Introductory Chemistry – CHEM 1406

Course Syllabus: Spring 2019

Dr. Mary Hearron
Office: UHS Office 162
Phone: 903.434.8296
Email: mhearron@ntcc.edu

"Northeast Texas Community College exists to provide responsible, exemplary learning opportunities."

	Monday	Tuesday	Wednesday	Thursday	Friday	Online
Office		11:15-12:20 PM		11:15-12:20 PM		Bb or Email
	1:30-3:00 PM	1:30-3:00 PM	1:30-3:00 PM	1:30-3:00 PM		

The information contained in this syllabus is subject to change without notice. Students are expected to be aware of any additional course policies presented by the instructor during the course.

Course Description:
Survey course introducing chemistry, designed for allied health students and for students who are not science majors. Topics include inorganic, organic, biochemistry with emphasis on the health sciences. The natural sciences and health sciences divisions of the college strongly recommend that CHEM 1406 Introduction to Chemistry be the first course in the pre-nursing/pre-MLT/sequence and be taken prior to enrolling in BIOL 2401 Anatomy and Physiology I. The topics covered in CHEM 1406 serve as a foundation to the following courses: BIOL 1322; BIOL 2401 and 2402; BIOL 2420. May not be substituted for CHEM 1411.

Three hours of lecture and three hours of lab each week.

Prerequisite: TSI complete

Required Textbooks:
Inclusive Access: We have negotiated with the Publisher to obtain a discounted price for your lecture course materials. Your ebook and Mastering Chemistry Access Code are included with your tuition and will be available through Blackboard on the first class day. The materials are required for your class and essential in your success. If you also determine that you would like a print copy of your text in addition to your exclusive access loose-leaf copies will be available in the College Store at a discounted price. You may opt out of purchasing your materials from the College Store through the Census Date for the course. If you choose to opt out you will be responsible for purchasing your Mastering Chemistry Access Code from another vendor. You will receive a refund for the Inclusive Access if you opt out.

General, Organic, and Biological Chemistry w/ Modified Mastering Frost & Deal; 2nd Edition
ISBN # 0321940288 – Includes Mastering Chemistry license
OR
ISBN # 0321905571 – eText & Mastering Chemistry license

You will still need to purchase a print copy of the lab manual.
Introductory Chemistry Lab Manual: CHEM 1406 NTCC, Hearron

Additional Supplies:
Safety Goggles: Required for participation in all lab activities.
Scientific Calculator: A TI-30Xa is the recommended choice. Programmable calculators, graphing calculators nor cell phone calculators will be allowed during any quiz or exam in the course.

Core Curriculum Purpose and Objectives:

Through the core curriculum, students will gain a foundation of knowledge of human cultures and the physical and natural world; develop principles of personal and social responsibility for living in a diverse world; and advance intellectual and practical skills that are essential for all learning.

Courses in the foundation area of **life and physical sciences** focus on describing, explaining, and predicting natural phenomena using the scientific method. Courses involve the understanding of interactions among natural phenomena and the implications of scientific principles on the physical world and on human experiences.

College Student Learning Outcomes:

Critical Thinking Skills

CT.1

Students will demonstrate the ability to 1) analyze complex issues, 2) synthesize information, and 3) evaluate the logic, validity, and relevance of data.

Communication Skills

CS.1

Students will effectively develop, interpret and express ideas through written communication.

Empirical and Quantitative Skills

EQS.1

Students will manipulate numerical data or observable facts by organizing and converting relevant information into mathematical or empirical form.

EQS.2

Students will analyze numerical data or observable facts by processing information with correct calculations, explicit notations, and appropriate technology.

Team Work

TW2. Students will work with others to support and accomplish a shared goal.

