

ATLANTA TECHNICAL COLLEGE
ARTS AND SCIENCES
Program of Study: Bioscience Technology
CHEM 1211: Chemistry I
CRN: 40510
Spring 2020

This course syllabus is designed to assure students high academic success. It provides relevant information, outlines the course objectives, performance objectives, varied teaching methods that will be used, evaluation criteria for the course and work ethics, warranty claims, available student support services, expected accomplishments, and specific timelines.

INSTITUTIONAL MISSION:

Atlanta Technical College, a unit of the Technical College System of Georgia, located in the city of Atlanta, is an accredited institution of higher education that provides affordable lifelong learning opportunities, associate degrees, diplomas, technical certificates of credit, customized business and industry training, continuing education and other learning services using state-of-the-art technology. The integration of academics and applied career preparation to enhance student learning is essential in meeting the workforce demands and economic development needs of the people, businesses, and communities of Fulton County.

Course Title:	Chemistry I
Course Code Number:	CHEM 1211
Prerequisites:	MATH 1111 or MATH 1101
Co-requisite:	CHEM 1211L
Contact Hours:	45
Includes:	Class Hours: 1
Semester Credit Hours:	3
Instructor's Name:	S. Gore
Instructor's Email Address:	sgore@atlantatech.edu
Office Hours:	Before or After Class
Course Time:	5:30 PM - 8:30 PM
Days:	Monday
Room Number:	H251

COURSE DESCRIPTION:

Provides an introduction to basic chemical principles and concepts which explain the behavior of matter. Topics include measurement, physical and chemical properties of matter, atomic structure, chemical bonding, nomenclature, chemical reactions, and stoichiometry and gas laws.

Competencies

Order	Description
1	Measurement
2	Physical and Chemical Properties of Matter
3	Atomic Structure
4	Chemical Bonding
5	Nomenclature
6	Chemical Reactions
7	Stoichiometry
8	Gas Laws

REQUIRED TEXTBOOK:

Ebbing and Gammon. (2013). General Chemistry, (10th). Belmont, CA: Brooks/Cole. ISBN: 1285051378 Students must also purchase the online companion with this the textbook (OWL through Cengage).

REQUIRED TOOLS: Scientific calculator

REQUIRED INSURANCE:

Insurance (included in the student activity fee)

METHODS OF TEACHING:

In order to accommodate varied learning styles this course will utilize various teaching methods. Possible methods include lectures, discussions, demonstrations, handouts, objective sheets, information sheets, e-mail, Internet assignments, multimedia presentations, and/or student reports.

ATTENDANCE POLICY:

Because employers demand workers who are competent and reliable, regular attendance and punctuality are critical traits in the workplace. Students are expected to attend all classes as scheduled. Specific attendance requirements are established by each program and outlined in the course syllabus; however, programs governed by state and federal licensing agencies may have more specific attendance policies. Records of absences and tardiness are maintained by each instructor. Excessive absenteeism and tardiness impact work ethics evaluations and course grades. Therefore, it may become necessary to withdraw from a course due to excessive absenteeism or tardiness.

Formal withdrawal from the College or specific courses is the sole responsibility of the student. This can be done via Banner Web or by completing an official withdrawal form located in the Office of the Registrar up to the midpoint of the semester. Failure to withdraw by the mid-semester may result in a failing grade for the course, or an unofficial withdrawal from the course by the instructor for lack of attendance.

Withdrawals can jeopardize the student's current and future financial aid eligibility. Specifically, students must **complete** and **pass 67%** of all classes attempted. Each withdrawal (W) as well as grades of D, F, I, WP, and WF counts against the student's completion rate. Also, if a student withdraws prior to the 60% point of the semester, (s)he could be required to **repay at least a portion of the aid** received for the semester. **Consequently, it is imperative that students maintain their attendance (stay in class) or consistently log on to an online course to avoid jeopardizing eligibility for financial aid and having to repay funds.**

Students who stop attending a class or miss 20 percent or more of class time will be unofficially withdrawn from the course. The student will receive a grade of "W" should this occur prior to mid-semester, and a grade of "WP" (withdrawal passing) or "WF" (withdrawal failing) should this occur after the mid-semester. The grade will be determined based on the student's academic performance up to the time the student ceases to be enrolled. The last date of attendance will be recorded as the last day that the student attended class or participated in an instructor approved academically related activity. Students who take hybrid or on-line courses must log-in with an Angel attendance pin to the courses according to the course syllabus to be counted "present" and receive credit for attendance. It is the responsibility of the student to know what each hybrid or on-line course requires. Absences from class due to financial aid or non-payment do not count toward the 20 percent of allowed class absences for each course. Any student reported as a "no-show" by an instructor will be administratively removed from that class. "No-show" withdrawals can jeopardize current and future financial aid eligibility.

