HORRY GEORGETOWN TECHNICAL COLLEGE

INSTRUCTIONAL PACKAGE

CHM 111

College Chemistry II

Effective Term
Fall 2019

INSTRUCTIONAL PACKAGE

Part I: Course Information

Effective Term: 2019-2020

COURSE PREFIX: CHM 111 COURSE TITLE: College Chemistry II

CONTACT HOURS: 3-3 CREDIT HOURS: 4

RATIONALE FOR THE COURSE:
Completion of CHM 111 enables the student to gain an appreciation and working knowledge of fundamental principles in the area of general chemistry, building on concepts learned in College Chemistry I (CHM 110). These concepts are approached through the development of problem-solving skills, which helps prepare students for future careers in science fields. Additionally, this course is designed to satisfy freshman-level chemistry requirements at other colleges.

COURSE DESCRIPTION:
(For students continuing in chemistry) this course is a continuation of the study of atomic and molecular structure, nomenclature and equations, properties, reactions and states of matter, stoichiometry, gas laws, solutions, and equilibria. Other topics included are kinetics, thermodynamics, and electrochemistry. This course is transferable to public senior institutions as part of the South Carolina Commission on Higher Education Statewide Articulation Agreement.

PREREQUISITES/CO-REQUISITES:
Credit level CHM 110 Minimum Grade of C or Credit level CHM 110 Minimum Grade of TC.

Online/Hybrid courses require students to complete the DLi Online Student Orientation prior to completing an online course. The DLi Online Student Orientation can be found in WaveNet, under the My Student tab.

REQUIRED MATERIALS:
Please visit the Bookstore online site for most current textbook information. Use the direct link below to find textbooks.
BOOKSTORE.

Enter the semester, course prefix, number and section when prompted and you will be linked to the correct textbook.

ADDITIONAL REQUIREMENTS:
A scientific calculator will be needed for in-class use and for tests.
Laboratory safety glasses will be provided, but students may bring their own pair if desired.

For Hybrid/Online Students Only: Each student will be required to view an orientation PowerPoint presentation during the first week of class. This presentation can be found on the course homepage in D2L under News. After viewing the presentation, all online students must complete the orientation quiz, which can be found under the dropdown assignment menu. A student will not be considered officially enrolled in the course until the presentation has been viewed and the quiz completed with a 100% score. Any submitted work from the student including discussion posts, assignments, etc. will not be given a grade until the presentation has been viewed and the quiz has been submitted. Failure to view the presentation and take the quiz before midnight on the last day to add/drop classes will result in the student being automatically dropped from the course.

TECHNICAL REQUIREMENTS:

Access to Desire2Learn (D2L), HGTC's student portal for course materials.
WaveNet and D2L email access.

STUDENT IDENTIFICATION VERIFICATION

Students enrolled in online courses will be required to participate in a minimum of one (1) proctored assignment and/or one (1) virtual event to support student identification verification. Please refer to your Instructor Information Sheet for information regarding this requirement.

CLASSROOM ETIQUETTE:

As a matter of courtesy to other students and your professor, please turn off cell phones and other communication/entertainment devices before class begins. If you are monitoring for an emergency, please notify your professor prior to class and switch cell phone ringers to vibrate.

NETIQUETTE: is the term commonly used to refer to conventions adopted by Internet users on the web, mailing lists, public forums, and in live chat focused on online communications etiquette. For more information regarding Netiquette expectations for distance learning courses, please visit Online Netiquette.

ACADEMIC DISHONESTY:

All forms of academic dishonesty, as outlined in the Student Code in the HGTC catalog, will NOT be tolerated and will result in disciplinary action. Anyone caught cheating or committing plagiarism (Defined in the code as: "The appropriation of any other person's work and the unacknowledged incorporation of that work in one's own work offered for credit") will be given a grade of a zero for that assignment and reported to the Senior VP of Academic Affairs, in accordance with the student handbook. A second offense will result in the student being withdrawn from the course with a "WF" and charges being filed with the Chief Student Services Officer.

