

Course Name: MESA Chemistry

Duration: 1 Semester Full Year

Grade Level: 9th 10th 11th 12th (check all that apply)

Are there any prerequisites for the course?

- Successful completion of Algebra 1 is strongly recommended for this class due to the high math content. Meets the graduation requirement for a Lab and Algebra-Based Science. GPA of 2.5 or higher is required for this class. The student demographic needs to be an under-representative population in the STEM field.

WHAT this course is about:

General Chemistry is a year-long course devoted to the study of matter and its interactions. This course is designed to provide students with a foundation in chemistry: The properties and composition of elements and compounds and how they react with each other. General Chemistry follow Next Generation Science Standards. Additionally, in MESA chemistry, you will complete a project designed to solve a current world issue. The MESA program is designed to broaden participation and improve academic outcomes for underrepresented students in STEM education.

WHY take this course:

Chemistry provides a foundation in physical science with an emphasis on problem-solving. This course unlocks the secrets of the Periodic Table and provides students with a strong foundation for solving word problems. MESA chemistry provides students with additional resources and support for high school, college, and careers. The MESA program provides access to fieldtrips, college and career pathways, scholarship opportunities, and college exploration trips. In MESA chemistry, students have the option to enter their project and compete for scholarships.

WHAT you'll learn:

- Conceptual understanding of a variety of concepts in Chemistry.
- Hands-on approach to learning, including science and inquiry.
- Critical thinking and problem-solving skills.
- Data collection, analysis and scientific writing.

WHAT you'll do:

- Participate in hands-on science investigations from guided activities to inquiry.
- Work collaboratively with others in a variety of thinking, processing, and hands-on activities.
- Create a MESA project designed to solve a community problem.

WHERE this could take you:

A successful chemistry experience prepares you for any of the remaining science courses offered at LC because this course is the foundation to all other science disciplines. You will be able to choose from: AP Environmental science, AP Biology, AP chemistry, Physics, Anatomy and Physiology, etc. The laboratory activities, along with data analysis and science writing, are essential skills that will help students regardless of their future plans. **Once a MESA student, you are always a MESA student and will be able to access additional resources in college, too!**

OPTIONAL Course Outline (“scope and sequence”, sequence chart, etc.

General Chemistry Learning Topics

- Scientific Methodology and Experimental Design
- Matter and Measurement
- Atomic Structure
- Periodic Table Trends
- Chemical Bonding
- Chemical Reactions
- Stoichiometry
- Solutions
- Acid and Base Chemistry
- Gas Laws