

East Lake High School Science Course Recommendations

Standard Diploma Requirements (3 credits): Biology 1, two equally rigorous science courses, two of the three credits must have labs

Scholar Diploma Requirements (3 credits): Same as standard diploma **and**...pass Biology I EOC (or AP Bio Exam), earn one credit in chemistry **or** physics, earn one credit in a course equally rigorous to chemistry or physics.

Current Science Class	Current Grade	Current/Previous Math Course	Recommended Science Course for Next Year (*all courses are equally rigorous)
Environmental Science	A	-	Biology 1 Honors
	B or lower	-	Biology 1
Biology 1	A or B	Algebra 1 or Algebra 1 Honors: A or B <i>and</i> pass EOC	Chemistry 1 Marine Science 1 Honors Physical Science
	C or lower	Algebra 1 or Algebra 1 Honors: C or lower	Environmental Science Physical Science
Biology 1 Honors	A or B	Algebra 1 Honors: A or B <i>and</i> pass EOC	Chemistry 1 Honors Marine Science 1 Honors Physics 1 Honors, AP Bio, AP Physics
	C or lower	Algebra 1 or Algebra 1 Honors: A or B <i>and</i> pass EOC	Physical Science
Physical Science	A	Algebra 1: A or B <i>and</i> pass EOC	Chemistry 1
	A or B	Algebra 1: B or lower	Marine 1 Honors
	C or lower	Algebra 1: C or lower	Environmental Science Marine Science I
Chemistry 1	A or B	Geometry or Algebra 1: A or B	Marine Science 1 Honors Physics 1 Honors AP Environmental Science
Chemistry 1 Honors	A or B	Algebra 2 Honors: A or B	Anatomy Honors DE Gen Chem 1 (placement test required) AP Science (Environmental, Biology, Chemistry, Physics 1)
	C or lower	Geometry or Algebra 1: A or B OR Algebra 2: C or lower	Marine Science 1 Honors Physics 1 Honors AP Environmental Science
Marine Science Honors	C or higher	-	Marine Science 2 Honors
Upper-Level Science	A or B average	Algebra 2 or higher: A or B average	Anatomy Honors DE Meteorology (placement test required) AP Science (Environmental, Biology, Chemistry, Physics 1, Physics 2)
		Calculus (prior <i>or</i> concurrent enrollment)	AP Physics C
	C average or lower	Geometry or lower: any grade Algebra 2 or higher: C average or lower	Environmental Science Marine Science 1

Elective Courses

(cannot be used to meet 3 credit requirement in science)

Current Class	Current Grade	Current/Previous Science Courses	Recommended Course for Next Year
PBS: Principles of Bio-Medical Science*	C or higher EOC: 4 or higher	Biology 1 Honors: A or B <i>and</i> pass EOC	HBS: Human Body Systems
HBS: Human Body Systems*	C or higher EOC: 4 or higher	Chemistry 1 or Chemistry 1 Honors: B or higher <i>and</i> pass District Final Exam	MI: Medical Interventions
MI: Medical Interventions	C or higher EOC: 4 or higher	Honors or Higher Level Science: B or higher	BI: Biomedical Innovations (includes Biotechnician Assistant Certification)
Upper-Level Science	B or higher	B or higher in Bio 1 or Bio 1 Honors	Care and Prevention (counts as a physical education elective)
*Students who wish to enter the Bio-Med program their sophomore year may take PBS and HBS concurrently			

East Lake High School

Science Department Course Descriptions

Freshmen – 9 th Grade		
Course	Suggested Pre-Requisite	Course Details and Description
Biology 1 Honors	8 th grade science honors (A or B)	This course is required for the standard diploma. Passing the EOC is required for the scholar diploma.
Environmental Science	8 th grade science	Students who are not yet prepared for biology should choose environmental science

Sophomore – 10 th Grade		
Course	Suggested Pre-Requisite	Course Details and Description
Biology 1 Honors	Environmental Science (A)	Sophomores who have not yet taken biology should choose bio 1 or bio 1 honors.
Physical Science	Biology 1	
Chemistry 1	Biology 1 (A or B and pass EOC) Algebra I (A or B and pass EOC)	This course is designed for students without a strong background in mathematics or science who would like an introduction to chemistry and physics.
Chemistry 1 Honors	Biology 1 Honors (A or B and pass EOC) Algebra I Honors (A or B and pass EOC)	Chemistry is a very challenging class requiring critical thinking and analysis. Students will perform labs, complete lab reports, take notes while reading the textbook, and perform complex calculations. Students without a strong math, reading or science background should not take chemistry.
Physics 1 Honors	Biology 1 Honors (A or B and pass EOC) Algebra 1 Honors (A or B and pass EOC)	
Marine Science 1	Biology 1	This course is an algebra-based introductory physics course. Students wishing to earn college credit for this course should sign up for AP Physics 1 instead. Both courses cover the same content.
Marine Science 1 Honors	Biology 1 Honors (A or B and pass EOC)	This course gives an overview of the marine environment, its inhabitants, and the threats facing the ocean. Marine 1 honors is taught at a quicker pace than marine 1, has dissections, and takes a look at animals at a deeper level. Students who do not want to do dissections should take marine 1 instead of marine 1 honors.

