CHEM 1151 – Survey of Inorganic Chemistry
COURSE SYLLABUS
Online
Fall Semester 2017

COURSE INFORMATION

Credit Hours/Minutes: 3/2250
Class Location: GVTC/Blackboard
Class Meets: Via Internet for 15 weeks
CRN: 20003
Preferred Method of Contact: email

INSTRUCTOR CONTACT INFORMATION

Instructor Name: Dr. John Schwind
Office Location: no office on campus
Office Hours: By Appointment
Email Address: jschwind@southesterntech.edu
Phone:
Fax Number: 912-538-2256
Tutoring Hours (if applicable):

REQUIRED TEXT

Mastering Chemistry with Pearson eText – Instant Access – for General, Organic, and Biological Chemistry: Structures of Life, 5th Edition, Timberlake 2016; Electronic Package: ISBN-13: 9780133899313

REQUIRED SUPPLIES & SOFTWARE

Note: Although students can use their smart phones and tablets to access their online course(s), exams, discussions, assignments, and other graded activities should be performed on a personal computer. Neither Blackboard nor GVTC provide technical support for issues relating to the use of a smart phone or tablet so students are advised to not rely on these devices to take an online course.

COURSE DESCRIPTION

Provides an introduction to basic chemical principles and concepts which explain the behavior of matter. Topics include measurements and units, structure of matter, chemical bonding, chemical reactions, gas laws, liquid mixtures, acids and bases, salts and buffers, and nuclear chemistry.

MAJOR COURSE COMPETENCIES:

1) Measurements and Units: 2) Structure of Matter; 3) Chemical Bonding: 4) Chemical reactions; 5)Gas Laws; 6) Liquid Mixtures; 7) Acids and Bases; 8) Salts and Buffers; 9) Nuclear Chemistry

PREREQUISITE(S)

MATH 1101 – Mathematical Modeling or MATH 1111 – College Algebra

CO-REQUISITES

Survey of Inorganic Chemistry Lab

COURSE OUTLINE

1. Measurement and Units
2. Structure of Matter
3. Chemical Bonding
4. Chemical Reactions
5. Gas Laws
6. Liquid Mixtures
7. Acids and Bases
8. Salts and Buffers
9. Nuclear Chemistry

GENERAL EDUCATION CORE COMPETENCIES

STC has identified the following general education core competencies that graduates will attain:

1. The ability to utilize standard written English.
2. The ability to solve practical mathematical problems.
3. The ability to read, analyze, and interpret information.

STUDENT REQUIREMENTS (ONLINE)

Homework

Homework assignments are to be completed on the Mastering Chemistry website. When first generating a logon ID for Mastering Chemistry, use your legal name as it appears on the course roster. Students are expected to complete all homework assignments by their respective due dates. All homework assignments are available at the start of the semester, so students have the ability to advance through the topics once the current one is mastered. Because of this availability, there is no excuse for any late assignments, thus all homework assignments will be graded as is by their respective due date. Students may still access the assignments for review and practice following the due date, but no further credit will be awarded. The course ID is CHEM1151STCFALL2017.

Discussion Boards

Discussion boards can be found on the Blackboard course site under the Course Tools toolbar and is named "Discussion". Students are required to answer all five discussion questions, with a 100 word minimum response, by the specified due date found below in the lesson plans. Part of the response will include a question from the specified chapter(s). Students will also be required to reply/answer two other students' discussion board posts for each of the five discussion board topics (a total of ten replies for the semester). Each reply must be at least 50 words. The discussion board participation will be included into the Homework/Discussion Board category of your course grade. *80* percent of each discussion board grade is based on your Discussion Board post. The other *20* percent of the DB grade is based upon each of the two replies. Below you will find the Rubrics that will be used to grade the Discussion board posts and replies**.**

