STEM DIVISION

ONLINE COURSE SYLLABUS

CHEM – 1411 - 51427  General Chemistry - I
Fall, 2019

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Contacting your Instructor
Please, always place the course number AND section number in the subject line (Example: CHEM 1411-51427) followed by a title for your message when emailing your instructor. This will expedite instructor’s response and facilitate correct information.

The best way to reach the instructor is by email. Contact information (email address, telephone number, office location) is available under the My Instructor button on eCampus and on the cover page of this Syllabus.

The instructor will reply by email within 24-48 hours, Monday through Friday. The instructor is not available on weekends or holidays. An email sent Friday after 5:00, pm, may not be read and answered until Monday afternoon, the following week.

Course Information
Course Title: General Chemistry I
Course & Section Number: CHEM 1411 51427
Semester/Year: Fall 2019
Credit Hours: 4
Class Meeting Time/Location: Online

Course Prerequisites
MATH 1314 or equivalent academic preparation. College level ready in Reading. Previous experience with online courses is highly recommended.

Course Description
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 activities will reinforce fundamental principles of general chemistry, introduction of the scientific method, experimental design, data collection and analysis, and preparation of laboratory reports. High school chemistry, CHEM 1405 or the equivalent are strongly recommended. (3 Lec., 3 Lab.)

Coordinating Board Academic Approval Number: 4005015403

Statement of Purpose and Core Objectives

Statement of Purpose
Through the Texas 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.
Core Objectives
This course supports, develops, and assesses the following Core Objectives:

- **Critical Thinking Skills (CT)** - creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information
- **Communication Skills (COM)** - effective development, interpretation and expression of ideas through written, oral and visual communication
- **Empirical and Quantitative Skills (EQS)** - manipulation and analysis of numerical data or observable facts resulting in informed conclusions
- **Teamwork (TW)** - ability to consider different points of view and to work effectively with others to support a shared purpose or goal

Student Learning Outcomes
Students will be able to understand with critical thinking about atomic and molecular structure of matter, states of matter, chemical reactions and equilibria, stoichiometry, electronic structure, quantum numbers, electron configurations in atoms, periodic trends in the properties of atoms, ionic and covalent bonding, and properties of gases and solutions. It introduces the fundamental types of reactions in solutions such as precipitation, acid-base, and redox reactions. The students will also become proficient in solving stoichiometric problems. An understanding of organic chemistry and biochemistry depends on a sound foundation of general chemistry.

Required Course Materials

**Textbooks (Lecture, Lab, and online OWLv2 Homework)**
  A student of this institution is not under any obligation to purchase a textbook from a university affiliated bookstore. The same textbook may also be available from an independent retailer, including an online retailer.

Although all chemistry students should have a chemistry textbook for reference, due to the high costs associated with textbooks, students may use earlier editions of the textbook or equivalent college level chemistry textbooks, may purchase eBooks, custom-made textbooks, or, sign up for CENGAGE UNLIMITED (highly recommended, since all materials required for this course, except the Laboratory Manual and VCL, are included in Cengage Unlimited).

Materials required for this course are included in Cengage Unlimited, a subscription that provides access to ALL Cengage eBooks and digital learning products – over 22,000 in total – for only $119.99 (extended subscriptions also available). One Cengage Unlimited subscription can be used across ALL courses this semester where Cengage products are assigned. If you are taking another
course this semester that is using Cengage products, you will be able to access those course materials for no additional cost. You can purchase your Cengage Unlimited subscription in the El Centro College Bookstore and at cengage.com. To check the other courses at El Centro College using Cengage this semester, check this website and also be sure to verify with your instructor for that course: https://www.cengage.com/coursepages/unlimited_el_centro

**Print:** You’ll be eligible for a print rental when you activate OWLv2 and subscribe to Cengage Unlimited. All you will pay is $7.99 and this includes shipping. For print you can keep, purchase a loose-leaf version of the textbook at a discount through Cengage Unlimited. Loose-leaf shipping is free when purchased with Cengage Unlimited.

