

The courses listed below may be used to satisfy the fourth science requirement for the purpose of earning a traditional high school diploma. These courses are recognized by the University System of Georgia (USG) and/or the Technical College System of Georgia (TCSG).

Course Number	Course Name	Recognized by
26.01200	Biology I	USG & TCSG
26.01210	Pre-Advanced Placement Biology	USG & TCSG
26.01300	Biology II	USG & TCSG
26.01400	Advanced Placement Biology	USG & TCSG
26.01500	Genetics	USG & TCSG
26.01800	International Baccalaureate Biology, Year One	USG & TCSG
26.01900	International Baccalaureate Biology, Year Two	USG & TCSG
26.02000	International Baccalaureate Sports, Exercise & Health Year One	USG & TCSG
26.02100	International Baccalaureate Sports, Exercise & Health Year Two	USG & TCSG
26.03100	Botany	USG & TCSG
26.05100	Microbiology	USG & TCSG
26.06100	Ecology	USG & TCSG
26.06110	Environmental Science	USG & TCSG
26.06200	Advanced Placement Environmental Science	USG & TCSG
26.06300	International Baccalaureate Environmental Systems, Year One	USG & TCSG
26.06310	International Baccalaureate Environmental Systems, Year Two	USG & TCSG
26.06320	Cambridge Advanced Environmental Management (AS Level) 8291	USG & TCSG
26.06400	Advanced Genetics/DNA Research	USG & TCSG
26.06500	Epidemiology	USG & TCSG
26.07100	Zoology	USG & TCSG
26.07200	Entomology	USG & TCSG
26.07300	Human Anatomy and Physiology	USG & TCSG
40.01100	Physical Science	USG & TCSG
40.02100	Astronomy	USG & TCSG
40.04100	Meteorology	USG & TCSG
40.05000	Pre-Advanced Placement Chemistry	USG & TCSG
40.05100	Chemistry I	USG & TCSG
40.05200	Chemistry II	USG & TCSG
40.05300	Advanced Placement Chemistry	USG & TCSG
40.05500	International Baccalaureate Chemistry, Year One	USG & TCSG
40.05600	International Baccalaureate Chemistry, Year Two	USG & TCSG
40.05610	Cambridge Advanced Chemistry (AS Level) 9701	USG & TCSG

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Course Number	Course Name	Recognized by
40.05620	Cambridge Advanced Chemistry (A Level) 9701	USG & TCSG
40.05700	Organic Chemistry (<i>Post AP Chemistry only</i>)	USG & TCSG
40.05800	Biochemistry (<i>Post AP Chemistry or Biology only</i>)	USG & TCSG
40.05900	Materials Chemistry (<i>Post AP Chemistry only</i>)	USG & TCSG
40.06300	Geology	USG & TCSG
40.06400	Earth Systems	USG & TCSG
40.07100	Oceanography	USG & TCSG
40.08100	Physics I	USG & TCSG
40.08200	Physics II	USG & TCSG
40.08310	Advanced Placement Physics 1	USG & TCSG
40.08320	Advanced Placement Physics 2	USG & TCSG
40.08410	Advanced Placement Physics C: Mechanics	USG & TCSG
40.08420	Advanced Placement Physics C: Electricity and Magnetism	USG & TCSG
40.08500	International Baccalaureate Physics, Year One	USG & TCSG
40.08600	International Baccalaureate Physics, Year Two	USG & TCSG
40.08610	Cambridge Advanced Physics (A Level) 9702	USG & TCSG
40.08620	Cambridge Advanced Physics (AS Level) 9702	USG & TCSG
40.08700	Environmental Physics (<i>Post AP Physics only</i>)	USG & TCSG
40.08800	Special Topics in Modern Physics (<i>Post AP Physics only</i>)	USG & TCSG
40.08900	Advanced Physics Principles/Robotics (<i>Post AP Physics only</i>)	USG & TCSG
40.09100	Advanced Scientific Internship (<i>Post AP Science</i>)	USG & TCSG
40.09230	Scientific Research III	USG & TCSG
40.09240	Scientific Research IV	USG & TCSG
40.09300	Forensic Science	USG & TCSG
40.09400	Chemical & Material Science Engineering (<i>Post AP Chemistry only</i>)	USG & TCSG
40.09500	International Baccalaureate Design Technology, Year One	USG & TCSG
40.09600	International Baccalaureate Design Technology, Year Two	USG & TCSG
40.09700	International Baccalaureate Marine Science, Year One	USG & TCSG
40.09710	International Baccalaureate Marine Science, Year Two	USG & TCSG

The courses listed below may be used to satisfy the fourth science requirement for the purpose of earning a traditional high school diploma **and completing a CTAE pathway**. These courses are recognized by the University System of Georgia (USG) and/or the Technical College System of Georgia (TCSG).