Discussion Board Post Rubric

Criteria	Outstanding	Proficient	Basic	Below Expectations	No Credit
Critical Thinking Weight 20.00%	100 % (20 points) Discussion is rich in content. Generates thought provoking questions. Shows signs of insight and analysis of the subject.	75 % (15 points) Discussion is Substantial in content. Shows some insight and analysis has taken place	50 % (10 points) Discussion is generally competent. Information may be thin and commonplace, or one or more of the required postings are missing limiting the student's ability to meet the criteria.	25 % (5 points) Discussion is rudimentary and superficial, no analysis or insight is displayed, or two or more of the required postings are missing limiting the student's ability to meet the criteria.	0 % Did not complete any of the requirements.
Connections Weight 20.00%	**100 % (20 points) Clear connections to previous or current life situations.**	**75 % (15 points) Connections are somewhat evident. Some connections with real life situations but not very clear or obvious.**	**50 % (10 points) Limited connections. Vague generalities.**	**25 % (5 points) No connections. Off topic.**	**0 % Did not complete any of the requirements.**
Uniqueness Weight 20.00%	**100 % (20 points) New Ideas. New connections. Discussions are made with depth and detail.**	**75 % (15 points) Contains new ideas, but discussions lacks depth or detail.**	**50 % (10 points) Few or no new ideas. Discussions rehash or\ summarize other postings.**	**25 % (5 points) No new ideas. "I agree with..." and "I like that concept..." types of statements given.**	**0 % Did not complete any of the requirements.**
Timeliness Weight 20.00%	100 % (20 points) All required postings are completed in advance of the deadline ensuring others have time to respond.	**75 % (15 points) All required postings are completed by the deadline. Some posts or replies are not completed in time for others to read and respond.**	**50 % (10 points) All or some of the required posts/replies are completed at the last minute without allowing time for others to respond.**	**25 % (5 points) Some of the required postings are missing which limits the ability to meet the criteria.**	**0 % Did not complete any of the requirements.**

Stylistics **Weight 20.00%**	**100 %** **(20 points) 1 or 2 grammatical or stylistic errors.**	**75 %** **(15 points) 3-5 grammatical or stylistic errors.**	**50 %** **(10 points) 5 or more obvious grammatical errors. Errors interfere with discussion content.**	**25 %** **(5 points) Obvious grammatical errors that make understanding impossible.**	**0 %** **Did not complete any of the requirements.**

Discussion Board Reply Rubric

Criteria	Mastery	Proficient	Average	Novice	Did Not Complete
Reply #1 **Weight 50.00%**	100 % Helpful reply with correct information, proper grammar and met word count minimum.	**75 %** **Reply contains correct information, but either did not (1) use proper grammar or (2) did not meet word count minimum.**	**50 %** **Reply contains correct information, but did not (1) use proper grammar and (2) did not meet word count minimum.**	25 % Reply does not contain correct information	**0 %** **No reply**
Reply #2 **Weight 50.00%**	100 % Helpful reply with correct information, proper grammar and met word count minimum.	**75 %** **Reply contains correct information, but either did not (1) use proper grammar or (2) did not meet word count minimum.**	**50 %** **Reply contains correct information, but did not (1) use proper grammar and (2) did not meet word count minimum.**	25 % Reply does not contain correct information	**0 %** **No reply**

Modules

In addition to the homework on Mastering Chemistry, you will be assigned extra study modules. These modules are purely for practice and are not required. These modules are assigned for your benefit, as they coach you along many topics and problems covered in the course and are similar to many homework and quiz questions. To stimulate participation of the modules, 10% of your module average will be added to homework average, thus these modules can only help you (both in your grade and in your comprehension of the material). Points will not be deducted by not completing the modules.

Quizzes

Quizzes will be assigned and due the same day as the accompanied homework assignment per the schedule on the syllabus (below). Quizzes will be accessed through the Blackboard course site. Each quiz will be timed. When the timer has expired, you will be forced to close the quiz and the quiz will be graded. It is important to

be attentive to the timer to ensure the completion of the quiz and answering of every question. Quizzes are to be completed individually and any suspected cheating will be investigated for further discipline. Practice quizzes are posted on the Blackboard course page. The practice quizzes are to act as a guide to the expectations to their respective chapter. To be prepared for quiz, students should have completed the reading assignment, watched the Power Point lectures and completed the homework assignment for the respective chapter(s). To prepare one's self further; students should complete the modules, watch the extra resource videos and complete the practice quiz for the respective chapter(s).