**Pricing:** Cengage Unlimited is $119.99 for a 4-month subscription, $179.99 for a 12-month subscription or $239.99 for a 24-month subscription. Students using Financial Aid can purchase a Cengage Unlimited subscription from El Centro College bookstore.

**Bonus:** When your Cengage Unlimited subscription ends, you can keep up to six eBooks in a digital locker and access them for one year. (Introductory offer).

**Extra Help:** cengage.com/start-strong

As a reminder, you should **NOT** purchase BOTH individual course materials AND a Cengage Unlimited subscription. In many instances, a Cengage Unlimited subscription will be your best option. However, you will need to purchase the software and Work Book (Lab Manual) for Virtual Chem. Lab (VCL) in either of your options.

**Important**! Once you order Cengage Unlimited, you need to keep the book(s) on your virtual “shelf” in order to keep the site open. That way you will be able to continue to add all your other courses. If you close it, you will have to re-order and purchase again.

**Virtual ChemLab (VCL) Information and Walkthrough**

**ISBN:**
Workbook + access code for students – ISBN 0321943279

**Promotional Video:**

**Informational Website:**
-  [www.prenhall.com/vcl](http://www.prenhall.com/vcl)

**Walkthrough:** Follow these steps to explode cesium in water in the Virtual Chem Lab (VCL).

First, you can show the available labs by clicking on the worksheet names to expand each category before entering the lab in step 1 below.

1. Click on the left-most desk in the left room (mouse over it, and it will say Calorimetry). This will open a window showing the lab bench.
2. Click in the top right of the window to enter the Stockroom (mouse over it, and it will say Stockroom) and choose a Calorimeter.
3. On the Calorimeters shelf (bottom left), drag the coffee cup (or the Dewar) to the desktop.
4. Click the Metals cabinet.
5. Click the top drawer, which will open it. Drag the **Cesium (Cs)** located in the bottom right hand corner of the drawer into the Petri dish. Click the green Zoom out arrow on the left to exit.

6. Drag the cesium in the Petri dish (now located on the Metals shelf) to the desktop. You will see 3 highlighted spots on the desktop, place the Petri dish here. The Stockroom desktop should now contain the coffee cup calorimeter and the Petri dish.

7. Click Return to lab arrow in the upper left corner.

8. Drag the coffee cup from the Stockroom counter to the bench, where the highlighted circle appears.

9. Drag one of the small, red 100ml, 50ml, 25ml, or 10ml container in the top right of the lab bench and hold it under the sink faucet until it fills with water. It will go back to the bench when full.

10. Drag the filled container over the coffee cup until you see the container tilt, then let go to pour the water into the cup.

11. Grab the cesium from the Stockroom counter and drag it over the cup the same way you poured the water to add the Cesium to the cup.

**Virtual ChemLab FAQ**

**How do I get Virtual ChemLab?**
Virtual ChemLab software is available for download via the ChemPlace.com.

**How to download Virtual Chem Lab:**
2. Log into the website and you will be directed to the home page.
3. Ensure your computer meets the minimum system requirements before proceeding.
4. Click the Download button the appropriate software for your operating system.
5. Navigate to your Downloads folder or the location you saved the zip file.
6. Install the software by:
   - **Windows**: Run the program “Setup Virtual ChemLab.exe” and then follow the prompts to install.
   - **Macintosh**: Open the DMG file and drag the Virtual ChemLab application into the Applications folder.
7. Launch the application from your hard drive.

**Is there a site license available?**
No, we no longer offer a site license.

**How do I get a student access code?**
Student access codes are only available packaged with the printed workbook.

**Is an Instructor Manual available for the workbook?**
Yes, the Instructor Manual is available through the website (with an instructor access code) as well as through the pearsonhighered.com portal.

**How does an instructor assign labs through Mastering?**
Unfortunately, the Virtual ChemLabs are not assignable nor gradeable in MasteringChemistry at this time. They can only be used within the VCL software.

