



LISLE SENIOR HIGH SCHOOL

Advanced Placement Chemistry Syllabus

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DEPARTMENT MISSION

The mission of the Lisle High School Science Department is to promote life-long learning and acquisition of knowledge through the use of science and engineering practices. The student's classroom experience will encourage the development of intellectual curiosity and scientific literacy. The department provides effective and challenging curriculum and instruction based on the Next Generation Science Standards. Science teachers at Lisle High School consistently utilize best practices to deliver the curriculum, including cooperative learning, guided practice, independent practice, laboratory experiences, modeling, problem-based learning, real-world applications, and use of technology.

The department offers courses in the life sciences, the physical sciences, and Earth and space science as well as three Advanced Placement courses in biology, chemistry, and environmental science. The courses are sequential and intend to prepare students for college and beyond. Most college admissions criteria include a minimum of at least three credits in laboratory science. Students who are planning careers in science, engineering, health, or technical fields should strongly consider three or four years of science.

COURSE DESCRIPTION

The Advanced Placement Program® enables willing and academically prepared students to pursue college-level studies—with the opportunity to earn college credit, advanced placement, or both—while still in high school. Students who earn a qualifying score on an AP Exam are typically eligible to receive college credit and/or placement into advanced courses in college.

AP Chemistry is a first-year-of-college general chemistry course. Students cultivate their understanding of chemistry through inquiry-based investigations as they explore six “Big Ideas” as defined by the College Board, and listed below.

COURSE LEARNING STANDARDS

Below are the six “Big Ideas” that AP Chemistry is based, as well as the scientific practices in which the students will engage.

Big Ideas - The College Board has created the framework of the AP Chemistry curriculum on these six ideas:
1. The chemical elements are fundamental building materials of matter, and all matter can be understood in terms of arrangements of atoms. These atoms retain their identity in chemical reactions.
2. Chemical and physical properties of materials can be explained by the structure and the arrangement of atoms, ions, or molecules and the forces between them.
3. Changes in matter involve the rearrangement and/or reorganization of atoms and/or the transfer of electrons.
4. Rates of chemical reactions are determined by details of the molecular collisions.



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5. The laws of thermodynamics describe the essential role of energy and explain and predict the direction of changes in matter.
6. Any bond or intermolecular attraction that can be formed can be broken. These two processes are in a dynamic competition, sensitive to initial conditions and external perturbations.

Scientific Practices - Students will be consistently engaged in these practices throughout the course and are expected to develop proficiency in each practice.

1. The student can use representations and models to communicate scientific phenomena and solve scientific problems.
2. The student can use mathematics appropriately.
3. The student can engage in scientific questioning to extend thinking or to guide investigations within the context of the AP course.
4. The student can plan and implement data collection strategies appropriate to a particular scientific question.
5. The student can perform data analysis and evaluation of evidence.
6. The student can work with scientific explanations and theories.
7. The student is able to connect and relate knowledge across various scales, concepts, and representations in and across domains.

COURSE TEXTBOOK

Chemistry: The Central Science

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ISBN: 978-0-32-191041-7

COURSE GRADING POLICY

Students will have the opportunity to demonstrate their mastery of the standards through formative assignments and summative assessments. Formative assignments are used to determine what a student knows and still needs to learn before being held accountable for mastery. Summative assessments measure a student's understanding and/or skills on clearly defined outcomes. Mastery is expected on a summative assessment after appropriate instruction has been given and sufficient formative practice has been offered to the student.

Semester Exam = 20%

Semester Grade = 80%

Formative assignments, 15%

Summative assessments, 85%

Make-Up Work Policy:

Assignment due dates and assessment dates are determined by the teacher. In the event a student is absent from class, he/she has one additional day but no more than one week (7 calendar days) after returning to school to complete any formative assignment make-up work. An incomplete will be the gradebook placeholder until the deadline. If work has not been completed by the deadline, a score of zero will be recorded. The science department will follow the LHS student handbook for absences on assessment days. Students have one day per day absent to complete any summative assessment. For a lengthy absence, the teacher and student will work together to determine a completion timeline for all make-up work and assessments. If a student does not complete any work on the task/assessment, the teacher may assign a zero.



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Late Work Policy:

Formative assignments turned in after the due date and by the deadline (one week or 7 calendar days) may receive a lower grade. Work submitted after the deadline will be recorded as a zero.

REASSESSMENT GUIDELINES

The school wide policy is that the teacher will provide a student a minimum of one reassessment opportunity after a summative assessment has been administered and recorded in the gradebook.

- In order to have a reassessment opportunity, students need to complete all formative assignments prior to the summative reassessment.
- A student will need to do the following in order to reassess:
 - Complete a self-reflection on the original assessment.
 - Complete a relearning activity that is reviewed by or with the teacher. The completed relearning activity must demonstrate improved understanding before the reassessment is granted.
- All reassessments must be completed within a two week window from the day the original assessment is returned.
- A student may be allowed to retake deficient sections of the original summative assessment, as opposed to retaking the whole assessment again at the discretion of the teacher.
- Students will earn their best score on the reassessment, with a maximum replacement score of 85%.
- Reassessments will be offered before or after school with the teacher or at Learning Lions. The student may request a retake during their study hall, but the teacher may not always be able to honor the request.

COMMUNICATION WITH COURSE TEACHER

If students or parents have any concerns regarding the course please contact the instructor via email or phone using the contact information provided. As a general rule you should expect the teacher to return your email and/or phone call within one business day. If a student intends to communicate electronically with a teacher, he/she must use their school-issued google account.

CHROMEBOOK

Your Chromebook laptop is an important learning tool and is for educational purposes only. You are expected to bring your charged Chromebook to class every day. Your Chromebook is your responsibility and will stay in your possession at all times. The Science Department will enforce the “Lids Up, Lids Down” policy—the laptop lid is up when you are expected to be working on something for class, the laptop lid is down when the teacher instructs you to do so.

ELECTRONIC DEVICES

All personal electronic devices other than your Chromebook are not to be seen or heard in class. Although they might serve some educational benefit for the student, all assignments and class activities can be completed using Chromebook devices only. With permission or instructions from the teacher, students may use personal electronic devices for recording or documenting class phenomenon.

OTHER SUPPORT

Help is available from teachers either before or after school. Students should make an appointment to verify the teacher’s availability. Help is also available Monday-Friday from student resource tutors in the library before school, during most class periods, and after school.