Midterm Exam
The midterm will be October 2nd and will be available on the Blackboard course site. You will have 3 hours to complete the exam. After the 3 hours, you will be forced to close the exam and the exam will be graded. There will be a practice exam to guide you in the expectations of the material. You are expected to complete the exam individually. Any suspected cheating will be investigated and subjected to further discipline.

Final Exam (Proctored)
The final exam will be the proctored exam, held on the Vidalia and Swainsboro Campus on Wednesday, Dec. 6 at 5:00 p.m. Vidalia students will report to Room 418 in the Main Building. Swainsboro students will report to Room 2106 in Building 2.

ONLINE ATTENDANCE

It is the student's responsibility to be academically engaged each week doing course related activities. The completion dates of these activities will be used to determine a student's last date of attendance in the event a student withdraws, stops attending, or receives an F in a course.

Students will not be withdrawn by an instructor for attendance; however, all instructors will keep records of graded assignments and student participation in course activities. Students will be expected to complete all work required by the instructor as described in the individual course syllabus.

Students will have at least one week to complete tests and assignments. All tests and assignments are due at (time) on (Monday, Tuesday, or Wednesday) of each week. (Instructors…fill in the time and choose a day that assignments are due each week). Exceptions to the due dates of assignments due to jury duty, military duty, court duty, or required job training will be made at the discretion of the instructor.

SPECIAL NEEDS

Students with disabilities who believe that they may need accommodations in this class based on the impact of a disability are encouraged to contact Helen Thomas, 912-538-3126, hthomas@southeasterntech.edu, to coordinate reasonable accommodations.

SPECIFIC ABSENCES

Provisions for Instructional Time missed because of documented absences due to jury duty, military duty, court duty, or required job training will be made at the discretion of the instructor.

PREGNANCY

Southeastern Technical College does not discriminate on the basis of pregnancy. However, we can offer accommodations to students who are pregnant that need special consideration to successfully complete the course. If you think you will need accommodations due to pregnancy, please advise me and make appropriate arrangements with Helen Thomas, 912-538-3126, hthomas@southeasterntech.edu.

WITHDRAWAL PROCEDURE

Students wishing to officially withdraw from a course(s) or all courses after the drop/add period and prior to the 65% portion of the semester (date will be posted on the school calendar) must speak with a Career Counselor in Student Affairs and complete a Student Withdrawal Form. A grade of "W" is assigned when the student completes the withdrawal form from the course.

Students who are dropped from courses due to attendance (see your course syllabus for attendance policy) after drop/add until the 65% point of the semester will receive a "W" for the course. Abandoning a course(s) instead of following official withdrawal procedures may result in a grade of 'F' being assigned.

After the 65% portion of the semester, the student will receive a grade for the course. (Please note: A zero will be given for all missed assignments.)

There is no refund for partial reduction of hours. Withdrawals may affect students' eligibility for financial aid for the current semester and in the future, so a student must also speak with a representative of the Financial Aid Office to determine any financial penalties that may be accessed due to the withdrawal. All grades, including grades of 'W', will count in attempted hour calculations for the purpose of Financial Aid.

Remember - Informing your instructor that you will not return to his/her course does not satisfy the approved withdrawal procedure outlined above.

PROCTORED EVENT REQUIREMENT

In order to validate student identity for all online courses, students enrolled in online courses are **required** to complete one proctored event per online course. The proctored event will be administered on two separate days during the semester—once on the Vidalia campus and once on the Swainsboro campus and will be monitored by the instructor or another STC employee. The proctored event may be a major exam, assignment, or presentation, etc. that will count a minimum of 20% of the course grade. Students must attend one of the scheduled proctored sessions and will need to make arrangements with work, childcare, etc. The specific dates of the proctored event are scheduled on the Lesson Plan/Calendar for the online course. Students living further than 75 miles from either campus who cannot come to Southeastern Tech for the event must secure an approved proctoring site. The site and the proctor must meet Southeastern Technical College's requirements (instructor will provide more information and necessary forms if this is the case). Note: Students taking proctored events off campus will utilize the Proctor Scheduling and Approval Form found in Blackboard within the Getting Started/Start Here and Proctoring Event area. The completed form should be submitted to the course instructor a minimum of two weeks prior to the proctored event. If approved, the instructor will notify the proctor.