**How does an instructor view student’s work and grade it in VCL?**

Students can save their lab book files externally using the Save command in the File menu in the lab book. These can be emailed or uploaded (in a LMS) where they can then be opened.

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**Computer Requirements**

To participate in this course, you will need access to hardware and software that meet the following requirements.

- Computer connected to the Internet
- Email address containing either your first or last name
- Windows-based OR Mac/UNIX equivalent
- Internet Explorer /Firefox
- 56K modem or faster
- **Flash Plug-in**
  - In order to receive maximum interactive benefit from this course, you must have the following plug-in player installed and functioning properly on your system. To download the player, simply click on the icon below and follow the instructions provided.
  - Access to Microsoft Office 2003 or higher software with the following application software: Word processing (Word)

**Technical Support**

Although the system that you will be using for this course can be reached through the computer labs at any DCCCD campuses, the student is responsible for required equipment and technical support. If you are having problems with eCampus, please call LeCroy Help Desk for technical support at 972.669.6402.

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**Course Requirements**

- Complete the Course Orientation.
- Update your Student Profile under My Grades button, and send an email to your instructor.
- Participate in Introduction of Yourself in discussion board at eCampus.
- Read assigned material.
- Participate in assigned discussions, posting and replying as directed.
- Complete learning activities/ lab assignments.
- Prepare for and complete chapter tests and exams.

**Time Commitment**

Successful performance in the course will take a time commitment of **approximately 12-15 hours/week (5 days) of your time.**
Attendance/Participation
Students are required to document attendance and participation in this course through discussion board participation and completing assignments, tests and exams on time. **Check for new announcements each time you log in.** Changes and other important information will be posted on this page as necessary, and being unaware of the available information will not be accepted as an excuse for failing to comply with it. Instructor can also monitor students’ visiting eCampus date and time.

Online Conduct
Discussion Board responses, emails, and all other correspondence among faculty and students enrolled in this class are expected to conform to the level of conduct that would be expected in a regular classroom. Students should feel free to express disagreement with the instructor and other students but it must be done in a manner which is not verbally abusive, threatening, or harassing. Communication among students is encouraged but must end if one of the parties requests that it be terminated. Students will not send unsolicited email espousing a cause, religion, or activity to other class participants and will not add other class participants to any list servers or other entity which distributes unwanted email or material. **Violation of these guidelines may result in disciplinary action against the offending student. This action can include termination of the student's participation in the class and a grade of "F".**

Student Profile
After registering for this course, in order to receive e-mail messages, your name and e-mail address needs to be in the course’s database. To enter your information:
- Enter the course (Chem 1411).
- Click on *My Grades* button in the Left Navigation Bar.
- Look for a number of icons to appear in your browser window.
- Click on *Personal Information*.
- Several links will appear. Click on Edit Personal Information at the top.
- Wait for the form to appear, and add your individual data. **Your name and email address are required.** Phone number is requested in case we need to contact you in person.
- Make sure to click on the Submit Button at the bottom of the page.

Technical Support
Although the system that you will be using for this course can be reached through the computer labs at any DCCCD campuses, the student is responsible for required equipment and technical support. **If you are having problems with eCampus, please call LeCroy Help Desk for technical support at 972.669.6402.**

Course Activities Instructional Strategies
Instructional strategies in this course will focus on readings, discussions, assignments and exams, and interactive computer exercises.

Learning Activities
- *Lecture:* Students will face to the computer for study and can repeat the chapter study with eCampus but they still need to **make study notes.** It is extremely important for online class.
• Pay attention to all emails by instructor and Weekly Activities.
• There are several interactive activities to complete for each chapter assignment.
• Do NOT send assignment results to your instructor. These activities are NOT GRADED and are for your learning and you may repeat them as often as you need to learn the material.
• The instructor will provide face-to-face chance for students to study and/or review, usually by request or announcement (optional).
• Lab — lab exercises are connected to relevant chapters. Students must have a Lab Manual (or Workbook) with its accompanying CD. Students can follow manual instruction to install the CD and perform lab experiments.

