

## Chemistry for Liberal Studies

### CHM 1020C

#### Course Description:

This course provides students with an introduction to chemical principles and applications for the nonscience major. This course illustrates applications in health, energy, and the environment without an extensive use of mathematics. Students will engage in problem solving and critical thinking while applying chemical concepts. Topics will include the scientific method of problem solving, classification of matter, atomic theory, the periodic table, gases, chemical reactions, energy, and chemical bonds with variable optional components. It is designed as a course for students who wish to fulfill the liberal studies science requirement with chemistry and will take no further chemistry courses, not as a preparatory course for CHM 1045. Credit is not allowed for CHM 1020 after taking CHM 1032, 1045, or equivalent.

**Course Learning Objectives** (including liberal studies learning objectives assigned to the course):

Upon completion of this course, generally students will be able to

- think critically and cogently about causal relationships with scientific reasoning.
- assess previous experimentation and published scientific results.
- critically examine and evaluate scientific observation, hypothesis or model construction.
- articulate a variety of issues created by the complex interactions among science, technology, and society.
- use scientific perspectives to evaluate contemporary problems facing society.
- explain the process of scientific reasoning and apply scientific principles inside and outside of the laboratory or field setting.
- systematically evaluate evidence for accuracy, limitations, and relevance, and identify alternative interpretations of evidence.
- design and conduct experiments to make observations and test hypotheses, as well as to analyze and interpret data using quantitative and appropriate technological tools.

and specifically, students will

- be able to distinguish between physical and chemical properties and changes.
- recognize components of gaseous chemistry.
- recognize components of aqueous chemistry including properties of water, solutions, and acids and bases.
- correlate the design of the periodic table to periodic trends and physical and chemical properties of elements.
- write and interpret chemical formula and write balance chemical equations.

#### Grading Assignments:

Lecture quizzes; lab episodes; post lab exercises; examinations

## **LIBERAL STUDIES STATEMENTS**

This course has been approved to meet FSU's Liberal Studies Natural Sciences requirement and helps you become an effective interpreter of scientific results and a critical analyst of claims about the natural world.

By the end of this course, students will

1. Pose questions or hypotheses based on scientific principles.
2. Use appropriate scientific methods and evidence to evaluate claims or theoretical arguments about the natural world.
3. Analyze and interpret research results using appropriate methods.

This course has been approved as meeting the requirements for Digital Literacy. As such, a substantial component of the course is dedicated to the instruction, acquisition, and assessment of digital literacy.

Each laboratory post-lab exercise will require the acquisition and analysis of digital data regarding its validity and its impact on experimental and societal outcomes. The Post-lab 9 essay assignments will require the analysis of all digital data accumulated throughout the semester and a final conclusion will be written on their overall meaning with respect to the "murder" investigation conducted throughout the semester.

The Digital Literacy learning outcomes for this course are as follows:

(List the outcomes selected by the unit for the proposed course. A minimum of 3 of the below outcomes is required, but more may be included.)

1. Evaluate and interpret digital data and their implications
2. Demonstrate the ability to use digital technology effectively
3. Demonstrate the knowledge to use digital technology safely and ethically

In order to meet the Digital Literacy requirement, students must earn a grade of at least a "C-" in the course and also earn at least a "C-" average on the digital literacy component(s) of the course.

If the student does not earn a "C-" average or better on the digital literacy component(s), the student will not earn an overall grade of "C-" or better in the course, no matter how well the student performs in the remaining portion of the course.

## **UNIVERSITY ATTENDANCE POLICY**

Excused absences include documented illness, deaths in the family and other documented crises, call to active military duty or jury duty, religious holy days, and official University activities. These absences will be accommodated in a way that does not arbitrarily penalize students who have a valid excuse. Consideration will also be given to students whose dependent children experience serious illness.

