

PHYSICAL SCIENCES - ASSOCIATE IN ARTS

Plan Code: 1540

This Associate Degree will prepare students for an entry-level position as a technician. Appropriate course selection will also facilitate transfer in a related major.

Program Student Learning Outcomes

- Demonstrate the ability to attain the Institutional Student Learning Outcomes (ISLOs).
- Differentiate between unsupported opinions and verifiable scientific facts supported by observations, experiments, and scientific theory.
- Demonstrate a foundational scientific understanding of a specific field of science.

Program Requirements

This degree requires the completion of General Education coursework plus the following:

Code Number	Course Title	Units
REQUIRED COURSES		
Complete THIRTEEN to FIFTEEN (13-15) units from the following:		
ASTR 1/1H	Elementary Astronomy (3)	
CHEM 2	Elementary Chemistry (4.5)	
or CHEM 3	Intro to Gen, Organic and Biochemistry (5)	
or CHEM 1A	General Chemistry (5.5)	
CHEM 1B	General Chemistry (5.5)	
CHEM 12A	Organic Chemistry (5.5)	
CHEM 12B	Organic Chemistry (5.5)	
ENVRS 1	Energy for the Future (3)	
GEOL 1/1H	General Physical Geology (4.5)	
GEOL 2 & 2L	General Geology, Physical (3) and General Geology, Physical Geology Lab (1.5)	
Any other Geology course taught at LBCC		
PGEOG 1	Physical Geography (3)	
PGEOG 1L	Physical Geography Lab (1.5)	
PGEOG 2	Weather and Climate (3)	
PHYS 2A	General Physics (4.5)	
or PHYS 3A	Physics for Sci. & Eng. - Mechanics (5.5)	
PHYS 2B	General Physics (4.5)	
or PHYS 3B	Physics for Sci. & Eng. - E & M (4.5)	
PHYS 3C	Physics for Sci. & Eng. - Modern Physics (4.5)	
Subtotal Units		13-15
IN ADDITION, complete a Computer class ¹		1-4
Subtotal Units		1-4
IN ADDITION, complete FIVE to SIX (5-6) units from any Mathematics course which has a prerequisite of Intermediate Algebra (MATH 130) or higher		
Subtotal Units		5-6
Required Subtotal		19-25

Complete one of the following: ² 19-39

LBCC General Education (Plan A) (<https://lbcc-public.courseleaf.com/academic-requirements/general-education-transfer-degree-certificate-requirements/general-education-plans/plan-a/>)

CSU GE Breadth (Plan B) (<https://lbcc-public.courseleaf.com/academic-requirements/general-education-transfer-degree-certificate-requirements/general-education-plans/plan-b/>)

IGETC Pattern (Plan C) (<https://lbcc-public.courseleaf.com/academic-requirements/general-education-transfer-degree-certificate-requirements/general-education-plans/plan-c/>)

Electives (as needed to reach 60 degree-applicable units) ³

Minimum Degree Total 60

¹ Any class which satisfies the computer portion of the Information Competency requirement for graduation. See the current General Education Course Pattern Guide for a complete listing of acceptable courses.

² Units for the major may be double-counted for LBCC GE, CSU GE, or IGETC; see counselor for limitations.

³ Elective units from course(s) numbered 1-599, if needed, to reach 60 degree-applicable units.

Note: Courses are offered each semester excluding the following:

PHYS 3C Physics for Sci. & Eng. - Modern Physics is offered once each year, usually in the second semester.

GEOL 3 Historical Geology is offered once each year, usually in the second semester.

PHYSICAL SCIENCES - ASSOCIATE IN SCIENCE

Plan Code: 2540

This Associate Degree will prepare students for an entry-level position as a laboratory or environmental technician. Appropriate course selection will also facilitate transfer in a related science major. The A.S. degree requires fewer General Education units, allowing for more physical science units to be counted toward the degree.

Program Student Learning Outcomes

- Demonstrate the ability to attain the Institutional Student Learning Outcomes (ISLOs).
- Differentiate between unsupported opinions and verifiable scientific facts supported by observations, experiments, and scientific theory.
- Demonstrate a foundational scientific understanding of a specific field of science.

Program Requirements

This degree requires the completion of General Education coursework plus the following:

Code Number	Course Title	Units
REQUIRED COURSES		
Complete THIRTEEN to FIFTEEN (13-15) units from the following:		
ASTR 1/1H	Elementary Astronomy (3)	
CHEM 2	Elementary Chemistry (4.5)	
or CHEM 3	Intro to Gen, Organic and Biochemistry (5)	
or CHEM 1A	General Chemistry (5.5)	
CHEM 1B	General Chemistry (5.5)	
CHEM 12A	Organic Chemistry (5.5)	
CHEM 12B	Organic Chemistry (5.5)	
ENVRS 1	Energy for the Future (3)	
GEOL 1/1H	General Physical Geology (4.5)	
GEOL 2 & 2L	General Geology, Physical (3) and General Geology, Physical Geology Lab (1.5)	
Any other Geology course taught at LBCC		
PGEOG 1	Physical Geography (3)	
PGEOG 1L	Physical Geography Lab (1.5)	
PGEOG 2	Weather and Climate (3)	
PHYS 2A	General Physics (4.5)	
or PHYS 3A	Physics for Sci. & Eng. - Mechanics (5.5)	
PHYS 2B	General Physics (4.5)	
or PHYS 3B	Physics for Sci. & Eng. - E & M (4.5)	
PHYS 3C	Physics for Sci. & Eng. - Modern Physics (4.5)	
Subtotal Units		13-15
IN ADDITION, complete a computer class ¹		1-4
Subtotal Units		1-4

IN ADDITION, complete FIVE to SIX (5-6) units from any Mathematics course which has a prerequisite of Intermediate Algebra (MATH 130) or higher

Subtotal Units	5-6
Required Subtotal	19-25
Complete one of the following: ²	19-39
LBCC General Education (Plan A) (https://lbcc-public.courseleaf.com/academic-requirements/general-education-transfer-degree-certificate-requirements/general-education-plans/plan-a/)	
CSU GE Breadth (Plan B) (https://lbcc-public.courseleaf.com/academic-requirements/general-education-transfer-degree-certificate-requirements/general-education-plans/plan-b/)	
IGETC Pattern (Plan C) (https://lbcc-public.courseleaf.com/academic-requirements/general-education-transfer-degree-certificate-requirements/general-education-plans/plan-c/)	
Electives (as needed to reach 60 degree-applicable units) ³	
Minimum Degree Total	60

¹ Any class which satisfies the computer portion of the Information Competency requirement for graduation. See the current General Education Course Pattern Guide for a complete listing of acceptable courses.

² Units for the major may be double-counted for LBCC GE, CSU GE, or IGETC; see counselor for limitations.

³ Elective units from course(s) numbered 1-599, if needed, to reach 60 degree-applicable units.

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