Assignments
The course is organized into 16 weeks. Assignments can be found under each chapter. Areas found under this heading:
• Assignment — The test bank (TB) is provided. The suggestion by instructor is that students only need to do half of the problems (even numbers or odd numbers) for each chapter. Students don’t need to turn in their assignments but if somebody doesn’t do it he/she will get trouble in the tests.
• Lab — lab exercises are connected to relevant chapters. Students must purchase a Lab Manual (Work Book) with an access code to the Virtual Chemistry Lab (VCL).
• Discussions — Students’ participation in Discussion is highly recommended. The instructor will post some hints on Discussion Board. Students also can post their questions on the Discussion Board for help.

Discussion Board
Discussion boards are used to orient students to the course and to assist in the more challenging chapters. Discussion board comments are entered online either within the chapter content or under the Discussion Board navigation button. Each forum contains one discussion topic (thread). To maintain good communication, organization is required. Please follow directions carefully.

How to complete a Discussion Board:
1. Enter the Discussion Board section for the course.
2. Click on the topic (thread) and read the directions.
3. Click on the Reply button.
4. Type or paste your response in the Message test box.
5. Observe Rules of Netiquette (located under Start Here).
6. Click the Submit button.
7. Look through your classmates messages and respond to someone else’s message with two or three sentences. (Click on the student’s message, click on Reply, type your response, and click Submit.)
8. Click OK at the end of the board to exit. (You will have to scroll down to see the OK button.)

Proctored Tests and Final Exam
• Each Proctored Test consists of 30 questions @ 3.33 points, each, a total of 100 points. The allowed time for each Test is 90 minutes. The questions are composed of lecture material questions. The instructor may host a face-to-face review once a month (based on students’
request; a minimum of five students would be advisable). If you want to talk to your instructor, please, make an appointment with him in advance.

• Prepare two sharpened pencils, eraser, calculator and scantron (Form No. 882-E), green color for each test. The sketch paper and “The Periodic Table of Elements” are provided which attached to the test sheet.

• Typically, unless otherwise noted, proctored exams are proctored in the El Centro College’s Testing Center (214-860-2178) located in the basement of the building A. Proctored Tests will only be available the days as they are scheduled in the “Tentative Lecture and Exam Schedule” at the end of this Syllabus. It is the student’s responsibility to verify the Assessment Center business hours and to adjust their schedule accordingly to take the test within the determined time-frame. There is a 15% deduction taken for exceeding the time limit or any test taken beyond the due date. Late tests must be scheduled with the instructor. No late exams will be accepted after the last day of class. The instructor WILL NOT answer your emails if they contain questions for which you can find the answers in the SYLLABUS.

• Distance education students (they, out of DFW area) may arrange to take their tests at a Testing Center of a local university or college. Distance notification, eligibility, and alternate testing location information must be arranged with the instructor within the first 2 weeks of class. You are responsible for locating a proctor and any fees involved. You must contact the instructor with the name, telephone number, FAX number and email address of a contact person at the testing center. No cross-campus tests within DCCCD are allowed.

GRADING POLICY

Grade Determination
Grade Determination

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\begin{array}{l|c|c}
\text{Test 1: 100 points} & \text{A} = 90 - 100\% & 306 - 340.0 \text{ points} \\
\text{Test 2: 100 points} & \text{B} = 80 - 89.9\% & 272 - 305.9 \text{ points} \\
\text{Final: 100 points} & \text{C} = 70 - 79.9\% & 238 - 271.9 \text{ points} \\
\text{Lab 1: 20 points} & \text{D} = 60 - 69.9\% & 204 - 237.9 \text{ points} \\
\text{Lab 2: 20 points} & \text{F} = \text{below 60}\% & 203.9 \text{ points or less} \\
\end{array}
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Turnover Time
Students will be able to see their grades (and final exam grade) within a 24-48 hours interval in the Grade Center. Lab Reports are usually graded within a one-week interval after the Lab Report submission.