## **ACADEMIC HONOR POLICY**

The Florida State University Academic Honor Policy outlines the University's expectations for the integrity of students' academic work, the procedures for resolving alleged violations of those expectations, and the rights and responsibilities of students and faculty members throughout the process. Students are responsible for reading the Academic Honor Policy and for living up to their pledge to "...be honest and truthful and... [to] strive for personal and institutional integrity at Florida State University." (Florida State University Academic Honor Policy, found at <http://fda.fsu.edu/Academics/Academic-Honor-Policy>)

## **AMERICANS WITH DISABILITIES ACT**

Florida State University (FSU) values diversity and inclusion; we are committed to a climate of mutual respect and full participation. Our goal is to create learning environments that are usable, equitable, inclusive, and welcoming. FSU is committed to providing reasonable accommodations for all persons with disabilities in a manner that is consistent with academic standards of the course while empowering the student to meet integral requirements of the course.

To receive academic accommodations, a student:

- (1) must register with and provide documentation to the Office of Accessibility Services (OAS);
- (2) must provide a letter from OAS to the instructor indicating the need for accommodation and what type; and, (3) should communicate with the instructor, as needed, to discuss recommended accommodations. A request for a meeting may be initiated by the student or the instructor.

Please note that instructors are not allowed to provide classroom accommodations to a student until appropriate verification from the Office of Accessibility Services has been provided. This syllabus and other class materials are available in alternative format upon request. For more information about services available to FSU students with disabilities, contact the

Office of Accessibility Services  
874 Traditions Way  
108 Student Services Building  
Florida State University, Tallahassee, FL 32306-4167  
(850) 644-9566 (voice) (850) 644-8504 (TDD)  
oas@fsu.edu  
<https://dsst.fsu.edu/oas>

## **ACADEMIC SUCCESS**

Your academic success is a top priority for Florida State University. University resources to help you succeed include tutoring centers, computer labs, counseling and health services, and services for designated groups, such as veterans and students with disabilities. The following information is not exhaustive, so please check with your advisor or the Dean of Students office to learn more.

## **CONFIDENTIAL CAMPUS RESOURCES**

Various centers and programs are available to assist students with navigating stressors that might impact academic success. These include the following:

### **Victim Advocate Program**

University Center A, Rm. 4100

(850) 644-7161

Available 24/7/365

Office Hours: M-F 8-5

<https://dsst.fsu.edu/vap>

### **Counseling and Psychological Services (CAPS)**

Florida State University's Counseling and Psychological Services (CAPS) primary mission is to address psychological needs and personal concerns, which may interfere with students' academic progress, social development, and emotional well-being. The following in-person and virtual (tele-mental health) services are available to all enrolled students residing in the state of Florida:

1. Individual therapy
2. Group therapy
3. Crisis Intervention
4. Psychoeducational and outreach programming
5. After hours crisis-hotline
6. Access to community providers for specialized treatment

Call 850-644-TALK (8255) for more information on how to initiate services.

Counseling and Psychological Services

250 Askew Student Life Center

942 Learning Way

(850) 644-TALK (8255)

Walk-in and Appointment Hours:

M-F 8 am – 4 pm

<https://counseling.fsu.edu/>

### **Services at UHS are available to all enrolled students residing in Florida:**

The mission of University Health Services (UHS) is to promote and improve the overall health and well-being of FSU students. UHS provides a coordinated continuum of care through prevention, intervention, and treatment. Services include general medical care, priority care, gynecological services, physicals, allergy injection clinic, immunizations, diagnostic imaging, physical therapy, and a medical response unit. The Center for Health Advocacy and Wellness (CHAW) assists students in their academic success through individual, group, and population-based health and wellness initiatives. Topics include wellness, alcohol and other drugs, hazing prevention, nutrition and body image, sexual health, and power based personal violence prevention. For more information, go to [uhs.fsu.edu](https://uhs.fsu.edu).

University Health Services

Health and Wellness Center

960 Learning Way

Tallahassee, FL 32306

Hours: M-F, 8 am – 4 pm

(850) 644-6230

<https://uhs.fsu.edu/>