Course Number	Course Name	CTAE Pathway	Recognized by
21.45700	Appropriate and Alternative Energy Technologies	Energy	USG & TCSG
21.45100	Energy and Power Technology	Energy	USG & TCSG
25.56900	Applications of Biotechnology	Health Science	USG & TCSG
25.57000	Essentials of Biotechnology	Health Science	USG & TCSG
25.44000	Essentials of Healthcare <i>A Student who earns 1 unit of credit for this course shall also receive 1 unit of credit for Human Anatomy and Physiology (course number 26.07300).</i>	Health Science	USG & TCSG
25.44600	Sports Medicine	Health Science	USG & TCSG
25.48800	Essentials of Dental Science	Health Science	USG & TCSG
20.41400	Food for Life	Human Services	USG & TCSG
20.41810	Food Science	Human Services	USG & TCSG
03.45100	Forest Science	Agriculture, Food, and Natural Resources	USG & TCSG
01.46100	General Horticulture and Plant Science	Agriculture, Food, and Natural Resources	USG & TCSG
03.41100	Natural Resources Management	Agriculture, Food, and Natural Resources	USG & TCSG
02.42100	Animal Science Technology/Biotechnology	Agriculture, Food, and Natural Resources	USG & TCSG
02.44100	Plant Science and Biotechnology	Agriculture, Food, and Natural Resources	USG & TCSG
02.46200	Poultry Science	Agriculture, Food, and Natural Resources	USG & TCSG
21.45300	Advanced AC and DC Circuits	Science, Technology, Engineering, and Mathematics	USG & TCSG
11.01600	Advanced Placement Computer Science	Information Technology	USG & TCSG
11.01700	International Baccalaureate Computer Science, Year One	Information Technology	USG & TCSG
11.01710	International Baccalaureate Computer Science, Year Two	Information Technology	USG & TCSG
11.01900	Advanced Placement Computer Science Principles	Information Technology	USG & TCSG
11.47100	Computer Science Principles	Information Technology	USG & TCSG
11.47200	Programming, Games, Apps and Society	Information Technology	USG & TCSG

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Course Number	Course Name	CTAE Pathway	Recognized by
11.42500	Web Development	Information Technology	USG & TCSG
11.42700	Embedded Computing	Information Technology	USG & TCSG
11.42900	Game Design: Animation and Simulation	Information Technology	USG & TCSG
28.01910	Aerospace Science: Science of Flight	Government and Public Administration	USG & TCSG
43.45200	Forensic Science and Criminal Investigations	Law, Public Safety, Corrections and Security	USG & TCSG

The courses listed below may be used to satisfy the fourth science requirement for the purpose of earning a traditional high school diploma. However, these courses **are not recognized** by the University System of Georgia (USG) as meeting the fourth science requirement for admission into a four-year college or university.

Course Number	Course Name	Recognized by
02.45100	Commercial Fishing, Management and Fisheries Science <i>A Student who earns 1 unit of credit for this course shall also receive 1 unit of credit for Oceanography (course number 40.07100).</i>	TCSG only
02.47500	Biotechnology (AG-BT)	TCSG only
21.45400	Digital Electronics	TCSG only
25.56400	Emergency & Disaster Preparedness	TCSG only
26.06600	Advanced Placement Research, Life Sciences	TCSG only
26.06700	Advanced Placement Seminar, Life Sciences	TCSG only
26.06800	International Baccalaureate Theory of Knowledge, Life Sciences, Year One	TCSG only
26.06900	International Baccalaureate Theory of Knowledge, Life Sciences, Year Two	TCSG only
40.06500	Fundamentals of Geospatial Technology	TCSG only
40.06600	Applications of Geospatial Technology	TCSG only
40.07110	Advanced Placement Research, Physical Science	TCSG only
40.07120	Advanced Placement Seminar, Physical Science	TCSG only
40.07130	International Baccalaureate Theory of Knowledge, Physical Science, Year One	TCSG only
40.07140	International Baccalaureate Theory of Knowledge, Physical Science, Year Two	TCSG only
40.09210	Scientific Research I	TCSG only
40.09220	Scientific Research II	TCSG only
47.46610	Aviation Meteorology	TCSG only

The following CTAE+ courses count towards satisfying the fourth science requirement for graduation. A student must successfully complete and pass all three courses of an identified CTAE pathway below to earn credit for the pathway and for the fourth science requirement. These CTAE+ courses **are not** recognized as a fourth science by the Board of Regents. For more information on CTAE+, please see this [Guidance Document](#).

Course Number	Course Name	Recognized by
40.09910	Agriculture Energy Systems Pathway	TCSG only
40.09920	Agriculture Mechanics and Electrical Systems Pathway	TCSG only
40.09930	Energy and Power: Generation, Transmission, Distribution Pathway	TCSG only
40.09940	Esthetics Pathway	TCSG only
40.09950	Mechatronics Pathway	TCSG only
40.09960	Industrial Maintenance Pathway	TCSG only
40.09970	Flight Operations Pathway	TCSG only
40.09980	Unmanned Aircraft Systems Pathway	TCSG only

DUAL ENROLLMENT (DE)

For degree level dual enrollment courses, remember that you must search the GAFutures site found here: [Dual Enrollment Course Directory \(gafutures.org\)](#).

Degree level course numbers beginning with 26 and 40 that contain a letter, are also approved as fourth science options.

CTAE dual enrollment courses aligned to one of the high school CTAE courses approved to count as the 4th science credit **CANNOT** be used to meet the 4th science high school graduation requirement. Only high school CTAE courses have been approved as 4th sciences except for one course. See the exception below.

The **ONLY EXCEPTION** to this is the dual enrollment course ALHS1011 identified in the GAFutures site as 25.0A024 and 25.44000. It is approved to meet the 4th science requirement. This course has the following language along with the course title in GAFutures, “This course meets 4th science requirements for high school.”

For additional guidance on dual enrollment, visit [Dual Enrollment Program - GaDOE](#).