Students arranging off-campus proctoring must take the event on one of the originally scheduled days. Students who do not complete the proctored event as scheduled must submit a valid documented excuse within three business days after the scheduled event. If the excuse is approved, students must make arrangements with the instructor to makeup/reschedule the missed event. The penalty and makeup instructions will be at the instructor's discretion. Proctored events will be given after the 65% point of the semester. **Students who do not complete the proctored event will receive an F in the course.**

As published on STC's website, any expenses incurred to obtain a proctor will be the responsibility of the student; however, students are not charged a proctoring fee when taking the proctored exam on the campus of Southeastern Tech. Most of Georgia's technical colleges do not charge to proctor exams for students enrolled in other TCSG colleges. Students who are enrolled at Southeastern Technical College and live out of the state of Georgia or out of the country could incur a proctoring charge. However, in that instance, the

instructor would assist the student in locating the least expensive proctor.

The required proctored event for this class is scheduled on the following dates and times: Vidalia Campus, Dec. 6, 5:00 p.m., Room 418 and Swainsboro Campus, December 6, 5:00 p.m., in room 2106 in Building 2.

MAKEUP GUIDELINES (TESTS, QUIZZES, HOMEWORK, PROJECTS, ETC…)

No late homework assignments will be accepted. Any missed quizzes or tests will be graded as a 0.

ACADEMIC DISHONESTY POLICY

The STC Academic Dishonesty Policy states All forms of academic dishonesty, including but not limited to cheating on tests, plagiarism, collusion, and falsification of information, will call for discipline. The policy can also be found in the STC Catalog and Student Handbook.

PROCEDURE FOR ACADEMIC MISCONDUCT

The procedure for dealing with academic misconduct and dishonesty is as follows:

1. **First Offense**
   Student will be assigned a grade of "0" for the test or assignment. Instructor keeps a record in course/program files and notes as first offense. The instructor will notify the student's program advisor, academic dean, and the Registrar at the student's home campus. The Registrar will input the incident into Banner for tracking purposes.

2. **Second Offense**
   Student is given a grade of "WF" for the course in which offense occurs. The instructor will notify the student's program advisor, academic dean, and the Registrar at the student's home campus indicating a "WF" has been issued as a result of second offense. The Registrar will input the incident into Banner for tracking purposes.

3. **Third Offense**
   Student is given a grade of "WF" for the course in which the offense occurs. The instructor will notify the student's program advisor, academic dean, and the Registrar at the student's home campus indicating a "WF" has been issued as a result of second offense. The Vice President for Student Affairs, or designee, will notify the student of suspension from college for a specified period of time. The Registrar will input the incident into Banner for tracking purposes.

STATEMENT OF NON-DISCRIMINATION

The Technical College System of Georgia and its constituent Technical Colleges do not discriminate on the basis of race, color, creed, national or ethnic origin, sex, religion, disability, age, political affiliation or belief, genetic information, disabled veteran, veteran of the Vietnam Era, spouse of military member or citizenship status (except in those special circumstances permitted or mandated by law). This school is in compliance with Title VI of the Civil Rights Act of 1964, which prohibits discrimination on the basis of race, color, or national origin; with the provisions of Title IX of the Educational Amendments of 1972, which prohibits discrimination on the basis of gender; with the provisions of Section 504 of the Rehabilitation Act of 1973, which prohibits discrimination on the basis of handicap; and with the American with Disabilities Act (ADA).