Upper Level Science Courses		
Course	Suggested Pre-Requisite	Course Details and Description
Anatomy and Physiology Honors	Chemistry (A or B)	This course has many dissections and other labs that students find to be interesting and fun. This is a good course for those interested in entering a science or medical field and have done well in previous science courses. Students should not take this class if they do not want to do dissections.
AP Biology/ Biology 2 Honors	Biology 1 Honors (A or B and pass EOC)	This is a blocked class (2 credits) equivalent to a first-year biology course in college. College credit is awarded for passing the AP exam. This course is recommended for students pursuing a career in a science or medical field.
AP Chemistry/ Chemistry 2 Honors	Chemistry 1 Honors (A or B) Algebra 2 Honors (A or B)	This is a blocked class (2 credits) equivalent to a first-year chemistry course in college. College credit is awarded for passing the AP exam. This is a very challenging, fast-paced course in which students will perform many labs, complete online homework, and take difficult tests. This course is recommended for students pursuing a career in a science or medical field.
Dual Enrollment Chemistry	Honors Chemistry (A or B) College Placement Test	This is the first semester of general chemistry. It is a lab-based course and is taught at the college level. Due to the amount of content that will be covered, students are responsible for studying on their own outside of class. College credit is awarded for earning a C or higher in the course.
AP Environmental Science	Biology 1 (A or B and pass EOC) Chemistry 1 or Physics 1 (A or B) Algebra 1 (A or B and pass EOC)	APES is an interdisciplinary course, incorporating history, current events, critical reading, and more. It is recommended for students who have time to devote to the class and are interested in the environment, sustainability, biodiversity, how humans are impacting our environment and how we can ameliorate this impact.

Marine Science 2 Honors	Marine Science 1 Honors (C or higher)	This is a rigorous, research-based class that takes a much deeper look at the causes of the major environmental threats discussed in marine 1 honors. Students should not take this course if they are not interested in dissections or doing research.
Dual Enrollment Meteorology	College Placement Test	This introductory meteorology course is a survey of the basic laws governing atmospheric structure, atmospheric motions, weather processes and weather systems. College credit is awarded for earning a C or higher in the course.
AP Physics 1	Algebra 2 Honors (A or B)	This is an algebra-based, math and formula intensive introductory physics course requiring a working knowledge of basic trigonometric functions and algebraic manipulations. This course is equivalent to a first-semester introductory college course. College credit is awarded for passing the AP exam. Students who have taken or will be taking calculus next year should choose AP Physics C instead of AP Physics 1.
AP Physics 2	AP Physics 1 (A or B)	This course follows AP physics 1 and is equivalent to a second-semester introductory college course. It focuses on thermodynamics, fluid dynamics, electrostatics, optics, quantum physics, and nuclear physics. College credit is awarded for passing the AP exam.
AP Physics C: Mechanics	Pre-Calculus (A or B) Previous or concurrent enrollment in calculus	This is an intermediate college-level physics course that utilizes <i>calculus</i> to make mathematical connections between physical theory and observed phenomena. Students who are interested in physics or engineering should take this course. College credit is awarded for passing the AP exam.
AP Physics C: Electricity and Magnetism	AP Physics C: Mechanics (A or B)	This is an intermediate college-level physics course that follows AP Physics C: Mechanics. Students who are interested in physics or engineering should take this course. College credit is awarded for passing the AP exam.

Science Electives (do not count towards science credit requirement)

Course	Suggested Pre-Requisite	Course Details and Description
PBS: Principles of Biomedical Science	Must also be enrolled in Biology 1 Honors.	This is the introductory course of the Project Lead the Way Biomedical Science program. Students will examine autopsy reports, investigate medical history, and explore medical treatments of a fictional person in order to determine cause of death. The course materials are digital and students will be required to have competency in using a computer. This is an honors level elective in which students will do activities, projects, research, and experiments.
HBS: Human Body Systems	PBS (C or higher in class and 4 or higher on EOC)	Through projects such as determining the identity of a skeleton using both forensic anthropology and DNA analysis, students examine the interactions of human body systems and apply what they know to solve real-world medical cases. Students wishing to enter the Biomed program their sophomore year may take this course concurrently with PBS.
MI: Medical Interventions	HBS (C or higher in class and 4 or higher on EOC)	Students delve into activities like designing a prosthetic arm as they follow the life of a fictitious family and investigate how to prevent, diagnose, and treat disease.
BI: Biomedical Innovations	MI (C or higher in class and 4 or higher on EOC) Chemistry or Chemistry 1 Honors (B or higher <i>and</i> pass district final exam)	This is a seminar course addressing public health, biomedical engineering, clinical medicine, and physiology. Students will conduct original research in this course. This course also offers biotechnology assistant industry certification for students who pass the BACE test in the spring.
Care and Prevention	Biology 1 or Biology 1 Honors (A or B) For juniors and seniors	This course is a <i>physical education</i> elective taught by an athletic trainer. It is designed for students interested in sports medicine, including physical therapy, athletic training, nursing, personal training, orthopedics, general knowledge of athletic injuries, and rehab. This course is not a science class but students who would like to pursue a career in the medical field (nursing, EMT, paramedic, training, etc..) will find it beneficial and interesting. Students may find it beneficial to take this class after (or alongside) anatomy.