"No-show" Attendance Definition

The definition of a "no-show" is a student who is registered for a class and does not attend the class the first week of the semester. A student will be considered a "no show" if the following occurs:

- Does not attend at least one of the first three classes of any course that meets daily.
- Does not attend at least one of the first two classes that meet twice a week.
- Does not attend the first class of a course that meets once a week.
- Does not submit the attendance PIN for an on-line class during the first week.

In this course, the number of absences that constitutes 20% of missed class is 3 days _____. Required military service, jury duty and school sponsored field trips are an exception to the 20% attendance rule with original documentation. If a student is up to 15 minutes late three times this will equal one absence. When a student hits the 10% or 20% absenteeism mark you will receive an email from the instructor indicating you are in danger of being dropped from the course or have been dropped from the course. You will also be removed from Angel, Blackboard or any other electronic learning management system.

Recording Attendance

All 100% online classes will take attendance using an Angel pin number.

All face to face classes will use a mandatory sign in sheet for daily recording purposes. It is the students' responsibility to sign this sheet.

Addendum: More than one absences or more than three tardies (up to 15 minutes) will forfeit any make-up attempts for quizzes and tests.

EVALUATION METHODOLOGY:

Student mastery of course competencies will be evaluated based on homework materials, assigned lessons and exercises, quizzes and examinations, as well as mid-semester and final exams.

Grading System: Students will be graded using the following system in accordance with Atlanta Technical College and academic program policies and procedures.

Grade Numerical Equivalent

A	90% - 100%	B	80% - 89%
C	70% - 79%		
D	60% - 69%		
F	0% - 59%		

ALL ASSIGNMENTS, EXAMS, PROJECTS, QUIZZES, ETC. MUST BE COMPLETED BY THE DUE DATE GIVEN. ALL ASSIGNMENTS, EXAMS, PROJECTS, QUIZZES, ETC. WILL BE RETURNED/GRADED WITHIN 10 BUSINESS DAYS.

You need to purchase OWL. Some homework, quizzes, and test will be given through OWL. Not purchasing OWL and not completing the OWL assignments by the due date will affect your grade. I will not reopen any past due OWL assignments. Your Final Exam will be comprehensive and will be in class.

Computation of Grades	Percent of Grade
Homework/Classwork	25%
Quizzes	15%
Exams	35%
<u>Final Exam</u>	<u>25%</u>
Total	100%

NOTE: Consistent with state requirements, Atlanta Technical College requires a **minimum** of **C** for progressing from specified courses to more advanced courses. Additionally, Atlanta Technical College requires an **average of 70%** or a **grade of C** for students to receive credit for a course. (See Student Handbook).

Other grades allowed by Atlanta Technical College include:

EX	Exempted by Examination	Not Computed
W	Withdrew	Not Computed (Only given before mid-semester).
WP	Withdrew Passing	Not Computed (Given after mid-semester).
WF	Withdrew Failing	Computed
TR	Transfer Credit	Not Computed
AU	Audited	Not Computed
S	Satisfactory	Not Computed
U	Unsatisfactory	Not Computed
I	Incomplete*	Not Computed

*Course requirements for removal of an incomplete must be satisfactorily completed prior to the following semester's mid-semester date.

WORK ETHICS:

The work ethics program is designed to evaluate and encourage good work habits to ensure job retention and career advancement. Employability skills refer to the basic academic, interpersonal, reasoning, problem solving skills, and work ethics that, when transferred to the occupational settings, facilitate job acquisition, retention, and advancement.