The following individuals have been designated to handle inquiries regarding the nondiscrimination policies:

ADA/Section 504 - Equity- Title IX (Students) - OCR Compliance Officer	Title VI - Title IX (Employees) - EEOC Officer
Helen Thomas, Special Needs Specialist Vidalia Campus 3001 East 1st Street, Vidalia Office 108 Phone: 912-538-3126 hthomas@southeasterntech.edu	Blythe Wilcox, Director of Human Resources Vidalia Campus 3001 East 1st Street, Vidalia Office 138B Phone: 912-538-3147 bwilcox@southeasterntech.edu

GRIEVANCE PROCEDURES

Grievance procedures can be found in the Catalog and Handbook located on STC's website.

ACCESS TO TECHNOLOGY

Students can now access Blackboard, Remote Lab Access, Student Email, Library Databases (Galileo), and BannerWeb via the mySTC portal or by clicking the Current Students link on the STC website.

TCSG GUARANTEE/WARRANTY STATEMENT

The Technical College System of Georgia guarantees employers that graduates of State Technical Colleges shall possess skills and knowledge as prescribed by State Curriculum Standards. Should any graduate employee within two years of graduation be deemed lacking in said skills, that student shall be retrained in any State Technical College at no charge for instructional costs to either the student or the employer.

GRADING POLICY

Assessment/Assignment	Percentage
Homework/Discussion Boards	20%
Quizzes	20%
Midterm	20%
Proctored Final Exam	40%

GRADING SCALE

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

CHEM 1151 – Survey of Inorganic Chemistry

Fall Semester 2017 Lesson Plan

Due Date	Reading Assignment	Video	Homework Assignment	Modules	Quiz	Standards
8/28	• Chapters 1 & 2	• Lecture 1 • Lecture 2 • Worked Through Problems – Chapter 1 & 2	• Chemistry Primer • Introduction to Mastering Chemistry • Homework #1 • Discussion Board #1	• Scientific Notation • Converting Units / Conversion Factors • Significant Figures • Solving Equations, Percentages and Graphs	• Quiz #1	1, 2
9/11	• Chapters 3 & 4 (only 4.1 & 4.2)	• Chapter 3 Lecture • Chapter 4 Lecture • Worked Through Problems Video – Chapter 3 & 4	• Homework #2 • Discussion Board #2	• Understanding Matter • Understanding the Periodic Table & Atomic Structure A • Understanding the Periodic Table & Atomic Structure B • Nuclear Chemistry	• Quiz #2	2, 9
9/25	• Chapter 5	• Chapter 5 Lecture • Worked Through Problems – Chapter 5	• Homework #3	• Ionic Bonding / Compounds • Molecular Shapes and Intermolecular Forces • Covalent Bonding / Molecules	• Quiz #3	3
10/2	Midterm Exam					
10/16	• Chapter 6	• Chapter 6 Lecture • Worked Through Problems – Chapter 6	• Homework #4 • Discussion Board #3	• Chemical Formulae • Stoichiometry • Chemical Reactions • Redox Reactions • Mole Calculations	• Quiz #4	4
10/23	• Chapter 8	• Chapter 8 Lecture • Worked Through Problems – Chapter 8	• Homework #5	• Solutions / Solubility	• Quiz #5	6

10/30	• **Chapter 9**	• **Chapter 9 Lecture** • **Worked Through Problems – Chapter 9**	• **Homework #6** • **Discussion Board #4**	• **Equilibrium**	• **Quiz #6**	**4**
11/13	• **Chapter 10**	• **Chapter 10 Lecture** • **Worked Through Problems – Chapter 10**	• **Homework #7**	• **Acid, Bases and Buffers A** • **Acid, Bases and Buffers B**	• **Quiz #7**	**7, 8**
11/27	• **Chapter 7**	• **Chapter 7 Lecture** • **Worked Through Problems – Chapter 7**	• **Homework #8** • **Discussion Board #5**	• **Gas Behavior and Calculations**	• **Quiz #8**	**5**
12/6	**Final Exam – Proctored Event**					