Late Policy
There are no makeup exams, and no late exams will be accepted. All missed exams will get a 0 (zero) grade. There will be a 15% penalty for any late (48 hours or later) Lab Report submissions, no matter what the reason is.

Extra Credit: As a reward for completing the Assessment (Lecture and Lab problems), up to 5 points will be added to your calculated final score (depending on your achieved points out of 100 total possible).
Institutional Policies
All El Centro students are responsible for knowing and adhering to the institutional policies. These policies can be accessed from the following link: Institutional Policies.

Withdrawing from the Class
The last day to withdraw for this semester is Thursday, Nov. 14th, 2019.

Stop Before You Drop
For more information, you may access: https://www1.dcccd.edu/coursedrops

Disclaimer
The provisions contained in this syllabus do not constitute a contract between the student and El Centro College. These provisions may be changed at the discretion of the Coordinator/Instructor. When necessary, appropriate notice of such changes will be given to the student. *

* The College & instructor of this course reserves the right to take any more flexible action and Grading Scale if it is in the students’ interest, following prior notification of the students.
<table>
<thead>
<tr>
<th>Week of</th>
<th>#</th>
<th>ASSIGNMENTS</th>
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| Aug. 26 | 1 | Complete the Course Orientation. Read the course *Syllabus* and ask any questions to clarify uncertainties. Participate in the **Discussion Board** and “Introduce Yourself”.

**Chapter 1: Matter and Measurements** |

| Sep. 2 | 2 | Labor Day Holiday – Sept. 2 (M)  
Chapter 2: Atoms, Molecules, and Ions |
| Sep. 9 | 3 | Chapter 2: Atoms, Molecules, and Ions  
Chapter 3: Stoichiometry  
Start Virtual ChemLab-1 (VCL-1): Reactions and Stoichiometry 2-1, -2, -3, and 2-4 |
| Sep. 16 | 4 | Chapter 3: Stoichiometry  
Continue Virtual ChemLab-1 (VCL-1): Reactions and Stoichiometry 2-5, -6, -7, -8, -9, and 2-10 |
| Sep. 23 | 5 | Chapter 4: Reactions in Aqueous Solution  
Continue VCL -1: Reactions and Stoichiometry 2-12, 13, and 14.  
**Proctored Exam 1** Material from chapters 1-3  
- Must be taken from 09/27 – 10/01 (Fri, Sat, Mon, or Tues)  
- Take the test at the Testing Center and send your Lab Report (package I) electronically to Dr. Borvak at jborvak@dcccd.edu |
| Sep. 30 | 6 | Chapter 4: Reactions in Aqueous Solution |
| Oct. 7 | 7 | Chapter 5: Gases  
| Oct. 14 | 8 | Chapter 5: Gases |
| Oct. 21 | 9 | Chapter 6: Electronic Structure and the Periodic Table |
| Oct. 28 | 10 | Chapter 6: Electronic Structure and the Periodic Table  
**Proctored Exam 2** Material from chapters 4-6  
- Must be taken from 11/01–11/05 (Fri, Sat, Mon, or Tue)  
- Take the test at the Testing Center and send your Lab Reports (package II) electronically to Dr. Borvak at jborvak@dcccd.edu |

**Chapter 7: Covalent Bonding** |

| Nov. 4 | 11 | Chapter 7: Covalent Bonding  
Chapter 9: Liquids and Solids |
| Nov. 11 | 12 | Chapter 9: Liquids and Solids  
**November 14th (R) – Last Day to Withdraw**  
**November 15th** is the due date for ASSESSMENT |
| Nov. 18 | 13 | Chapter 10: Solutions |
| Nov. 25 | 14 | Chapter 10: Solutions  
**Thanksgiving Holiday** 11/28 (R) – 12/01 (Su) |
| Dec. 2 | 15 | Review for Final Exam |
| Dec. 9 | 16 | **Final Exam**  
- Material from chapters 7, 9 and 10  
- **Must be taken from 12/09-12/11 (Mon -Wed)** at the Testing Center.  
No late tests accepted !!!!! |