CHEM 1406 Student Learning Outcomes:

Students will:

1. Develop a familiarity with the metric system and demonstrate the ability to carry out conversion problems, including dosage, nutritional, and temperature conversions; and demonstrate an understanding of atomic theory, and be able to use the octet rule and VSEPR theory to predict chemical formulas and structures.
2. Be able to use simple chemical nomenclature, write and balance chemical equations, recognize reaction types and understand the factors that influence reaction rate.
3. Be able to work simple gas law problems; and gain an understanding of concepts associated with solutions such as electrolytes and nonelectrolytes, solubility and equivalents, and acids and bases.
4. Be able to distinguish organic and inorganic compounds, identify functional groups and distinguish and identify isomers.
5. Be able to understand the structure and metabolic activity of carbohydrates, lipids, proteins and nucleic acids.
6. Use basic apparatus and apply experimental methodologies used in the chemistry laboratory.
7. Demonstrate safe and proper handling of laboratory equipment and chemicals.
8. Conduct basic laboratory experiments with proper laboratory techniques.
9. Work in teams of two and demonstrate use of critical thinking and scientific problem-solving skills in the laboratory including the ability to carry out experiments in a safe and efficient manner. Laboratory reports will be used to test the ability of students to work in teams and to interpret and to communicate results effectively in writing.

Lectures & Discussions:

Week 1: Chemistry Basics
Week 2: Chemistry Basics
Week 3: Atoms & Radioactivity
Week 4: Compounds
Week 5: Compounds & Chemical Reactions
Week 6: Chemical Reactions
Week 7: Organic Compounds
Week 8: Organic Compounds
Week 9: Carbohydrates
Week 10: State Changes, Solubility & Lipids
Week 11: Solution Chemistry
Week 12: Solution Chemistry & Acids and Bases
Week 13: Acids & Bases
Week 14: Proteins
Week 15: Proteins
Week 15: DNA
Week 16: Final Exam

Evaluation/Grading Policy:

40% Regular Exams
25% Laboratory
20% Final Exam
10% Assignments*
5% SI Participation
100% Total

* Assignments include anything assigned by me including, but not limited to, quizzes, homework, problem sets, and Mastering Chemistry assignments. This course will be using the Mastering Chemistry online homework system. Details about accessing Mastering Chemistry will be discussed on the first day of class. Assignments and due dates will be listed in the Mastering Chemistry system. Access to a computer with the internet is required for this course.

Grading Scale
A = 100 – 90%
B = 89 – 80%
C = 79 – 70%
D = 69 – 60%
F = <59%

Exams: Four regular exams will be given during the term on the dates found on the posted lecture schedule. There will be no make-up exams for missed exams without authorization before the exam date.

You will need a reliable scientific calculator for exams and quizzes. Programmable calculators, graphing calculators and cell phone calculators are not allowed. Sharing calculators will not be permitted.

All work that is submitted for grading must be **neat and legible**. Any work that is illegible will not be graded.

There will be a **comprehensive Final Exam** given during finals week according to the posted schedule.

Thursday, April 11th is the last day to withdraw from the course with a grade of "**W**". Students who withdraw from the lecture must also withdraw from the lab. If you stop attending class and fail to officially withdraw, expect to earn a grade of "**F**" in the course.

Quizzes and Assignments:
A quiz may be given at the beginning of the class period. Students who are late for class will not be allowed to take a quiz and will be assigned a grade of zero. There is no make-up for missed quizzes. You must be present for the entire class period to receive credit for quizzes and in-class assignments.

Assignments throughout this course may include problems from the text, handouts from class, and/or Mastering Chemistry assignments.

Laboratory Experiments:
There will be 12 experiments performed during the laboratory periods over the course of the term. Any experiments not completed and turned in will receive a grade of zero. A total of 8 experiments must be completed and receive a non-zero grade in order to pass this course. A schedule of experiments will be provided as a separate handout. There is no make-up lab for missed experiments. More detail about the laboratory portion of the course can be found in the laboratory syllabus.

Other Course Requirements:
Purchase of a simple, scientific calculator is required. You must bring a calculator with you to every class period. Use of graphing calculators, programmable calculators, calculators with extensive memories, and cell phone calculators are not allowed on quizzes or exams. Sharing calculators is not permitted. Purchase of a three ring binder for storing handouts, quizzes, and homework is recommended. Approved safety goggles must be purchased for laboratory. These are available in the NTCC bookstore, an online source, or a local medical supply.

