policy excludes make-up assignments, make-up tests, take-home final exams, and laboratory examinations. It also does not apply to classes meeting one day a week for more than one hour. All University laboratory classes are exempt from this policy.