***Schedule may be modified at the instructor's discretion.

Competency	Description of Competencies and Learning Outcomes
Competency Area: 1	**Description: Measurement and Units**
Order	
1	**Convert among metric, English, and S.I. units using dimensional analysis (unit-factor analysis).**
2	**Be able to use scientific notation.**
3	**Measure and solve problems of density and specific gravity.**
4	**Measure temperature, understand and convert between Fahrenheit, Celsius, and Kelvin scales.**
Competency Area: 2	**Description: Structure of Matter**
Order	
1	**Identify the three subatomic particles, their properties, and relationships.**
2	**Determine and explain significance of atomic number and mass number.**
3	**Describe atomic structure relating to energy level, sublevels, orbitals, and electrons.**
4	**Relate atomic structure to the arrangement of the periodic table.**
5	**Compare the composition of elements, compounds, and mixtures.**
6	**Describe the physical basis of the solid, liquid, and gaseous states of matter.**
7	**Determine melting point and boiling point. Describe the energy considerations of phase**
Competency Area: 3	**Description: Chemical Bonding**
Order	
1	**Describe ionic, polar, and non-polar covalent bonds. Describe van der Waals interactions.**

2	Describe the formation of stable (unstable) ions.
3	Determine electron-dot structure for atoms, ions, radicals, and covalent compounds.
4	Name ionic and covalent compounds using IUPAC inorganic nomenclature.
5	Calculate ionic charges from a chemical formula. Define basic rules of oxidation numbers.
6	Calculate the molecular weight of a compound from chemical formula.
7	Determine the empirical formula from percent composition data.
4	Measure temperature, understand and convert between Fahrenheit, Celsius, and Kelvin scales.
Competency Area: 4	Description: Reactions
Order	
1	Identify the basic types of chemical reactions.
2	Describe oxidation and reduction. Identify oxidizing and reducing agents.
3	Describe reactions with balanced equations.
4	Describe Avogadro's number as it relates to the mole concept.
5	Use stoichiometry to balance molar relationships and masses of species in a chemical reaction.
6	Describe reaction theory and collision theory. Explain activation energy and catalysis.
7	Identify factors that affect an equilibrium reaction.
	Measure temperature, understand and convert between Fahrenheit, Celsius, and Kelvin scales.
8	Interpret the meaning of equilibrium constant.
9	Calculate the equilibrium constant for a given reaction.
10	Explain Le Chatelier's Principle.
11	Define reaction kinetics and the meaning of forward and reverse rates. Describe factors which affect the rate of reaction.
Competency Area: 5	Description: Gas Laws
Order	
1	Describe the kinetic molecular theory as it relates to the properties of gases.
2	Interpret and compare Boyle's Law, Charles' Law, and Gay Lusaac's Law.
3	Interpret Dalton's Law and Graham's Law.
4	Demonstrate calculations using the combined gas law and ideal gas law.
Competency Area: 6	Description: Liquid Mixtures
Order	
1	Describe properties of a solution.
2	Describe methods of expressing concentration, including percent w/w, percent w/v, and molarity.
3	Solve problems calculating concentrations and converting concentrations to different units.
4	Identify properties of a suspension.
5	Identify properties of a colloidal dispersion.
6	Describe the properties and physical constraints of water.
Competency Area: 7	Description: Acids and Bases
Order	

1	**Identify the properties, uses, and reactions of acids and bases.**
2	**Describe ionization as it relates to acid or base strength.**
3	**Briefly describe the Arrhenius and Bronsted-Lowry models of acids and bases.**
4	**Explain pH scale. Calculate pH from $[H_30^+]$ or $[OH^-]$.**
Competency Area: 8	**Description: Salts and Buffers**
Order	
1	**Describe the formation of salts in a neutralization reaction.**
2	**Explain how buffers maintain pH. Relate this to Le Chatelier's Principle.**
Competency Area: 9	**Description: Nuclear Chemistry**
Order	
1	**Explain alpha, beta, and gamma decay.**

General Core Educational Competencies

a) The ability to utilize standard written English.
b) The ability to solve practical mathematical problems.
c) The ability to read, analyze, and interpret information.