Job retention and advancement competency areas consist of desirable job performance skills and attitudes that directly influence the employee's ability to maintain employment or advance. Included within this definition are such behaviors as:

- Arriving for classes or meetings on time;
- Completing work satisfactorily and on time;
- Responding positively to supervision;
- Following directions correctly;
- Adhering to policies and regulations;
- Using tools and resources properly; ○ Observing safety provisions; and ○ Working effectively as part of a team.

Considering the above, the work ethics program will focus on the following characteristics in accordance with the Georgia Department of Technical and Adult Education work ethics guide:

- | | |
|---------------|--------------------------|
| 1. ATTENDANCE | 6. PRODUCTIVITY |
| 2. CHARACTER | 7. ORGANIZATIONAL SKILLS |
| 3. TEAMWORK | 8. COMMUNICATION |
| 4. APPEARANCE | 9. COOPERATION |
| 5. ATTITUDE | 10. RESPECT |

A **work ethics** grade will be given each quarter for credit courses. The “work ethics” grade(s) will be printed on transcripts and grade reports.

Every student’s work ethics evaluation is assumed to be “meets expectations” at the beginning of each quarter. The evaluation is based on the principle of daily grading by exception. This means that instructors are required to record a grade only for those students who display poor work ethics or those who display exceptionally good work ethics on a given day. An exception form is processed for these students.

The grades assigned for work ethics are:
 exceeds expectations = 3
 meets expectations = 2 needs improvement = 1
 unacceptable = 0

COURSE OUTLINE WITH TIME LINES

Measurement

Date	Chapter	Description
1/6		Use basic metric measurement prefixes and factor multipliers to convert units within the metric system. Describe justifications for S.I. convention.
1/13		Apply the conventions of exponential notation and significant figures to mathematical operations.
1/13		Convert between the Fahrenheit, Celsius and Kelvin temperature scales.
1/13		Perform calculations involving density, specific gravity, mass, and volume measurements.
1/27		Use dimensional analysis (unit-factor analysis) in calculations involving conversions from one set of units to another.
		Test 1 (Measurements)

Physical and Chemical Properties of Matter

Date	Chapter	Description
1/27		Describe and distinguish the general properties of gases, liquids, and solids.
1/27		Explain changes of state (phase changes) in matter and relate to heat.
1/27		Define physical and chemical changes of matter.
2/3		Describe pure substances and mixtures. Introduce mixture separation strategies.
2/3		Classify an element as a metal, non-metal or metalloid and relate this to its position on the periodic table.
2/3		Identify diatomic elements.
2/3		Determine the relative electron negativity, atomic radius and other characteristics of an atom by its position on the periodic chart (Periodic Trends).

Atomic Structure

Date	Chapter	Description
2/10		Describe Dalton's model, Bohr's model and the modern quantum mechanical theory of atomic structure (The History of the Atom).
2/10		Describe the electron configuration of any element and how its electron configuration relates to its properties and its position on the periodic table
2/17		Relate the electronic configuration of an element to its position on the periodic table
2/17		Describe the electronic configuration of any element on the periodic table and how it relates to an element's properties.
		Test 2 (Physical and Chemical Properties or Matter)

Chemical Bonding

Date	Chapter	Description
2/24		Describe and identify ionic and covalent bonding
2/24		Draw Lewis dot structures for molecules
3/2		Assign electronic geometry and molecular geometry from Lewis dot structure of a molecule
3/2		Van der Waals forces (Intermolecular Forces).

Nomenclature

Date	Chapter	Description
3/9		Name inorganic compounds by the IUPAC system based on their formulas.
3/9		Write formulas of common inorganic compounds based on their IUPAC names.
3/16		Determine if a compound is an acid, base, salt, or covalent compound.

Chemical Reactions

Date	Chapter	Description
3/16		Classify chemical reactions as to type of reaction. Write examples of each type of chemical reaction.
3/23		Write and balance chemical equations.
3/23		Predict reactions in aqueous solutions: acids, bases, salts.
		Test 3 (Chemical Bonding, Nomenclature and Chemical Reactions)

Stoichiometry

Date	Chapter	Description
3/30		Convert between mass, moles, and number of atoms using formula, formula weight, and Avogadro's number.
3/30		Calculate molar mass and percent composition of compounds.
3/30		Perform calculations involving composition stoichiometry and reaction stoichiometry.
4/13		Calculate empirical formulae and molecular formulae of compounds.

