

**PROFESSOR:** \_\_\_\_\_ **PHONE NUMBER:** \_\_\_\_\_  
**OFFICE LOCATION:** \_\_\_\_\_ **E-MAIL:** \_\_\_\_\_  
**OFFICE HOURS:** \_\_\_\_\_ **SEMESTER:** \_\_\_\_\_

**I. COURSE NUMBER AND TITLE, CATALOG DESCRIPTION, CREDITS:**

**CHM 2045L GENERAL CHEMISTRY I LABORATORY (1 CREDIT)**

This general chemistry laboratory emphasizes safety, chemical measurement techniques, stoichiometry, molar mass determination, molecular structure, and spectrophotometric measurements.

**II. PREREQUISITES FOR THIS COURSE:**

(MAT1033 with a C or better) AND (one credit of High School Chemistry or CHM2025, 1020C or 2032 with a C or better)

**CO-REQUISITES FOR THIS COURSE:**

CHM 2045

**III. GENERAL COURSE INFORMATION: Topic Outline.**

- Laboratory safety
- Measurements in the laboratory.
- Using graphs and statistical analysis to interpret and analyze experimental data.
- Electronic structure of atom and periodic properties.
- Lewis structures and molecular shapes.
- Determining empirical formula.
- Classification and stoichiometry of chemical reactions including Job's plot.
- Percent composition of a mixture.
- Standardization of a base and acid-base titration.
- Preparation and analysis of solutions using Beer's law.
- Gas laws, including Dumas method and determination of zero Kelvin.
- Thermochemistry of neutralization or other reactions.

- Laboratory safety
- Statistical analysis of data
- Determining empirical formula
- Job's plot
- Percent composition of a mixture

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- ~~Standardization of a base~~
- ~~Acid-base titration~~
- ~~Beer's law~~
- ~~Dumas method~~
- ~~Determination of zero Kelvin~~
- ~~Molar mass from freezing point data~~

**IV. ALL COURSES AT FLORIDA SOUTHWESTERN STATE COLLEGE CONTRIBUTE TO THE GENERAL EDUCATION PROGRAM BY MEETING ONE OR MORE OF THE FOLLOWING GENERAL EDUCATION COMPETENCIES:**

Communicate clearly in a variety of modes and media.

Research and examine academic and non-academic information, resources, and evidence.

Evaluate and utilize mathematical principles, technology, scientific and quantitative data.

Analyze and create individual and collaborative works of art, literature, and performance.

Think critically about questions to yield meaning and value.

Investigate and engage in the transdisciplinary applications of research, learning, and knowledge.

Visualize and engage the world from different historical, social, religious, and cultural approaches.

Engage meanings of active citizenship in one's community, nation, and the world.

**A. General Education Competencies and Course Outcomes**

1. Listed here are the course outcomes/objectives assessed in this course which play an integral part in contributing to the student's general education along with the general education competency it supports.

General Education Competency: **Evaluate**

Course Outcomes or Objectives Supporting the General Education Competency Selected:

- List, explain, and apply the basic safety rules and procedures in the chemistry laboratory.
- Recognize and correctly use standard laboratory glassware and analytical equipment for conducting experiments.
- Demonstrate the correct measuring of mass, volume, temperature, and pressure and report the measurements using correct significant figures and scientific notation.
- Use common laboratory techniques such as filtration, colorimetry, calorimetry, titration, gravimetric analysis, and flame tests in the lab.
- Explain and use basic scientific laws, concepts, and models in experiments and calculations.
- Compare, contrast, and explain the physical and chemical properties and changes of elements and compounds based on the atomic and molecular structure.
- Interpret the experimental data, perform calculations, summarize the scientific findings, and draw conclusions.
- Generate and use graphs including those based on Excel (or similar software) analyze, calculate, or interpret experimental data.
- Communicate the results of the experiment in the form of a lab report.
- ~~Collect, analyze and interpret experimental data.~~
- ~~Interpret graphical representations of data.~~

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~~Prepare a formal written presentation demonstrating the analysis and evaluation of scientifically gathered data.~~

**B. In accordance with Florida Statute 1007.25 concerning the state's general education core course requirements, this course meets the general education competencies for science.**

- Students will demonstrate the ability to critically examine and evaluate scientific observation, hypothesis, or model construction, and to use the scientific method to explain the natural world.
- Students will successfully recognize and comprehend fundamental concepts, principles and processes about the natural world

**V. DISTRICT-WIDE POLICIES:**

**PROGRAMS FOR STUDENTS WITH DISABILITIES**

Florida SouthWestern State College, in accordance with the Americans with Disabilities Act and the College's guiding principles, offers students with documented disabilities programs to equalize access to the educational process. Students needing to request an accommodation in this class due to a disability, or who suspect that their academic performance is affected by a disability should contact the Office of Adaptive Services at the nearest campus. The office locations and telephone numbers for the Office of Adaptive Services at each campus can be found at <http://www.fsw.edu/adaptiveservices>.

**REPORTING TITLE IX VIOLATIONS**

Florida SouthWestern State College, in accordance with Title IX and the Violence Against Women Act, has established a set of procedures for reporting and investigating Title IX violations including sexual misconduct. Students who need to report an incident or need to receive support regarding an incident should contact the Equity Officer at [equity@fsw.edu](mailto:equity@fsw.edu). Incoming students are encouraged to participate in the Sexual Violence Prevention training offered online. Additional information and resources can be found on the College's website at <http://www.fsw.edu/sexualassault>.

**VI. REQUIREMENTS FOR THE STUDENTS:**

List specific course assessments such as class participation, tests, homework assignments, make-up procedures, etc.

**VII. ATTENDANCE POLICY:**

The professor's specific policy concerning absence. (The College policy on attendance is in the Catalog, and defers to the professor.)

**VIII. GRADING POLICY:**

Include numerical ranges for letter grades; the following is a range commonly used by many faculty:

90 - 100	=	A
80 - 89	=	B
70 - 79	=	C
60 - 69	=	D
Below 60	=	F

(Note: The "incomplete" grade ["I"] should be given only when unusual circumstances warrant. An "incomplete" is not a substitute for a "D," "F," or "W." Refer to the policy on "incomplete grades.")

**IX. REQUIRED COURSE MATERIALS:**

(In correct bibliographic format.)

**X. RESERVED MATERIALS FOR THE COURSE:**

Other special learning resources.

**XI. CLASS SCHEDULE:**

This section includes assignments for each class meeting or unit, along with scheduled Library activities and other scheduled support, including scheduled tests.

**XII. ANY OTHER INFORMATION OR CLASS PROCEDURES OR POLICIES:**

(Which would be useful to the students in the class.)