Part II: Student Learning Outcomes

COURSE LEARNING OUTCOMES and ASSESSMENTS*:

A student will demonstrate an understanding of the gaseous state of matter by:
contrasting the differences between gases and other physical states on a molecular level.
explaining how gas pressure can be measured using a manometer or barometer.

relating mathematically between the units of torr and atmospheres for expressing the pressure exerted by a gas.
utilizing Boyle's Law to solve problems involving the pressure-volume relationship of gases.
utilizing Charles's Law to solve problems involving the temperature-volume relationship of gases.
explaining Avogadro's Law of Gases.
solving calculations using the Ideal Gas Law.
utilizing the Ideal Gas Law to calculate molar masses of compounds.
explaining gas behavior using Kinetic-Molecular Theory.
explaining the origins of deviations from ideal behavior of gases.

A student will demonstrate an understanding of intermolecular forces and their relationship to physical states of matter by:
distinguishing among ion-ion, ion-dipole, dipole-dipole, hydrogen bonding, and London dispersion intermolecular forces.
defining induced dipole and polarizability.
determining the major type of intermolecular force expected in a substance based on its molecular structure.
predicting relative boiling points of substances based on expected intermolecular forces.
defining terms related to changes of state (melting, freezing, etc.).
explaining the concept of vapor pressure and its relationship to boiling point.

A student will demonstrate an understanding of solution behavior by:
distinguishing between solute and solvent.
describing the energy changes (enthalpy changes) associated with the solution process.
expressing concentrations of solutes by mass percent, parts per million, molarity, molality, and mole fraction.
distinguishing among saturated, unsaturated, and supersaturated solutions.
solving calculations related to pressure effects on gas solubility.
solving calculations related to colligative properties: boiling point elevation, freezing point depression, and osmotic pressure.

A student will demonstrate an understanding of chemical equilibrium by:
determining the equilibrium expression for a given reaction.
interpreting the magnitude of the equilibrium constant for a reaction in terms of the position of the equilibrium.
solving problems involving equilibrium constants, given information about the initial and equilibrium concentrations of reactants and products.
evaluating reaction quotients and predicting the direction of reaction shift to attain equilibrium.
determining equilibrium concentrations from equilibrium constants and initial concentrations.
utilizing Le Chatelier's Principle to predict the effect on equilibrium of changes in temperature, pressure, and concentration of substances.

A student will demonstrate an understanding of acids and bases by:
relating the ion-product constant for water, K_w, to the autoionization of water.
defining and identifying Bronsted-Lowry acids and bases by formula.
identifying the conjugate base of a given acid, and the conjugate acid of a given base.

demonstrating calculations of pH and pOH from given concentrations of strong acid or strong base solutions.
demonstrating calculations of pH and pOH from given concentrations of weak acid or weak base solutions, using K_a or K_b values.
identifying buffer solutions and performing pH calculations of them.
evaluating pH and pOH for titrations between weak acids and strong bases and between weak bases and strong acids.
identifying the behavior of different acid-base indicators.
defining solubility product and performing calculations of a substance's solubility product.
predicting precipitation reactions by utilizing the solubility product concept.

A student will demonstrate an understanding of the basics of thermochemistry and electrochemistry by:
defining and distinguishing among thermodynamic concepts such as enthalpy, entropy, and free energy.
calculating thermodynamic quantities and interpreting their values.
identifying redox reactions and balancing redox chemical equations.

Students – please refer to the Instructor's Course Information sheet for specific information on assessments and due dates.

General Education Outcomes

This course fulfills the following General Education Outcomes through the (list the appropriate assessment). Upon completion of this course, students will be able to:
(Check all that apply.)
☒Communicate effectively;
☒Think critically;
☒Self and professional development.

Part III: Grading and Assessment

EVALUATION OF REQUIRED COURSE MEASURES/ARTIFACTS*

Students' performance will be assessed and the weight associated with the various measures/artifacts are listed below.

EVALUATION*

Lecture	75%
Lab	25%
Total	100%

Students, for the specific number and type of evaluations, please refer to the Instructor's Course Information Sheet.

