

COURSE INFORMATION SHEET

SOUTH PLAINS COLLEGE, LEVELLAND CAMPUS

DEPARTMENT OF SCIENCE

DIVISION OF ARTS AND SCIENCES

DISCIPLINE: CHEMISTRY

CHEM 1411: GENERAL CHEMISTRY I (4:3:3)

COURSE SECTION: ALL

FALL 2017

INSTRUCTOR: BANG SHING 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: MATH 1314 (College Algebra) or equivalent academic preparation; high school chemistry is strongly recommended.

INSTRUCTOR: Bang Wang, Ph.D.
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OFFICE HOURS: Office hour information will be on my office door.

TUTORS: Tutors are available, and information can be found on the door of S121.

COURSE MATERIALS: All are available at the SPC bookstore.

- **TEXT BOOK:** Nivaldo J. Tro, Principle of Chemistry: A Molecular Approach, 3rd Edition. (Required)
- **LAB MANUAL:** CHEM1411 Lab Manual (required)
- Safety glasses/goggles. (Required)
- Scientific calculator. (Required) **Usage of cell phones are not allowed during exam!**
- Five scantrons. (Required)

COURSE DESCRIPTION: CHEM1411: General Chemistry I. (4:3:3) Pre-requisite: MATH 1314 (College Algebra) or equivalent academic preparation; high school chemistry is strongly recommended. Fundamental principles of chemistry for majors in the sciences, health sciences, and engineering; topics include measurements, fundamental properties of matter, states of matter, chemical reactions, chemical stoichiometry, periodicity of elemental properties, atomic structure, chemical bonding, molecular structure, solutions, properties of gases, and an introduction to thermodynamics and descriptive chemistry. Basic laboratory experiments supporting theoretical principles presented in lecture; introduction of the scientific method, experimental design, 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 FOUR lecture exams, these exams will cover the materials discussed in the lectures, and the schedules of the lecture exams are in the course time line along with lecture information. Lecture exams will be in a multiple-choice format, with roughly 50 questions. A scantron is required for the lecture exam. Only the materials covered in the lectures will be on the exams and you will have designated class time to finish the exam. There will be no make-up for lecture exams. *A missed lecture exam will receive a grade of ZERO.*

- Lecture exam 1 (Chapters 1 and 2) 100 points
- Lecture exam 2 (Chapters 3 and 4) 100 points
- Lecture exam 3 (Chapters 5 and 6) 100 points
- Lecture exam 4 (Chapters 7 and 8) 100 points

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

HOMEWORKS: There will be a homework assigned to each chapter, these homework problems will cover the materials discussed in the lectures. Homeworks will be due on the day of each exam. There will be total of ten homework assignments; each homework is worth 5 points. All of the homework will add up to 50 points (8.8%) of the overall grade. Homework not submitted on time will be consider late and will receive a grade of ZERO.

LAB EXPERIMENTS: Lab reports will be collected at the end of the lab experiment day. Students will complete the lab report for grading before leaving the lab. Each lab reports will be worth 8 points, which will add up to 120 points (21.1%) of your final 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.

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 may be asked to leave the laboratory.

FINAL EXAM: The final exam will cover chapter 9 and 10. There will be no make-up exam for the final exam. The final exam will count 100 points. 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.

NOTE: *one of the lowest EXAM grade will be drop at the end of the semester (A grade of zero on final will not be dropped).*

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, 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 grade will NOT be dropped as lowest exam grade at the end of semester.

SAFETY RULES: These safety rules will be passed out in lab. 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 lclevinger@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. Also, all dates are subject to change. Changes will be announced if necessary.*

CHEM1411.001 and CHEM1411.003

WEEK	Monday LECTURE	Monday LAB	Wednesday LECTURE	Wednesday LAB
Aug 8 – Sep 1 Week 1	Introduction and Lab Safety	No Lab	CH1: Matter, Measurement	Exp1: Intro to Lab Equipment
Sep 4 – 8 Week 2	Labor Day Holiday	Labor Day holiday	CH1: Matter, Measurement	Exp2: Measurement
Sep 11 – 15 Week 3	CH1 and CH2	Exp3: Density	CH2: Atoms and Elements	Homework/ Practice
Sep 18 – 22 Week 4	CH2: Atoms and Elements	Exp4: Atoms and Molecules	EXAM 1	EXAM 1
Sep 25 – 29 Week 5	CH3: Molecules, Compounds, Equ	Exp6: Hydrates	CH3: Molecules, Compounds, Equ	Lab WS1: Naming Compounds
Oct 2 – 6 Week 6	CH3 and CH4	Exp5: Determ. Mole Ratio	CH4: Chemical Quantities	Lab WS2: Precipitation RXN
Oct 9 – 13 Week 7	CH4: Chemical Quantities	Exp7: Titration	CH4: Chemical Quantities	Homework/ Practice
Oct 16 – 20 Week 8	EXAM 2	EXAM 2	CH5: Gas	Exp8: Properties of Solution
Oct 23 – 27 Week 9	CH5 and CH6	Exp9: Boyle's law	CH6: Thermochemistry	Exp10: Calorimetry
Oct 30 – Nov 3 Week 10	CH6: Thermochemistry	Exp11: Exo and Endo Reactions	EXAM 3	EXAM 3
Nov 6 – 10 Week 11	CH7: Quantum-Mechanical Mode	Homework/ Practice	CH7: Quantum-Mechanical Mode	Homework/ Practice
Nov 13 – 17 Week 12	CH8: Periodic Properties	Homework/ Practice	CH8: Periodic Properties	Exp12: Atomic Emission
Nov 20 – 24 Week 13	EXAM 4	EXAM 4	Thanksgiving Holiday	Thanksgiving Holiday
Nov 27 – Dec 1 Week 14	CH9; Lewis Structure	Homework/ Practice	CH9; Lewis Structure	Exp13: VSEPR
Dec 4 – 8 Week 15	CH10: Shapes, Valences, etc	Homework/ Practice	CH10: Shapes, Valences, etc	Homework/ Practice
Dec 11 – 14 Week 16	Final Exam 12/11/2017 CHEM1411.001 8:00 – 10:15am	Final Exam 12/11/2017 CHEM1411.003 10:15am – 12:15pm		