Gas Laws

Date	Chapter	Description
4/20		Summarize the general properties of gases and relate them to the kinetic molecular theory of gases
4/20		Describe factors that affect the pressure, volume, and temperature of a gas
4/20		Solve problems associated with gas laws including: Boyle's Law, Charles's Law, Gay-Lussac's Law, Combined Gas Law, Dalton's Law of Partial Pressures, and Ideal Gas Law.
		Test 4 (Stoichiometry and Gas Laws)
4/27		In Class Final (Comprehensive)

Please note that schedule is subject to change and your professor will notify you via email, so please check your email before class.

LEARNING RESOURCES:

The student is expected and encouraged to use the school library which is located on the main campus in building G. The library has media equipment for faculty and staff use for instructional purposes. There are over 130 computers, a multimedia room equipped with audio and audiovisual resources, and printing, copying, faxing, and scanning services. Seating is available throughout the library along with study carrels, six study rooms for reserve, one conference room and a Digital Classroom used for class instruction. Atlanta Technical College's library operating hours are Monday-Thursday, 7:30 a.m. - 8:00 p.m.; Friday, 7:30 a.m. – 4:00 p.m. Students may use the library located at Atlanta Metropolitan State College, or any other library within their access, to gather further information about the topic under discussion in class, or about any topic of interest to the student. If a particular resource cannot be obtained at the ATC Library, a student may use the Interlibrary Loan (ILL) service to locate the item(s). This service borrows books, articles and other resources from other libraries within the region. The ILL form may be accessed via the webpage under the Library's home page. Students are also expected and encouraged to use available Internet resources, as well as relevant periodicals, books, and electronic resources. Most course textbooks may be checked out for a two-hour, in-house library use only.

REMEDICATION/TUTORIAL SUPPORT:

Remediation/tutorial support is available by each instructor during designated office hours. Remediation/tutorial support may be teacher or student initiated depending on the student's progress. Several programs of study offer services through peer counselors and mentors. Atlanta Technical College also offers math, English, reading, and study skills tutorials through the Learning Support Center. Located in room 2118, the Learning Support Center provides an open study area, face-to-face tutorial, Internet access, and various tutorial computer software. Students may also find out how to access our 24/7 online tutorial programs by visiting the Learning Support Center. The Learning Support Center's operating hours are Monday-Thursday, 7:30 a.m. - 8:00 p.m.; Friday, 7:30a a.m. – 4:00 p.m.; Saturday, 9:00 a.m. – 1:00 p.m.

FINANCIAL AID:

Various forms of financial aid are available. Students whose last name begins with A-J should call 404. 225.4720, and students whose last name is K-Z should call 404.225.4717.

The Financial Aid office is located in the Dennard Building, Room 125, and the phone number is 404.225.4716.

NONDISCRIMINATION POLICY

As set forth in its student catalog, Atlanta Technical College does not discriminate on the basis of race, color, national or ethnic origin, gender, religion, disability, age, political affiliation or belief, veteran status, or citizenship status (except in those special circumstances permitted or mandated by law). For further information regarding these laws (Title VI and IX) contact Sylvie Moses, equity/special needs coordinator, Atlanta Technical College, Cleveland Dennard Center, Suite B164, 404.225.4434. Email: smoses@atlantatech.edu. To request reasonable accommodations upon enrollment (Section

504/ADA), contact Sylvie Moses, career planner/special needs, Student Affairs Division, Cleveland Dennard Building, Suite B164, 404.225.4434. Email: smoses@atlantatech.edu. Atlanta Technical College, 1560 Metropolitan Parkway, SW, Atlanta, GA 30310.

WARRANTY OF DEGREE, DIPLOMA, AND TECHNICAL CERTIFICATE OF CREDIT GRADUATES:

Curriculum standards have been developed with direct involvement of business and industry. These standards serve as the industry-validated specifications for each occupational program. The TCSG guarantee to every one of our students is this:

If one of our graduates educated under a standard program or his/her employer finds that the graduate is deficient in one or more competencies as defined in the standards, the technical college will retrain the employee at no instructional cost to the employee or the employer.

This guarantee is in effect for a period of two years after graduation.

***Atlanta Technical College is accredited by the Southern Association of Colleges and Schools (SACS).**