GRADING SYSTEM:
Please note the College adheres to a 10 point grading scale A = 100 – 90, B = 89- 80, C = 79 – 70, D = 69 – 60, F = 59 and below.

Grades earned in courses impact academic progression and financial aid status. Before withdrawing from a course, be sure to talk with your instructor and financial aid counselor about the implications of that course of action. Ds, Fs, Ws, WFs and Is also negatively impact academic progression and financial aid status.

The Add/Drop Period is the first 5 days of the semester for **full term** classes. Add/Drop periods are shorter for accelerated format courses. Please refer to the academic calendar for deadlines for add/drop (ACADEMIC CALENDAR). You must attend at least one meeting of all of your classes during that period. If you do not, you will be dropped from the course(s) and your Financial Aid will be reduced accordingly.

Part IV: Attendance

Horry-Georgetown Technical College maintains a general attendance policy requiring students to be present for a minimum of 80 percent (80%) of their classes in order to receive credit for any course. Due to the varied nature of courses taught at the college, some faculty may require up to 90 percent (90%) attendance. Pursuant to 34 Code of Federal Regulations 228.22 - Return to Title IV Funds, once a student has missed over 20% of the course or has missed two (2) consecutive weeks, the faculty is obligated to withdraw the student and a student may not be permitted to reenroll. **Instructors define absentee limits for their class at the beginning of each term; please refer to the Instructor Course Information Sheet.**

For online and hybrid courses, check your Instructor's Course Information Sheet for any required on-site meeting times. Please note, instructors may require tests to be taken at approved testing sites, if you use a testing center other than those provided by HGTC, the center may charge a fee for its services.

Lecture Attendance:
For a 15-week course (fall and spring), the allowed number of absences for a MW or TR class is as follows: 6 absences are allowed for lecture, regardless of reason. For a lecture class that meets once a week, the allowed number of absences is three (3). When a student surpasses the allowed number of absences, the student will be dropped automatically from the course with a W or a WF. Remember, an absence is an absence, no matter if it is excused or not!

Lab Attendance:
Students are allowed two (2) lab absences for a lab that meets weekly. When a student surpasses the allowed number of absences, the student will be dropped automatically from the course with a W or a WF.

Online/Hybrid Attendance:
Students enrolled in distance learning courses (hybrid and online) are required to maintain contact with

the instructor on a regular basis to be counted as "in attendance" for the course. All distance learning students must participate weekly in an Attendance activity in order to demonstrate course participation. Students showing no activity in the course for two weeks (these weeks do not need to be consecutive) will be withdrawn due to lack of attendance.

Lab Attendance for Hybrid Courses:
Students in hybrid classes in which labs only meet 5 or 6 times during the semester, must attend all lab sessions for its entirety. Failure to attend one lab will result in immediate withdrawal. Students in hybrid classes where labs meet every week, you are allowed one lab absence. When a student surpasses the allowed number of absences, the student will be dropped automatically from the course with a W or a WF.

Part V: Student Resources

The Student Success and Tutoring Center (SSTC)

The SSTC offers to all students the following **free** resources:

1. **Academic coaches** for most subject areas, **Writing Center Support**, and **college success skills.**
2. **On-line student success and academic support resources.**

Visit the SSTC website: Student Success & Tutoring Center and visit the student services tab in your WaveNet account to schedule appointments using TutorTrac. For more information, call: SSTC Conway, 349-7872; SSTC Grand Strand, 477-2113; and SSTC Georgetown, 520-1455 or go to the Online Resource Center to access on-demand resources any time.

Student Information Center: WaveNet Central (WNC)

WNC offers to all students the following **free** resources:

1. **Getting around HGTC**: General information and guidance for enrollment!
2. Use the **Online Resource Center (ORC)** for COMPASS support, technology education, and online tools.
3. **Drop-in technology support or scheduled training** in the Center or in class.
4. **In-person workshops, online tutorials and more services** are available.

