### General Chemistry (Chemistry 1412) Lecture Syllabus Sam Houston State University – Spring 2018

Intellectual "work" is misnamed; it is a pleasure, a dissipation, and is its own highest reward - Mark Twain Among us, we cover most knowledge; we each know some of what can be known, and together we'll discover the rest. – David Hall

**Course description in terms of learning outcomes:** General Chemistry II, is a 3 credit, 1000 level course, designed to teach students to (1) make predictions about the behavior of molecules in gases, pure liquids, and in solutions; (2) calculate rates of reaction and to explain how the conditions of chemical equilibria are derived from reaction rates; (3) explain concepts of acidity and basicity, buffers, and chemical equilibria; (4) explain concepts of energy in chemical systems; the basic structure of a battery and how to calculate voltages based on concentration; explain concepts related to transition metals and their coordination.

InstructorDavid E. Thompson, 936 294 3270, david.thompson@shsu.eduOffice HoursI'm happy to meet with you. Email, phone or contact me at the end of class to set up an appointment.

Meeting time and Location 1-1:50pm MWF, CFS 121

**Textbook (required)** Chemistry, the Central Science, 14E. by Brown, LeMay, Bursten, Murphy, Woodward; Stolzfus published by Pearson/Prentice Hall

Calculator (required) Texas Instruments model TI-30. This is the only calculator allowed on exams.

### **Online course management – Blackboard**

Blackboard can be accessed at https://blackboard.shsu.edu/webapps/login/. Your network username and password will get you on. You will access your weekly assignments through Blackboard. Your grades will be available on blackboard. You are strongly encouraged to monitor your progress!

**Supplemental Instruction** This course is supported by Supplemental Instruction (SI). SI is a free peer-facilitated academic support program that pairs weekly study sessions with traditionally difficult courses. Attendance is strongly encouraged as past data show SI participants earn up to one full letter grade higher than students who do not attend SI sessions regularly. Jovinna Villarreal is the SI Leader for this course and she can be reached at <u>jlv020@shsu.edu</u>.

### **ATTENTION:**

1) The laboratory portion of this course counts for 20% of the overall grade. In order to make a C or higher in this course, which is a prerequisite for CHEM 2323, you must earn at least a C in both the lecture portion of the course AND in the laboratory portion of the course.

See your laboratory syllabus for details regarding the laboratory portion of the course.

- 2) There will be no make-up exams or quizzes except under extreme situations.
- 3) The syllabus serves as a framework for the course.
- 4) Any student with a disability that affects his/her academic functioning should contact the Services for Students with Disabilities (SSD) in the Lee Drain Annex (telephone 936-294-3512, TDD 936-294-3786, and e-mail <u>disability@shsu.edu</u>) to apply for accommodations. In the event that accommodations are approved by SSD, the student is advised to schedule an appointment with the course instructor in order to present his/her accommodation forms and discuss the arrangements for the accommodations.
- 5) Welcome to the course!

Grading

Problem set based quizzes (8 @ 25 pts)	200 points
Midterm exams (3 @ 135 pts each)	405 points
Final exam	195 points
Laboratory	200 points
Total	1000 points

Obtaining 90% or more of the total available points ensures an A in the course; 80% or more ensures a B, 70% or more ensures a C, and 60% or more ensures a D. I reserve the right to extend the cutoff percentages lower (but I will **NOT** raise them).

- Problem Sets and Assignments: You are expected to (1) read each chapter of the textbook as we cover it in class, and (2) to practice the end-of-chapter problems to build your mastery of the material. Unless an announcement is made to the contrary, there will be an online chemistry assignment due weekly on Monday at 11:55pm. IF YOU FORGET TO complete an assignment, YOU WILL RECEIVE A ZERO on that assignment. If there end up being more than eight assignments, then your overall assignment grade will be based only on your eight highest assignment scores.
- **Examinations:** There will be three mid-term examinations. There will also be a final examination. Exam dates are listed on the schedule. The first hour of the final exam will be a midterm covering the fourth unit in the course. The second hour of the final exam will be cumulative and will include material from the whole semester. Assigned seating may be used during exams.
- Attendance and Make-up policy: You are responsible for all of the material covered in class. Unexcused exam absences will result in a grade of 0. Missed quizzes because of <u>unexcused</u> <u>reasons or absences</u><sup>1</sup> receive a grade of zero and cannot be made up. Attendance will be taken in class. If you do miss a class, arrange to obtain notes from a fellow student.