Supplemental Instruction:
Supplemental Instruction (SI; aka tutoring) is required for this course. Many hours of FREE SI tutoring are available each week. Beginning on the Monday of Week 2 of the semester (**Monday, January 28**) students in the course are required to attend 90 minutes of SI tutoring each week (except during Spring Break and Finals Week). Students earn points for productive time spent in the tutoring session; and SI tutoring points are worth 5% of the course grade. Points are earned at the rate of 1 point per minute for 90 minutes and 1 point per 3 minutes there-after. A maximum of 150 points may be earned each week, which means a lot of extra credit is available by simply going to the SI tutor sessions. To receive points, students must sign in with the tutor on the sign-in sheet upon arrival and sign out with the tutor when leaving. ***Students that are not both signed in and signed out will not earn any points for that session.*** SI tutors are chemistry majors who have earned A's in CHEM 1411 and continue to attend current lecture sessions. The SI tutoring schedule will be posted to the course blackboard page during the first week of classes.

Student Responsibilities/Expectations:
Like all colleges, Northeast Texas Community College strives to be a "community of scholars." Please remember that you and all of the students in this class are pursuing very important goals in your lives. As human beings and as scholars, I expect every student to be courteous and considerate toward other students throughout the lecture and laboratory portions of this course.

As your instructor, I will attend all classes on time and prepared to teach what you are expected to learn each day. I will make a conscientious effort each class period to teach to the best of my ability and to provide you with clear, well-organized explanations of class material. I care deeply about your learning experience and your success in this course. However, that ultimate success does depend largely on you. Your success can be maximized and your potential achieved by making a commitment to meet the following classroom expectations:

a) Attend ALL classes – physically and mentally. Wherever you are, be all there.
b) Be on time for class. Attitude is not everything but it is very important. Remain in class for the entire instructional period.
c) Be an active learner – participate in class. Be attentive, answer questions, and ask questions. Smile, be interested, and act as if you care.
d) Read ahead. This will help make the next lecture much more effective.
e) A good student acts like a good student, which includes not sleeping in class, not talking in class, and not reading unrelated material or doing other work in class. All cellular phones must be turned off during class time.
f) Realize that I do not GIVE grades. You EARN grades based upon your performance. That performance includes turning all assignments in on time. You shouldn't expect less of me because of my other commitments. I don't expect less of you because of your other commitments.
g) Be respectful of yourself, your classmates, and your instructors.
h) Learning is hard work but it is also invigorating and fun. Work hard and have fun doing so.

NTCC Academic Honesty Statement:
"Students are expected to complete course work in an honest manner, using their intellects and resources designated as allowable by the course instructor. Students are responsible for addressing questions about allowable resources with the course instructor. NTCC upholds the highest standards of academic integrity. This course will follow the NTCC Academic Honesty policy stated in the Student Handbook."

Academic Ethics:
The college expects all students to engage in academic pursuits in a manner that is beyond reproach. Students are expected to maintain complete honesty and integrity in their academic pursuit. Academic dishonesty such as cheating, plagiarism, and collusion is unacceptable and may result in disciplinary action. Refer to the student handbook for more information on this subject.

ADA Statement:
It is the policy of NTCC to provide reasonable accommodations for qualified individuals who are students with disabilities. This College will adhere to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations as required to afford equal educational opportunity. It is the student's responsibility to request accommodations. An appointment can be made with Shannin Garrett, Academic Advisor/Coordinator of Special Populations located in the College Connection. She can be reached at 903-434-8218. For more information and to obtain a copy of the Request for Accommodations, please refer to the NTCC website - Special Populations.

Family Educational Rights and Privacy Act (FERPA):
The Family Educational Rights and Privacy Act (FERPA) is a federal law that protects the privacy of student education records. The law applies to all schools that receive funds under an applicable program of the U.S. Department of Education. FERPA gives parents certain rights with respect to their children's educational records. These rights transfer to the student when he or she attends a school beyond the high school level. Students to whom the rights have transferred are considered "eligible students." In essence, a parent has no legal right to obtain information concerning the child's college records without the written consent of the student. In compliance with FERPA, information classified as "directory information" may be released to the general public without the written consent of the student unless the student makes a request in writing. Directory information is defined as: the student's name, permanent address and/or local address, telephone listing, dates of attendance, most recent previous educational institution attended, other information including major, field of study, degrees, awards received, and participation in officially recognized activities/sports.