Visit the WNC website: Wavenet Central. Live Chat and Center locations are posted on the website. Or please call one of the following locations: WNC Conway, 349-5182; WNC Grand Strand, 477-2076; and WNC Georgetown, 520-1473.

Student Testing:

Testing in an **online/hybrid** course may be accomplished in a variety of ways:

- Test administered within D2L
- Test administered in writing on paper
- Test administered through Publisher Platforms

Further more tests may have time limits and/or require a proctor.

Proctoring can be accomplished either face-to-face at an approved site or online through RPNow, our online proctoring service. To find out more about proctoring services, please visit the Online Testing section of the HGTC's Testing Center webpage.

The **Instructor Information Sheet** will have more details on test requirements for your course.

Disability Services:

HGTC is committed to providing an accessible environment for students with disabilities. Inquiries may be directed to Beth Havens, Director of Student Development on the Conway Campus Jaime Davis, Counselor/Advisor on the Georgetown Campus or Kristin Griffin, Counselor on the Grand Strand Campus. These individuals will review documentation of the student's disability and, in a confidential setting with the student, develop an educational accommodation plan.

Note: It is the student's responsibility to self-identify as needing accommodations and to provide acceptable documentation. After a student has self-identified and submitted documentation of a disability, accommodations may be determined, accepted, and provided.

Statement of Equal Opportunity/Non-Discrimination Statement

Horry-Georgetown Technical College prohibits discrimination and harassment, including sexual harassment and abuse, on the basis of race, color, sex, national or ethnic origin, age, religion, disability, marital or family status, veteran status, political ideas, sexual orientation, gender identity, or pregnancy, childbirth, or related medical conditions, including, but not limited to, lactation in educational programs and/or activities.

Inquiries regarding the non-discrimination policies: Students and prospective student inquiries concerning Section 504, Title II, and Title IX and their application to the College or any student decision may be directed to the Vice President for Student Affairs, Dr. Melissa Batten, VP Student Affairs, Title IX Coordinator, Building 1100, Room 107A, Conway Campus, PO Box 261966, Conway, SC 29528-6066, 843-349-5228, Melissa.Batten@hgtc.edu. Employee and applicant inquiries concerning Section 504, Title II, and Title IX and their application to the College may be directed to the Vice President for Human Resources, Jacquelyne Snyder, VP Human Resources, Section 504, Title II, and Title IX Coordinator, Building 200, Room 212A, Conway Campus, PO Box 261966, Conway, SC 29528-

6066, 843-349-5212, Jacquelyne.Snyder@hgtc.edu.

Title IX Requirements

All students (as well as other persons) at Horry-Georgetown Technical College are protected by Title IX—regardless of their sex, sexual orientation, gender identity, part- or full-time status, disability, race, or national origin—in all aspects of educational programs and activities. Any student, or other member of the college community, who believes that he/she is or has been a victim of sexual harassment or sexual violence may file a report with the college's Chief Student Services Officer, campus law enforcement, or with the college's Title IX Coordinator, or designee.

> *Faculty and Staff are required to report incidents to the Title IX Coordinators when involving students. The only HGTC employees exempt from mandatory reporting are licensed mental health professionals (only as part of their job description such as counseling services).

Inquiries regarding the non-discrimination policies:	
Student and prospective student inquiries concerning Section 504, Title II, and Title IX and their application to the College or any student decision may be directed to the Vice President for Student Affairs.	Employee and applicant inquiries concerning Section 504, Title II, and Title IX and their application to the College may be directed to the Vice President for Human Resources.
Dr. Melissa Batten, VP Student Affairs *Title IX Coordinator* Building 1100, Room 107A, Conway Campus PO Box 261966, Conway, SC 29528-6066 843-349-5228 Melissa.Batten@hgtc.edu	**Jacquelyne Snyder, VP Human Resources** *Section 504, Title II, and Title IX Coordinator* Building 200, Room 212A, Conway Campus PO Box 261966, Conway, SC 29528-6066 843-349-5212 Jacquelyne.Snyder@hgtc.edu