

COURSE INFORMATION SHEET

SOUTH PLAINS COLLEGE, LEVELLAND CAMPUS

DEPARTMENT OF SCIENCE

DIVISION OF ARTS AND SCIENCES

DISCIPLINE: CHEMISTRY

CHEM 1412: GENERAL CHEMISTRY II (4:3:3)

COURSE SECTION: 003

FALL 2019

INSTRUCTOR: DR. BANGSHING WANG

This course satisfies a core curriculum requirement: Yes – Life and Physical Science

Core objectives to be addressed:

Communication – to include effective written, oral and visual communication

Critical Thinking Skills – to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information

Empirical and Quantitative Skills – to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions

Teamwork Skills – to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal.

Prerequisites: A grade “C or better” from CHEM1411 (General Chemistry I)

INSTRUCTOR: Bangshing Wang, Ph.D.
Office: S-109
Telephone: 806-716-2326
E-mail: bwang@southplainscollege.edu

OFFICE HOURS: Office hour information will be on my office door.

TUTORS: Tutors are available, and information can be found in room S121.

COURSE MATERIALS: All are available at the SPC bookstore.

- **TEXT BOOK:** Nivalado J. Tro, Principle of Chemistry: A Molecular Approach, 3rd Edition.
- **LAB MANUAL:** CHEM1412 Lab Manual.
- Safety glasses/goggles.
- Scientific calculator. **Usage of cell phones WILL NOT BE allow on exam!**
- Four maroon colored scantrons. (Required)

Prerequisites: grade of C or better in CHEM1411 (General Chemistry I)

COURSE DESCRIPTION: CHEM1412: General Chemistry II. (4:3:3) Pre-requisites: A grade of C or better in General Chemistry I (CHEM1411). Chemical equilibrium; phase diagrams and spectrometry; acid-base concepts; thermodynamics; kinetics; electrochemistry; nuclear chemistry; an introduction to organic chemistry and descriptive inorganic chemistry. Basic laboratory experiments supporting theoretical principles presented in lecture; introduction of the scientific method, experimental design, chemical instrumentation, data collection and analysis, and preparation of laboratory reports.

COURSE PURPOSE: To provide basic chemical knowledge for persons living in a world of technology that is always changing. To provide understanding of the basic chemical functioning of the human body. To provide the student with a laboratory experience which will enhance their appreciation of the advances of Science and of the role of the clinical laboratory in the hospital.

LECTURE EXAMS: There will be THREE lecture exams; these exams will cover the materials discussed in the lectures, and the schedule of the lecture exams are listed in the course time line along with lecture information. Lecture exams will be in multiple-choice format, with roughly 50 questions. A maroon colored scantron is required for the lecture exam. Only the materials covered/discussed in the lecture will be on the exam and you will have designated class time to finish the exam.

There will be NO make-up exam allowed! If a student miss an exam, the student will receive a grade of ZERO for the exam missed.

- Lecture exam 1 (Chapters 12 and 13) 100 points
- Lecture exam 2 (Chapters 14 and 15) 100 points
- Lecture exam 3 (Chapters 16 and 17) 100 points

The materials scheduled for each lecture exam by subject to change, this change will be announced in advance if necessary.

EXAM PRACTICE/WORKSHEET (EP): There will be FOUR exam practice assignments, which are due on the day of each exam. Sole purpose of exam practice is the help prepare for the exam, it does not count towards the total grade. However, completed EP assignment turned in on the day of the lecture exam will gain additional *FIVE* extra points towards the exam taken on the same day. *No late EP assignments will be accepted.*

LAB EXPERIMENTS/PRACTICES: Lab assignments are turn in at the end of the lab experiment day. Students will complete the lab assignment for grading before leaving the lab. Each lab assignments will be worth 10 points, which will add up to 130 points of the overall grade. The laboratory portion of this class will be comprised of topic discussion, practice worksheets and lab experiments. The lab portion of this course will consist of group work to perform lab experiments. *There will be no make-up labs for the missed lab. Students will receive ZERO for the lab section if missed.*

FINAL EXAM: The final exam will be chapter 18, 19 and Organic. The final exam will count 100 points of overall grade. The final exam will be 50 questions. The format will be multiple-choices. A scantron is required for the final exam. Only the materials covered in the lectures will be on the exam and you will have designated class time to finish the exam. *There will be no make-up for final exams after final exam date.*

NOTE: *At the end of the semester, one of lowest lecture exam grade can be replaced with the final exam grade (granted final exam grade is higher than lecture exam grade it will replace). If final exam grade is the lowest grade among all exams, than no grade will be replaced.*

ATTENDANCE: It is vitally important that you attend all lectures and labs in order to do well in this course. If you reach *SEVEN* absences or miss *FOUR* classes in a role, I will drop you from the course with a grade of X, F, or U. This is in accordance with the policies set forth in the SPC General Catalog. Attendance will usually be taken during the lecture period, and lab attendance will be determined by the lab report submitted at the end of lab experiment. This class information sheet contains the schedule of lectures and labs. If you are unable to finish this course, complete a withdrawal slip at the registrar's office. Absences caused by official South Plains College activities will be excused.