**Words of Wisdom<sup>2</sup>:** The brain only develops when it is exercised. Building chemical knowledge is similar to building flexibility by stretching, strength by weightlifting, or musical performance skills by practicing. If you want to learn chemistry (and/or to pass this class!) you are strongly encouraged to set up and keep a regular schedule of chemistry "workouts" focused on building understanding: reading, solving problems, listening and asking questions until you can describe the subject in your own words, and answer questions without referring to the textbook. Chemistry is a subject that many people find difficult. Learning chemistry requires a considerable time commitment. This course may occupy as much of your time as two other typical courses. Be prepared to study chemistry **each day**. Don't plan on doing all of your studying on the night before, or even several nights before the exam! **Study regularly.** Chemistry is inherently comprehensive. New topics build on what has gone before. If you fail to keep up, then you will find yourself hopelessly buried and behind. Catch-up is a losing game.

Working problems will have a dramatic effect on your learning. The importance of doing problems cannot be overemphasized! This is the only way to learn the subject. The more problems you solve, the better prepared you will be for the exams. While we are talking about working problems, be sure that you do not misuse the Solutions Manual. The proper way to tackle the problems is to work at them, struggle with them, and **ONLY** after you have arrived at a solution should you refer to the answers. It is too easy and sometimes too tempting to look at the problem, immediately look at the answer, and then try to tell yourself that you understand how to do the problem. This is always a disaster! Work as many problems as it takes to understand the material. If that is more than the suggested problems, there are certainly others in the textbook. If that is less than the suggested problems, then that is fine. The goal is for you to develop real understanding and competence. I encourage you to form small study groups to discuss the end of chapter problems and material for this course, and to take advantage of the supplemental instruction with Jovinna Villareal. Whether you are giving or getting help in your group, you benefit from the interaction.

Embrace the challenge of learning! You can master difficult things.

<sup>&</sup>lt;sup>1</sup> An excused absence is one that you get BEFORE you miss class, unless you are really ill or in an extreme emergency situation, in which case you should notify the class professor as soon as you can, or get a friend or family member to do so. You should be able to provide official written documentation in support of excused absences, and may be requested to do so. For absences due to athletic, religious or other reasons, notify me in <u>advance</u> via email, and provide written verification from your professor, coach, etc.... Based on this material the instructor will decide whether or not to excuse the absence. Any other absence is an unexcused absence.

<sup>&</sup>lt;sup>2</sup> Parts of "Words of Wisdom," "suggested problems," and some other portions of this syllabus have been copied from Professor Rick Norman's syllabi.

Accommodation for students with disabilities: It is the policy of Sam Houston State University that individuals otherwise qualified shall not be excluded, solely by reason of their disability, from participation in any academic program of the university. Further, they shall not be denied the benefits of these programs nor shall they be subjected to discrimination. Students with disabilities that might affect their academic performance should register with the Office of Services for Students with Disabilities located in the Lee Drain Annex (telephone 936-294-3512, TDD 936-294-3786, and e-mail <u>disability@shsu.edu</u>). They should then make arrangements with their individual instructors so that appropriate strategies can be considered and helpful procedures can be developed to ensure that participation and achievement opportunities are not impaired.

SHSU adheres to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations for students with disabilities. If you have a disability that may affect adversely your work in this class, then I encourage you to register with the SHSU Services for Students with Disabilities and to talk with me about how I can best help you. All disclosures of disabilities will be kept strictly confidential. NOTE: No accommodation can be made until you register with the Services for Students with Disabilities.

**Collaboration:** In general I encourage you to work with others. Collaboration will enable you to get much more out of the class than if you work alone. Specifically I would encourage you to work with others to <u>prepare</u> for exams and assignments and lectures. However, your work must be your own. It is a violation of class policy to use somebody else's answers as your own. No collaboration is allowed during exams.

## Policy on cell phones and electronic devices:

Lectures: With the exception of approved calculators, no other electronics (for example cell phones and computers) are allowed during lecture, unless the user has requested and received permission from the instructor to use a specific device. The first violation of this policy will be met with a warning. If there are subsequent violations, the student may be asked to move the back row of the classroom, or to leave; the lecture will pause until this has been accomplished.

Exams: On exams, the visible presence of a cell phone, earbuds or other electronic device (excepting approved calculators and watches) during the exam is not allowed and will be penalized. Exceptions will be granted to individuals who have requested and received permission to use a specific device from the instructor.

The **Sam Houston State University Policies** on (1) Academic Dishonesty, (2) Student Absences on Religious Holy Days, (3) Students with Disabilities, and (4) Classroom Visitors are each designed to strengthen community and learning and are fully applicable in this course. You are encouraged to review a summary of these important policies online at <u>http://www.shsu.edu/syllabus/</u>

# Additional context and details on all of these policies are available on the following web page: http://www.shsu.edu/dept/academic-affairs/aps/aps-students.html