Students are expected to attend all classes in order to be successful in a course. The student may be administratively withdrawn from the course when absences become excessive as defined in the course syllabus. When an unavoidable reason for class absence arises, such as illness, an official trip authorized by the college or an official activity, the instructor may permit the student to make up work missed (not including the lab). It is the student's responsibility to complete work missed within a reasonable period of time as determined by the instructor. Students are officially enrolled in all courses for which they pay tuition and fees at the time of registration. Should a student, for any reason, delay in reporting to a class after official enrollment, absences will be attributed to the student from the first class meeting. Students who enroll in a course but have "Never Attended" by the official census date, as reported by the faculty member, will be administratively dropped by the Office of Admissions and Records. A student who does not meet the attendance requirements of a class as stated in the course syllabus and does not officially withdraw from that course by the official census date of the semester, may be administratively withdrawn from that course and receive a grade of "X" or "F" as determined by the instructor. Instructors are responsible for clearly stating their administrative drop policy in the course syllabus, and it is the student's responsibility to be aware of that policy. It is the student's responsibility to verify administrative drops for excessive absences through MySPC using his or her student online account. If it is determined that a student is awarded financial aid for a class or classes in which the student never attended or participated, the financial aid award will be adjusted in accordance with the classes in which the student did attend/participate and the student will owe any balance resulting from the adjustment.

CLASSROOM CONDUCT: Students are expected to maintain a pleasant learning environment for themselves as well as for their classmates. Therefore, if, in the view of the instructor, a student is disrupting the class, the appropriate disciplinary action may be taken. Failure to comply with lawful direction of a classroom teacher relative to maintaining good order is considered misconduct on the part of the student. Repeated violations of disrupting a class may result in the student being dropped from the course.

ACADEMIC INTEGRITY: Cheating (as defined in the SPC General Catalog) will not be tolerated. If a student is caught cheating on an exam, a grade of zero will be given for that exam and that zero cannot be replaced with final exam.

LAB SAFETY: The chemistry laboratory is a potentially hazardous environment. Therefore, all students must follow all of the safety rules passed out to you during the safety presentation. The students must also follow any specific safety rules listed in the lab manual and any ones that the instructor may announce during a lab period. A student not following the safety rules will be asked to leave the laboratory.

SAFETY RULES: These safety rules will be passed out in during the introduction day. The safety rules must be followed. Failure to do so can result in you being asked to leave the laboratory. You will be required to sign a sheet indicating you have read and agreed to follow the safety rules before being allowed to perform an experiment.

As a faculty member, I am deeply invested in the well-being of each student I teach. I am here to assist you with your work in this course. If you come to me with other non-course-related concerns, I will do my best to help.

It is important for you to know that all faculty members are mandated reporters of any incidents of sexual misconduct. That means that I cannot keep information about sexual misconduct confidential if you share that information with me. Dr. Lynne Cleavinger, the Director of Health & Wellness, can advise you confidentially as can any counselor in the Health & Wellness Center. They can also help you access other resources on campus and in the local community. You can reach Dr. Cleavinger at 716-2563

or lcleavinger@southplainscollege.edu or go by the Health and Wellness Center. You can schedule an appointment with a counselor by calling 716-2529

COURSE SCHEDULE: The following table contains the tentative course schedule. *All material (including lecture material, experiment material, and material scheduled for the lecture exams) is subject to change. In addition, all dates are subject to change. Changes will be announced if necessary.*

Week #	TUESDAY LECTURE	TUESDAY LAB	THURSDAY LECTURE	THURSDAY LAB
Week 1	Introduction	<i>Lab Safety</i>	Chapter 12	<i>No lab</i>
Week 2	Chapter 12	<i>No lab</i>	Chapter 12	<i>Lab WS 1: Solutions</i>
Week 3	Chapter 13	<i>Exp 1: Boiling Point Elevation</i>	Chapter 13	<i>TBD</i>
Week 4	Chapter 13	<i>Lab WS 2: Kinetics of Br₂</i>	Exam 1	
Week 5	Chapter 14	<i>Exam Correction</i>	Chapter 14	<i>Exp 2: Beer's Law</i>
Week 6	Chapter 14	<i>Lab WS 3: Equilibrium</i>	Chapter 15	<i>TBD</i>
Week 7	Chapter 15	<i>Exp 3: Vitamin C Tablets</i>	Chapter 15	<i>Lab WS 4: Acids and Bases</i>
Week 8	Exam 2		Chapter 16	<i>Exam Correction</i>
Week 9	Chapter 16	<i>Exp 5: Deter. K_a</i>	Chapter 16	<i>Lab WS 5: Common Ion & Strong-strong titration</i>
Week 10	Chapter 16	<i>Exp 6: Buffers</i>	Chapter 17	<i>Lab WS 6: Weak-strong titration</i>
Week 11	Chapter 17	<i>Exp 7: Buffer in Lemonade</i>	Chapter 17	<i>TBD</i>
Week 12	Exam 3		Chapter 18	<i>Exam Correction</i>
Week 13	Chapter 18	<i>Exp 8: K_{sp} Determination</i>	Chapter 18 & 19	<i>TBD</i>
Week 14	Chapter 19	<i>TBD</i>	Thanksgiving Holiday	
Week 15	Chapter 19 & 20	<i>TBD</i>	Chapter 20	<i>TBD</i>
Week 16	Final Exam			<i>December 10th (Tuesday) 1:00 pm – 3:00 pm Lecture room (s119)</i>

